

ETFs and Asset Allocation

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Increasing Acceptance of ETFs

“Anticipating that the U.S. Federal Reserve will resume large-scale purchases of U.S. Treasury bonds and confronted with strong domestic political pressure to spur growth and restrain a rising yen, the Japanese central bank launched a bond-buying program. It said it would spend 5 trillion yen (\$60 billion) to buy government bonds, corporate IOUs, real-estate investment trust funds and exchange-traded funds—the latter two a departure from past.”

From The Wall Street Journal 10/6/2010

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Agenda

- ▶ Introduction to ETFs
 - ▶ Overview of ETF Market
 - ▶ ETFs vs. Mutual Funds
 - ▶ Advantages and Disadvantages

- ▶ Asset Allocation
 - ▶ Strategic
 - ▶ Tactical

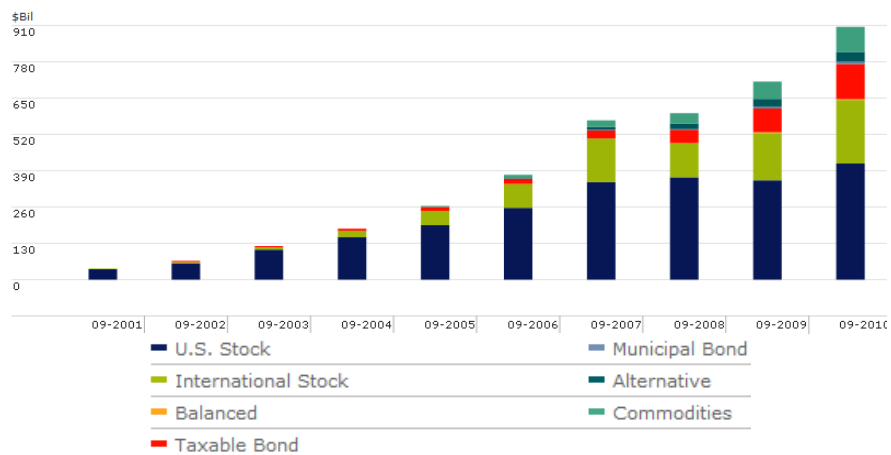
- ▶ Tactical Investing Ideas

- ▶ List of ETF Providers with a wide selection of funds

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ETFs: A Growth Story

- ▶ Industry evolving beyond domestic equity
- ▶ Democratization of "difficult-to-access" asset classes

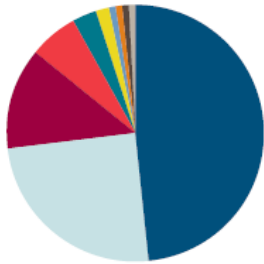


Source: Morningstar Direct Fund Flows

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iShares leads, but Vanguard is gaining...

Present Market Share



▲ iShares	46.9	▲ Van Eck	1.8
▲ State Street Advrs	23.3	▲ iPath	0.9
▲ Vanguard	13.9	▲ WisdomTree	0.8
▲ PowerShares	5.1	▲ Direxion Funds	0.8
▲ ProShares	3.2	▲ Rydex SGI	0.7

Data through Aug. 31, 2010.

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Ten Largest ETFs

Fund	Ticker	Total Net Assets (Billion)
Standard & Poor's Depository Receipts	SPY	78
SPDR Gold Trust	GLD	55
iShares MSCI Emerging Markets Index Fund	EEM	45
Vanguard Emerging Markets Stock Index	VWO	36
iShares MSCI EAFE Index	EFA	35
iShares S&P 500 Index	IVV	23
PowerShares QQQ Trust	QQQQ	22
iShares Barclays TIPS Bond	TIP	20
iShares iBoxx \$ Invest Grade Corp Bond	LQD	15
Vanguard Total Stock Market Index Fund	VTI	15

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Funds with the Largest YTD Flows

Fund	Ticker	Total Net Assets Billion	YTD Flows
Vanguard Emerging Markets Stock Index	VWO	36	13.3
SPDR Gold Trust	GLD	55	6.9
PowerShares QQQ Trust	QQQQ	22	2.6
iShares MSCI Emerging Markets Index Fund	EEM	45	2.5
Vanguard Total Bond Market Index Fund	BND	9	2.3
Standard & Poor's Depository Receipts	SPY	78	-8.8
PowerShares DB US Dollar Index Bullish	UUP	1	-2.5
iShares FTSE/Xinhua China 25 Index Fund	FXI	9	-1.5
Financial Select Sector SPDR	XLF	5	-1.5
SPDR Dow Jones Industrial Average ETF	DIA	8	-1.3



What Are Exchange-Traded Funds?

- ▶ In a basic sense, most ETFs are investable indexes
- ▶ Low-cost and tax efficient investment vehicles
- ▶ Availability of myriad asset classes allows for efficient diversification previously available only to large institutions
- ▶ Mutual Funds that trade like stocks...



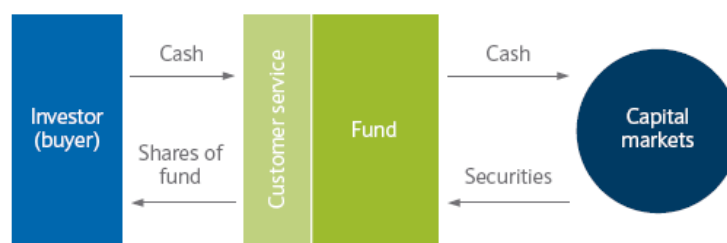
What Are Exchange-Traded Funds?

- ▶ But...
 - ▶ Listed on an Exchange like a stock or closed-end fund
 - ▶ Traded Intraday
 - ▶ Allow for stock-like strategies such as shorting and margin investing.

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How A Mutual Fund Works

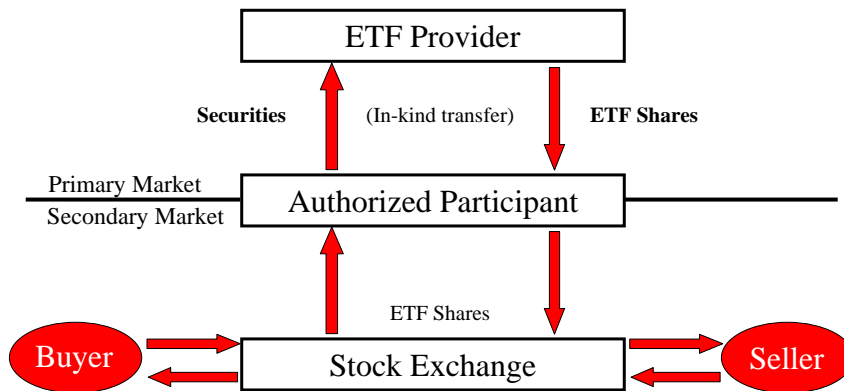
Traditional U.S. Mutual Fund Structure



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How an ETF differs from a Mutual or Closed-End Fund

ETF Creation/Redemption



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Advantages of ETFs

- ▶ Tax Advantage
- ▶ Cost
- ▶ Diversification
- ▶ Modularity
- ▶ Liquidity
- ▶ Immediate market execution
- ▶ Access to new investments
- ▶ Transparency

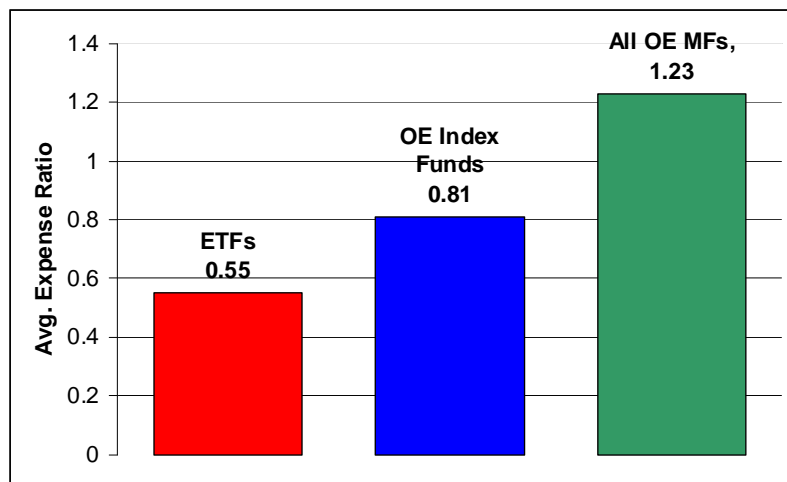
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Potential Drawbacks of ETFs

- ▶ Transaction fees (typically smallest component of cost)
- ▶ Total Cost Analysis is Difficult – How Much do AP's Make?
- ▶ Limitations within tax protected accounts (401K)
- ▶ In flat or down market, mutual funds perform well on tax basis

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Passive, Long-Term Investing: Lowest Cost Wins



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Proliferation of Asset Classes

- ▶ In the beginning, ETFs only offered broad index and equity sector exposure
- ▶ Now, ETFs offer access to nearly every asset category imaginable
 - ▶ Fixed Income
 - ▶ Fundamental Indexes
 - ▶ Commodities
 - ▶ Currencies
 - ▶ Target Date Strategies
 - ▶ Leveraged Equity
 - ▶ Hedge Fund Strategies
 - ▶ Niche Sector Slicing

Broad Asset Class	# of ETFs
U.S. Stock	462
International Stock	194
Balanced	27
Taxable Bond	78
Municipal Bond	29
Alternative	141
Commodities	77
Total	1,008

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Takeaways: ETFs versus mutual funds

- ▶ Execution more complicated than with a mutual fund
- ▶ Advantages can justify the effort and complexity
- ▶ Know what you own! Doing your homework means more than just reading the name of the ETF.

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The Importance of Asset Allocation

- ▶ Xiong, Ibbotson, Idzorek, and Chen, "The Equal Importance of Asset Allocation and Active Management", Financial Analysts Journal, March/April 2010

Table 2. Decomposition of Time-Series Excess Market Return Variations in Terms of Average R^2 s, May 1999–April 2009

Average R^2	U.S. Equity Funds	Balanced Funds	International Funds
Excess market asset allocation policy: $R_{i,t} - M_t$ vs. $P_{i,t} - M_t$	48%	36%	49%
Active portfolio management: $R_{i,t} - M_t$ vs. $R_{i,t} - P_{i,t}$	41	39	45
Interaction effect	11	25	6
Total	100%	100%	100%

- ▶ "With market movements removed, asset allocation and active management are equally important in determining portfolio return differences within a peer group."



Types of Asset Allocation - Strategic

- ▶ Sometimes called a policy portfolio
- ▶ Historical return data can be used to estimate return, risk and correlations from a variety of asset classes. With this information and the investor's risk tolerance, target portfolio weights are established
- ▶ More of a passive, buy and hold approach, so it is ideally suited to the advantages of ETFs



A Simple, Conservative Strategic Asset Allocation Example

Asset Class	Index	Weighting	Average Return	Standard Deviation
Domestic Equities	S&P 1500	25.0%	1.6	16.6
Developed Market Equities	MSCI EAFE	12.5%	4.7	18.5
Fixed Income	BarCap US Agg Bond	25.0%	6.3	3.8
Inflation Protected Fixed Income	BarCap US Treasury US TIPS	12.5%	7.5	6.8
Cash Equivalent	BarCap Short Treasury	25.0%	2.7	0.6

Hypothetical Portfolio Annually Rebalanced

Monthly data over past ten years annualized



Implementation with ETFs

Index	Weighting	ETF Option	Ticker	Expense Ratio
S&P 1500	25.0%	iShares S&P 1500 Index	ISI	0.20%
MSCI EAFE	12.5%	Vanguard Europe Pacific ETF	VEA	0.15%
BarCap US Agg Bond	25.0%	Vanguard Total Bond Market ETF	BND	0.12%
BarCap US Treasury US TIPS	12.5%	iShares Barclays TIPS Bond	TIP	0.20%
BarCap Short Treasury	25.0%	iShares Barclays Short Treasury Bond	SHV	0.15%

Hypothetical Portfolio 100% Weighted Average 0.16%



Passive Indexing with ETFs – The Optimal Portfolio

- ▶ Academic research has shown that just holding the “market” is not the always the best approach
 - ▶ There are persistent higher returns for some asset classes
 - ▶ Caused by additional risk factors such as liquidity or macroeconomic risks
 - ▶ It is important whether or not the additional risks are correlated to the overall market



Passive Indexing with ETFs – Mean-Variance Analysis

- ▶ By **decreasing** the portfolios exposure to the market and **increasing** its exposure to these additional risk factors we can improve the portfolios expected returns while reducing the volatility of those returns
- ▶ We use Mean-Variance analysis to determine the “optimal” portfolio
 - ▶ Examine historical monthly returns going back 15 years for **8 major asset classes**
 - ▶ Using this data, produce estimates for the correlations between the asset classes for the next 10-years
 - ▶ Use the data to determine ranges of excess expected return over the same period
- ▶ There is judgment involved and adjustments that need to be made. Our two big ones:
 - ▶ That International equities would be more highly correlated to U.S.
 - ▶ Expect higher volatility in the next ten years than was experienced in the past 10 years – current market conditions would bear this out!



Rebalancing

- ▶ The key to using asset allocation to use a disciplined approach and to rebalance
 - ▶ In good markets, sweep excess equity returns and invest in bonds
 - ▶ In down markets, sell bonds and buy low on equities

- ▶ Asset Class Weights Vary by the Investors Unique Situation
 - ▶ Time Horizon
 - ▶ Long-Term Goals
 - ▶ Short-Term Risk Tolerance



ETFs as a counterbalance to more risky allocations

- ▶ An allocation to a broad passive vehicle can serve to absorb excess risk in a portfolio

- ▶ These risks may arise from a number of factors:
 - ▶ Concentrated sector bets
 - ▶ Concentrated holdings in company shares
 - ▶ High risk-reward investments in other corners of the portfolio



Morningstar ETF Investor Newsletter "Hands-Free" Portfolio

Fund	Ticker	Current Portfolio Allocation	Date recommended	Type
Cash Holdings		1%	3/12/2007	
iShares iBoxx \$ Invest Grade Corp Bond	LQD	10%	8/3/2009	Fix. Inc.
iShares Barclays MBS Bond	MBB	6%	8/3/2009	Fix. Inc.
iShares Barclays TIPS Bond	TIP	5%	8/3/2009	Fix. Inc.
SPDR DB Intl Govt Infl-Protected Bond	WIP	4%	8/3/2009	Fix. Inc.
iShares COMEX Gold Trust	IAU	4%	7/14/2010	Comm.
Vanguard Mega Cap 300 ETF	MGC	21%	9/2/2008	Equity
iShares MSCI EAFE Index	EFA	11%	9/2/2008	Equity
iShares Russell 1000 Value	IWD	10%	7/14/2010	Equity
Vanguard Mid Cap ETF	VO	9%	9/2/2008	Equity
Vanguard Small Cap ETF	VB	8%	9/2/2008	Equity
Vanguard Emerging Market Stock	VVO	7%	9/2/2008	Equity
iShares MSCI EAFE Small Cap Index	SCZ	5%	9/2/2008	Equity



Types of Asset Allocation - Tactical

- ▶ More of an active, alpha seeking approach, so it requires an investment process that develops a return forecast beyond just taking the average historical return.
- ▶ Takes the changing market environment into account and utilizes shorter-term forecasts to propose deviations from the strategic allocation.
 - ▶ Macroeconomic (top down)
 - ▶ Firm specific (bottom up)
 - ▶ Momentum or technical



Using ETFs for tactical or “satellite” allocations

- ▶ Sector bets
- ▶ Regional or country bets
- ▶ Short term directional bets
- ▶ Secular trends
- ▶ Economic cycle plays



Morningstar ETF Investor Newsletter “Hands-On” Portfolio

Fund	Ticker	Current Portfolio Allocation	Date Recommended
Cash Holdings		17%	3/12/2007
Vanguard Dividend Appreciation ETF	VIG	14%	3/11/2009
Vanguard Information Technology ETF	VGT	10%	8/31/2010
PowerShares Financial Preferred	PGF	10%	8/22/2008
iShares Dow Jones US Oil & Gas E&P	IEO	10%	3/12/2007
WisdomTree Emrg Mkt SmallCap Div	DGS	8%	5/21/2009
iShares DJ US Medical Devices	IHI	8%	8/12/2009
iShares S&P Global Healthcare	IXJ	7%	3/30/2007
JP Morgan Alerian MLP Index ETN	AMJ	6%	7/1/2010
WisdomTree Emerging Markets Local Debt	ELD	5%	9/30/2010

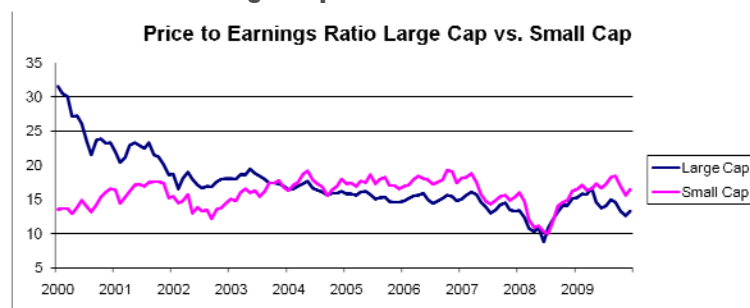


Tactical ETF Investing – Selection Process Example 1 VIG

- ▶ **Investment Thesis** – The U.S. economy will grow more slowly than expected. Earnings growth will be more difficult to come by. Higher quality stocks should benefit relative to more expensive and higher risk small-cap names.
- ▶ **Suitability**– Core or Satellite: Large cap U.S. stocks are typically the largest part of an investor’s equity allocation.
- ▶ **Risk** – If economic growth stabilizes, small cap stocks may continue to outperform, as they have over the last ten years.
- ▶ **Portfolio Impact** – Seeking to tilt the portfolio toward large-cap higher quality stocks that are less dependent on rapid economic growth to fuel earnings growth

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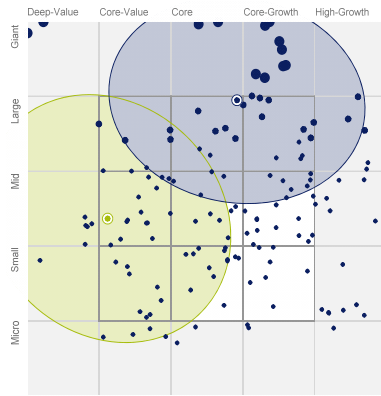
The Case for Large Caps



- Since the collapse of the tech bubble, large caps have gotten cheaper and are now under-valued on a price to earnings basis relative to small caps.
- Despite being cheaper, large caps are less risky. They had a standard deviation of return over the past ten years of 16.2% compared to 21.5% for small caps.
- Large caps have consistently generated better sales, earnings, cash flow and book value growth over the last ten years. However, IBES analyst estimates going forward project faster growth for small caps – a sign that they may be overvalued.

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Two Dividend ETFs, Two Different Portfolios



- ▶ Both Vanguard Dividend Appreciation ETF (VIG) and PowerShares HighYield Dividend Achievers (PEY) select only companies that have increased dividends consecutively for the past 10 years.
- ▶ From this list, PEY selects the 50 stocks with the highest yield and weights them by yield.
- ▶ PEY has a higher total yield at 4.4% and is skewed toward smaller cap value companies.
- ▶ VIG has total yield of 2.0%, barely higher than the 1.9% yield on the S&P 500 and is skewed toward larger cap companies and is more core than PEY.

Source: Morningstar Direct; style charts as of July 31, 2010

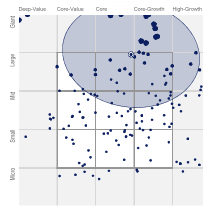
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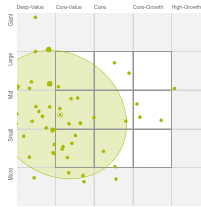


Matching Our Thesis

Vanguard Dividend Appreciation ETF (VIG)



PowerShares HighYield Dividend Achievers (PEY)



Inclusion criteria	Increased dividends for 10 consecutive years	50 highest yielding stocks that increased dividends for 10 consecutive years
Weighting Scheme	Modified Market-cap	Yield
Dividend Yield	2.0%	4.4%
% Wide Moat	63%	9%
# of Stock Holdings	142	50
% Assets in Top-10	42%	29%
Avg. Mkt Cap (\$Mil)	36,110	3,286
Price / Prospective Earnings	13x	13x

Source: Morningstar Direct



Sector Comparison

	VIG	PEY	S&P 500
Healthcare	13.3	4.0	11.0
Consumer Services	18.3	4.1	8.6
Consumer Goods	20.7	14.1	11.3
Industrial Materials	20.9	4.4	11.2

Financial Services	6.3	31.2	16.2
Utilities	1.1	32.1	3.7

- ▶ VIG has more exposure to faster growing and less cyclical sectors such as healthcare and consumer services as well as more cyclical but internationally orientated sectors such as industrial materials.
- ▶ PEY has a skew toward more value orientated sectors such as Financial Services and Utilities, sectors that typically have large dividend payouts.
- ▶ Firms that are able to generate stable, repeat businesses are often able to consistently raise dividends. Pepsi and Coca-Cola are both top ten holdings of VIG.

Source: Morningstar Direct. Portfolio holdings as of July 31, 2010.

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Is VIG higher quality?

- ▶ Measures of quality vary, but typically lead to similar results. Morningstar uses 'economic moat'.
- ▶ VIG has 63% of assets invested in wide moat stocks, compared to just 9% for PEY and 43% for the S&P 500.
- ▶ It is no coincidence that both Pepsi and Coca-Cola are top ten holdings. Firms with strong brands that generate stable, repeat business are able to consistently raise dividends.

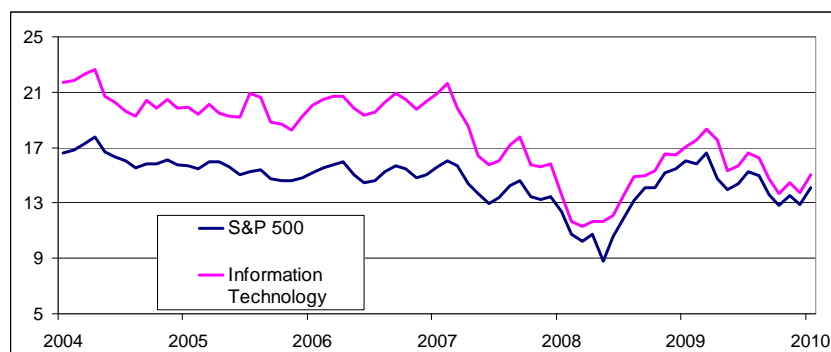


Tactical ETF Investing – Selection Process Example 2 VGT

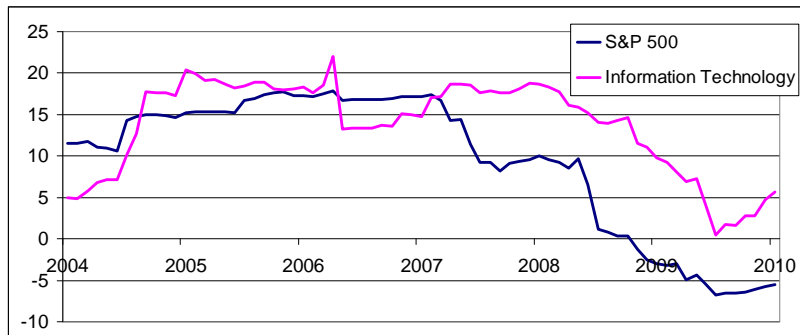
- ▶ **Investment Thesis** – Information Technology stocks multiples have contracted more than the market, while sales and earnings have contracted less. Tech companies have built up a lot of cash and have strong international sales.
- ▶ **Suitability**–Satellite: Information Technology is just one sector of the economy and it is likely to be more volatile.
- ▶ **Risk** – While their multiple has contracted, it is still high if economic growth stays low. Much of their international sales may ultimately return to feed the U.S. consumer.
- ▶ **Portfolio Impact** – Seeking to tilt the portfolio toward information technology.



Price / Earnings on Tech has contracted more than the market



While Sales and Earnings have held up better



► Historical Earnings Growth

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Matching Our Thesis

Vanguard Information Technology ETF
VGT

Technology Select Sector SPDR
XLK

	% Stocks		% Stocks
Info Economy	88.37	Info Economy	92.36
Software	22.71	Software	19.62
Hardware	54.41	Hardware	48.44
Media	0.17	Media	0.00
Telecommunications	11.08	Telecommunications	24.30

Market Cap Breakdown	% Stocks
Giant	53.41
Large	21.32
Medium	15.71
Small	7.16
Micro	2.40

Market Cap Breakdown	% Stocks
Giant	68.35
Large	21.01
Medium	10.14
Small	0.50
Micro	0.00

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iShares				
	Ticker	Expense Ratio	Assets (millions)	Avg. Daily Vol.
Large Cap				
iShares S&P 500 Index	IVV	0.09	22,837	3,057
iShares Russell 1000 Index	IWB	0.15	5,669	1,232
Mid Cap				
iShares S&P MidCap 400 Index	IJH	0.22	7,845	1,019
iShares Russell Midcap Index	IWR	0.20	5,433	902
Small Cap				
iShares Russell 2000 Index	IWM	0.28	12,655	61,656
iShares S&P SmallCap 600 Index	IJR	0.20	5,876	1,131
International				
iShares MSCI EAFE Index	EFA	0.35	35,500	19,601
Emerging Markets				
iShares MSCI Emerging Markets Index	EEM	0.72	46,560	51,678
Real Estate				
iShares Dow Jones US Real Estate	IYR	0.47	3,104	10,274
iShares Cohen & Steers Realty Majors	ICF	0.35	2,332	535



iShares				
	Ticker	Expense Ratio	Assets (millions)	Avg. Daily Vol.
Core Bond				
iShares Barclays Aggregate Bond	AGG	0.24	12,839	927
Short-Term Bond				
iShares Barclays 1-3 Year Treasury Bond	SHY	0.15	8,562	1,152
iShares Barclays 1-3 Year Credit Bond	CSJ	0.20	7,318	638
Inflation-Protected Bond				
iShares Barclays TIPS Bond	TIP	0.20	20,505	751
International Bond				
iShares S&P/Citi Intl Treasury Bond	IGOV	0.35	161	6
iShares JPMorgan USD Emerg Markets Bond	EMB	0.60	2,158	266
Corporate Bond				
iShares iBoxx \$ High Yield Corporate Bd	HYG	0.50	6,922	982
iShares iBoxx \$ Invest Grade Corp Bond	LOD	0.15	14,824	1,219
Commodities				
iShares S&P GSCI Commodity-Indexed Trust	GSG	0.75	1,562	438
iShares Gold Trust	IAU	0.25	4,218	2,890



State Street Global Advisors

	Ticker	Expense Ratio	Assets (million)	Avg. Daily Vol.
Large Cap				
SPDR S&P 500	SPY	0.09	77,299	191,991
SPDR S&P Dividend	SDY	0.35	3,914	1,413
Mid Cap				
SPDR S&P MidCap 400	MDY	0.25	10,467	3,305
Small Cap				
SPDR Dow Jones Small Cap Growth	DSG	0.26	138	9
SPDR Dow Jones Small Cap Value	DSV	0.27	125	14
International				
SPDR MSCI ACWI (ex-US)	CWI	0.34	401	44
SPDR S&P International Small Cap	GWX	0.59	658	199
Emerging Markets				
SPDR S&P Emerging Markets	GMM	0.59	221	15
SPDR S&P Emerging Markets Small Cap	EWX	0.66	830	474



State Street Global Advisors

	Ticker	Expense Ratio	Assets (million)	Avg. Daily Vol.
Real Estate				
SPDR Dow Jones REIT	RWR	0.25	1,320	163
SPDR Dow Jones Intl Real Estate	RWX	0.59	1,363	213
Core Bond				
SPDR Barclays Capital Aggregate Bond	LAG	0.13	225	22
Short-Term Bond				
SPDR Barclays Capital Short Term Corp Bd	SCPB	0.12	185	63
Inflation-Protected Bond				
SPDR Barclays Capital TIPS	IPE	0.18	370	44
SPDR DB Intl Govt Infi-Protected Bond	WIP	0.50	875	65
International Bond				
SPDR Barclays Capital Intl Treasury Bond	BWX	0.50	1,268	120
Corporate Bond				
SPDR Barclays Capital High Yield Bond	JNK	0.40	6,001	2,060
Commodities				
SPDR Gold Shares	GLD	0.40	55,688	13,795



Vanguard				
	Ticker	Expense Ratio	Assets (million)	Avg. Daily Vol.
Large Cap				
Vanguard Total Stock Market ETF	VTI	0.07	14,646	2,169
Vanguard Dividend Appreciation ETF	VIG	0.23	3,622	764
Vanguard Large Cap ETF	VV	0.12	2,586	188
Mid Cap				
Vanguard Mid-Cap ETF	VO	0.14	2,665	212
Vanguard Mid-Cap Growth ETF	VOT	0.14	761	109
Vanguard Mid-Cap Value ETF	VOE	0.14	685	93
Small Cap				
Vanguard Small Cap ETF	VB	0.14	3,806	382
Vanguard Small Cap Growth ETF	VBK	0.14	1,362	182
Vanguard Small Cap Value ETF	VBR	0.14	1,608	178
International				
Vanguard FTSE All-World ex-US ETF	VEU	0.25	6,113	859
Vanguard FTSE All-World ex-US SmCap Idx ETF	VSS	0.40	541	42
Vanguard Europe Pacific ETF	VEA	0.15	4,941	1,327



Vanguard				
	Ticker	Expense Ratio	Assets (million)	Avg. Daily Vol.
Emerging Markets				
Vanguard Emerging Markets Stock ETF	VWO	0.27	36,611	13,443
Real Estate				
Vanguard REIT Index ETF	VNQ	0.13	6,191	2,518
Core Bond				
Vanguard Total Bond Market ETF	BND	0.12	9,041	632
Vanguard Intermediate-Term Bond ETF	BIV	0.12	2,141	168
Short-Term Bond				
Vanguard Short-Term Govt Bd Idx ETF	VGSH	0.15	85	25
Vanguard Short-Term Bond ETF	BSV	0.12	5,671	458
Vanguard Short-Term Corp Bd Idx ETF	VCSH	0.15	796	144
Corporate Bond				
Vanguard Interm-Tm Corp Bd Idx ETF	VCIT	0.15	325	69
Vanguard Short-Term Corp Bd Idx ETF	VCSH	0.15	796	144



PowerShares				
	Ticker	Expense Ratio	Assets (million)	Avg. Daily Vol.
Large Cap				
PowerShares QQQ	QQQQ	0.20	21,535	79,134
PowerShares FTSE RAFI US 1000	PRF	0.39	799	100
Mid Cap				
PowerShares Dynamic Mid Cap Growth	PWJ	0.63	107	15
Small Cap				
PowerShares FTSE RAFI US 1500 Small-Mid	PRFZ	0.39	294	29
International				
PowerShares FTSE RAFI Dev Mkts ex-US	PXF	0.75	180	36
PowerShares Intl Dividend Achievers	PID	0.57	423	97
PowerShares FTSE RAFI Dev Mkts ex-US S/M	PDN	0.75	59	7
Emerging Markets				
BLDRS Emerging Markets 50 ADR Index	ADRE	0.30	693	139
PowerShares FTSE RAFI Emerging Markets	PXH	0.85	484	107



PowerShares				
	Ticker	Expense Ratio	Assets (million)	Avg. Daily Vol.
Corporate Bond				
PowerShares Fundamental High Yld Corp Bd	PHB	0.50	334	226
International Bond				
PowerShares Emerging Mkts Sovereign Debt	PCY	0.50	895	400
Commodities				
PowerShares DB Commodity Index Tracking	DBC	0.85	4,508	1,412
PowerShares DB Oil	DBO	0.75	584	317
PowerShares DB Base Metals	DBB	0.75	395	264
PowerShares DB Gold	DGL	0.75	294	113



Charles Schwab

	Ticker	Expense Ratio	Assets (million)	Avg. Daily Vol.
Large Cap				
Schwab U.S. Broad Market ETF	SCHB	0.06	321	198
Schwab U.S. Large-Cap ETF	SCHX	0.08	310	156
Schwab U.S. Large-Cap Growth ETF	SCHG	0.13	147	115
Schwab U.S. Large-Cap Value ETF	SCHV	0.13	98	37
Small Cap				
Schwab U.S. Small-Cap ETF	SCHA	0.13	226	113
International				
Schwab International Equity ETF	SCHF	0.13	332	117
Schwab International Small-Cap Eq ETF	SCHC	0.35	67	23
Emerging Markets				
Schwab Emerging Markets Equity ETF	SCHE	0.25	182	126
Core Bonds				
Schwab Intermediate-Term U.S. Trsy ETF	SCHR	0.12	20	10
Schwab Short-Term U.S. Treasury ETF	SCHO	0.12	30	12
TIPS				
Schwab U.S. TIPS ETF	SCHP	0.14	52	22

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