ETF Observer

March 2014

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ETF Insight

Welcome to Morningstar's U.S. ETF Observer

We are excited to introduce the first installment of a monthly series dedicated to highlighting the latest developments in the U.S. exchange-traded products (ETP) market and showcasing the latest research from our analyst team.

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Editor's Note: Welcome to the inaugural issue of Morningstar's U.S. ETF Observer, a monthly roundup of our latest research in the realm of U.S.-domiciled ETPs. Each month, U.S. ETF Observer will contain an original cover article, along with a recap of the latest industry news and data. It will also include the full texts of some of the most popular research articles produced over the past month by our research team and published on Morningstar.com. The purpose of this newsletter – which is distinct from ETFInvestor, which my colleague Sam Lee continues to edit – is to broaden the reach and impact of our team's work. We welcome any feedback! Feel free to drop us a note any time to let us know what you like, what you don't, and what we might be missing. Our mission is to guide investors through this increasingly complex landscape, and your input is a vital beacon in steering that course.

After stumbling out of the gate in January, U.S. equity markets rebounded in February, with the S&P 500 Index adding nearly 4.6% during the course of the month—notching fresh all-time highs. There was broad participation in the February rally across all segments of the U.S. Morningstar Style Box as well as in overseas markets. The MSCI EAFE Index gained 5.56% in the month, while emerging-markets stocks—as measured by the MSCI EM Index—were relative laggards, gaining 3.31% in February.

January's broad bond market rally came to an abrupt halt in February. The Barclays US Aggregate Bond Index slipped 0.19% for the month. However, there were pockets of strength in the investment grade corporate and high yield sectors—both of which tallied gains.

During February, ETPs saw a return to net inflows after having suffered net outflows in January. Notably, taxable bond funds accounted for $13.5 billion of the $23.6 billion in net inflows across all ETPs. This figure eclipses the $8 billion in net inflows the category witnessed in 2013. Commodity ETPs also saw modest inflows in February. This is the first time this group has garnered net new capital since August of 2013 as new money trickled back into gold products.

U.S. ETF providers rolled out 12 new ETFs during February, bringing the total number of new launches for the year to date to 40. Meanwhile 4 products were shuttered, bringing the total number of closures in 2014 to 8. Among the most interesting launches were iShares Enhanced International Large-Cap ETF (IEIL) and iShares Enhanced International Small-Cap ETF (IEIS), which are actively managed funds that seek to combine exposures to size, value, and quality factors in such a manner as to improve risk-adjusted returns relative to broad cap-weighted benchmarks.

In this issue, we include five articles from Morningstar's passive funds research team. The first, written by Bob Goldsborough, examines the growing number of tie-ups between incumbent ETF providers and traditional active management shops. These partnerships are aimed at leveraging these firms' complementary strengths and are allowing active managers to wade into ETF waters. Next, Patty Oey examines current valuations in emerging market equities. Upon further review, Patty argues that stocks in developing markets might not be as cheap as many think. My contribution examines the basics of the effects of currencies' contribution to the return and risk of a foreign equity portfolio—seeking to answer the question of whether it is better to hedge foreign currency exposure or not. Then, Abby Woodham evaluates the battered REIT sector, seeking to answer whether the average actively managed real estate fund can generate enough excess return to beat low-cost passive options. Last, Alex Bryan takes a close look at whether the small-cap premium truly exists. Spoiler alert: Alex argues that it is unreliable at best.

U.S. Market Barometer

1 Month

	US Market 4.75%	Value 4.00%	Core 4.66%	Growth 5.52%
Large Cap	4.41%	3.46%	4.19%	5.49%
Mid Cap	5.90%	5.71%	6.07%	5.92%
Small Cap	4.99%	4.72%	5.62%	4.62%

Data as of 02-28-14

1 Year

	US Market 26.38%	Value 22.59%	Core 25.83%	Growth 30.70%
Large Cap	24.98%	19.50%	25.09%	30.43%
Mid Cap	30.30%	32.51%	27.70%	30.55%
Small Cap	30.07%	26.56%	29.37%	34.48%

Data as of 02-28-14

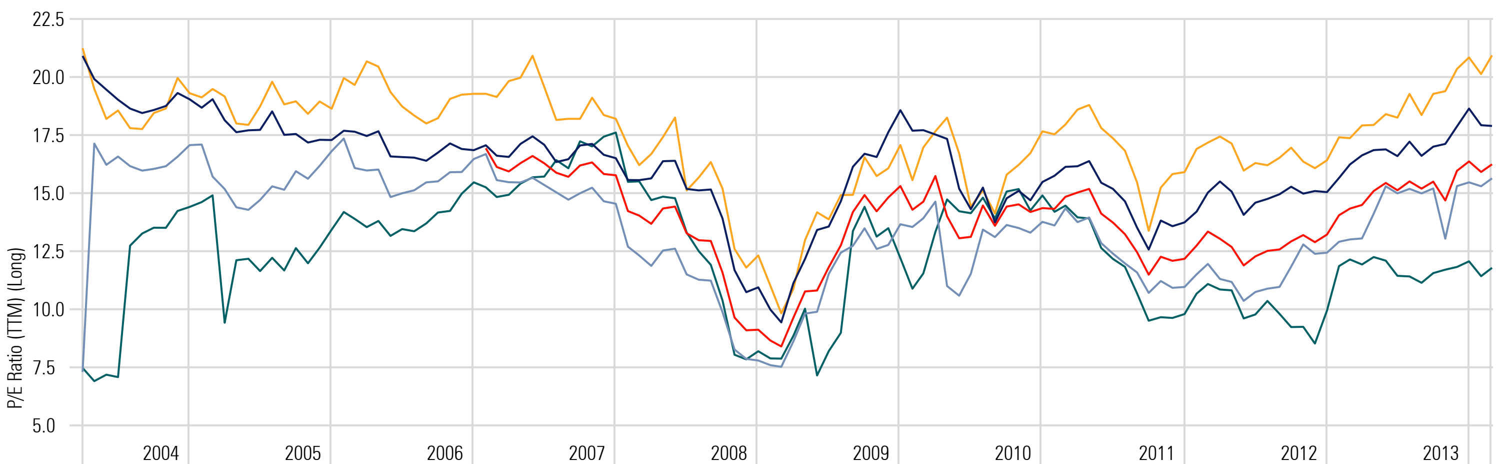
3 Year Annualized

	US Market 14.60%	Value 12.48%	Core 15.89%	Growth 15.36%
Large Cap	14.37%	11.27%	16.08%	15.73%
Mid Cap	15.38%	16.03%	16.02%	13.98%
Small Cap	14.48%	14.94%	13.27%	15.32%

Data as of 02-28-14

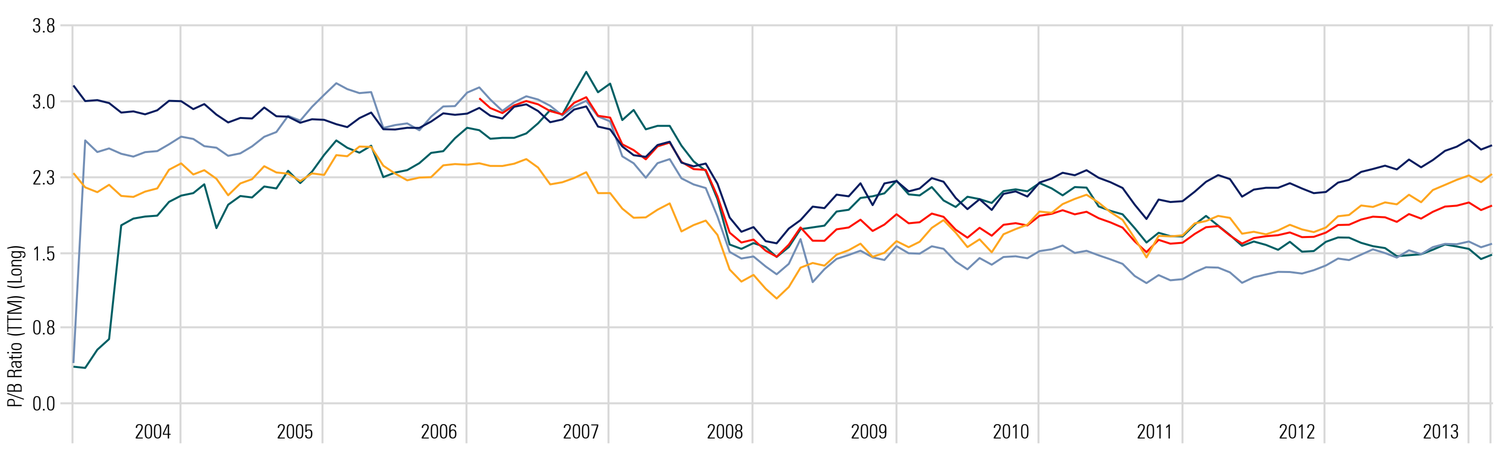
Price/Earnings

Time Period: 3/1/2004 to 2/28/2014



Price/Book Value

Time Period: 3/1/2004 to 2/28/2014



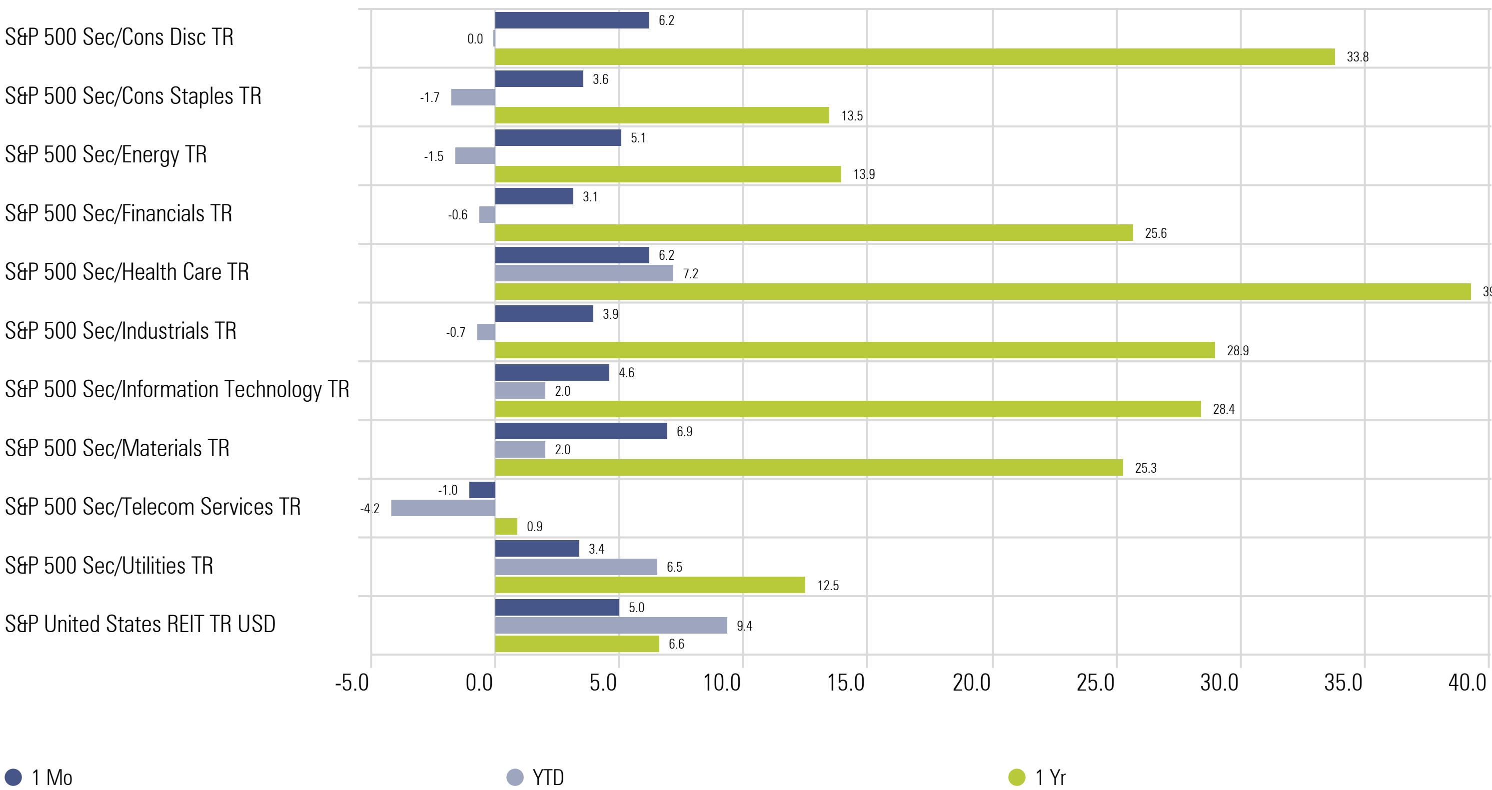
● S&P 500 TR USD ▲ Russell 2000 TR USD ▼ MSCI ACWI NR USD
◄ MSCI EAFE NR USD ► MSCI EM NR USD

Market Performance

Trailing Total Returns

U.S. Equity Market	1 Month	YTD	1 Year	3 Yr Annlzd	5 Yr Annlzd	10 Yr Annlzd	15 Yr Annlzd
S&P 500 TR USD	4.57	0.96	25.37	14.35	23.00	7.16	4.68
Wilshire 5000 Total Mkt TR USD	4.63	1.33	26.27	14.31	23.62	7.72	5.49
DJ Industrial Average TR USD	4.34	-1.07	19.01	13.04	21.47	7.15	6.27
NASDAQ 100 TR USD	5.17	3.16	36.90	17.75	28.37	—	—
Russell 2000 TR USD	4.71	1.81	31.56	14.41	26.63	8.71	9.07
Global Equity Market							
MSCI ACWI NR USD	4.83	0.64	18.16	8.35	19.58	6.87	4.69
MSCI EAFE NR USD	5.56	1.31	19.28	6.63	17.60	6.66	4.82
MSCI EM NR USD	3.31	-3.40	-6.01	-1.99	16.88	9.91	10.70

S&P 500 Sectors



Trailing Total Returns

U.S. Fixed Income Market	1 Month	YTD	1 Year	3 Yr Annlzd	5 Yr Annlzd	10 Yr Annlzd	15 Yr Annlzd
Barclays US Agg Bond TR USD	-0.19	6.28	7.84	8.33	2.29	2.57	3.29
IBOXX Liquid Investment Grade TR USD	0.57	7.62	9.08	11.49	6.65	3.85	3.89
BofAML US HY Master II TR USD	1.27	7.06	16.70	13.50	15.73	6.52	5.25
Morningstar Short-Term US Govt TR	-0.59	4.59	8.18	5.54	-1.14	0.90	1.77
Morningstar Short-Term Corp TR	-0.33	5.09	10.00	7.71	2.36	1.75	2.70
Morningstar Intermediate US Govt TR	-0.46	6.04	6.61	8.02	0.88	2.54	3.44
Morningstar Intermediate Corp TR	0.07	6.33	9.84	10.50	6.03	3.64	4.38
Morningstar Long-Term US Govt TR	-0.03	9.61	3.53	11.37	2.46	3.84	4.44
Morningstar Long-Term Corp TR	1.02	8.91	8.22	12.62	8.80	4.64	5.05
S&P Preferred Stock TR USD	1.51	9.37	10.60	10.92	20.93	2.50	—

Top 10 ETF Providers

Name	# of ETFs	Est. Net Flow ($Mil) 1-Mo	YTD	1-Yr	Market Share: Total Net Assets ($Bil) Present 2-14	Mkt Sh%	Rank	One Year Ago 2-13	Mkt Sh%	Rank
iShares	304	8,269.83	3,713.42	29,600.31	671.94	38.93	1	588.34	41.24	1
State Street	125	2,703.71	(19,406.89)	2,488.43	378.87	21.95	2	334.43	23.44	2
Vanguard	67	3,949.46	8,028.94	47,225.34	345.53	20.02	3	269.24	18.87	3
PowerShares	161	3,101.25	2,331.17	14,103.22	101.39	5.87	4	74.20	5.20	4
WisdomTree	61	(48.19)	(62.31)	10,105.04	33.96	1.97	5	23.08	1.62	6
ProShares	144	(155.07)	686.65	4,842.87	27.10	1.57	6	22.70	1.59	7
Guggenheim	69	1,315.49	2,046.70	7,975.94	24.14	1.40	7	13.62	0.95	8
Van Eck	61	366.99	(285.61)	733.69	23.68	1.37	8	26.47	1.86	5
First Trust	79	1,044.99	2,419.64	9,605.86	22.98	1.33	9	9.78	0.69	11
Schwab	21	672.37	1,261.20	6,126.82	18.43	1.07	10	10.24	0.72	10

Top 15 ETF Inflows for February 2014

Name	Ticker	Est. Net Flow ($Mil) 1-Mo	YTD	1-Yr	Market Share: Total Net Assets ($Bil) Present 2-14	Mkt Sh%	Rank	One Year Ago 2-13	Mkt Sh%	Rank
iShares 3-7 Year Treasury Bond	IEI	3,732.33	3,563.96	4,230.24	6.30	0.37	60	2.07	0.15	115
iShares 1-3 Year Treasury Bond	SHY	3,651.58	3,592.48	4,384.09	11.82	0.68	35	7.42	0.52	42
ProShares Ultra 7-10 Year Treasury	UST	2,919.14	2,916.63	2,953.24	2.95	0.17	118	0.01	0.00	1016
PowerShares QQQ	QQQ	2,210.62	755.74	5,773.26	46.70	2.71	4	30.91	2.17	7
SPDR S&P 500	SPY	1,354.02	(18,808.43)	4,169.11	158.18	9.16	1	125.09	8.77	1
iShares 1-3 Year Credit Bond	CSJ	1,286.09	1,560.05	3,483.49	13.42	0.78	28	9.91	0.69	30
Vanguard REIT Index ETF	VNQ	1,119.30	1,513.83	2,922.09	20.58	1.19	14	17.30	1.21	14
SPDR S&P MidCap 400	MDY	920.83	280.70	1,645.21	15.96	0.92	21	11.37	0.80	23
Financial Select Sector SPDR®	XLF	918.20	346.33	3,934.97	17.19	1.00	17	10.85	0.76	26
iShares iBoxx $ Invst Grade Crp Bond	LQD	786.09	693.09	(6,486.20)	16.82	0.97	18	24.06	1.69	9
iShares MSCI EMU Index	EZU	782.64	1,543.55	6,457.89	10.13	0.59	39	2.43	0.17	107
PIMCO 0-5 Year High Yld Corp Bd Idx ETF	HYS	643.74	787.73	3,108.46	4.40	0.25	81	1.23	0.09	170
Health Care Select Sector SPDR®	XLV	638.69	755.87	1,223.34	9.82	0.57	41	6.31	0.44	48
iShares US Healthcare	IYH	625.86	661.57	1,529.13	2.77	0.16	124	0.75	0.05	229
Vanguard FTSE Developed Markets ETF	VEA	593.65	1,414.99	6,255.36	20.63	1.20	12	12.00	0.84	21

Top 15 ETF Outflows for February 2014

Name	Ticker	Est. Net Flow ($Mil) 1-Mo	YTD	1-Yr	Market Share: Total Net Assets ($Bil) Present 2-14	Mkt Sh%	Rank	One Year Ago 2-13	Mkt Sh%	Rank
iShares Core S&P Mid-Cap	IJH	(3,011.37)	(2,504.29)	1,292.79	20.62	1.19	13	15.54	1.09	16
iShares Core S&P 500	IVV	(2,748.93)	(3,958.37)	3,487.40	50.01	2.90	3	37.49	2.63	6
iShares MSCI Emerging Markets	EEM	(2,116.82)	(7,566.81)	(15,621.30)	30.91	1.79	8	50.76	3.56	4
ProShares Ultra S&P500	SSO	(1,711.65)	(1,829.79)	(436.70)	1.62	0.09	168	1.33	0.09	161
Technology Select Sector SPDR®	XLK	(1,577.61)	(1,156.34)	784.28	12.14	0.70	33	9.12	0.64	35
ProShares Ultra MidCap400	MVV	(1,533.42)	(1,471.26)	(761.71)	0.16	0.01	591	0.96	0.07	195
Consumer Discret Select Sector SPDR®	XLY	(836.13)	(1,980.71)	(55.04)	5.41	0.31	72	4.03	0.28	77
iShares iBoxx $ High Yield Corporate Bd	HYG	(786.98)	(1,857.42)	(1,663.06)	13.52	0.78	27	15.08	1.06	17
Consumer Staples Select Sector SPDR®	XLP	(771.52)	(906.03)	(1,039.75)	5.60	0.32	67	6.16	0.43	50
Vanguard Dividend Apprec Idx ETF	VIG	(668.11)	(640.85)	2,209.59	18.71	1.08	16	13.88	0.97	19
iShares US Industrials	IYJ	(411.11)	(340.87)	108.16	1.29	0.07	190	0.88	0.06	210
Market Vectors Agribusiness ETF	MOO	(396.17)	(681.51)	(1,772.21)	3.81	0.22	93	5.75	0.40	53
Vanguard Total Bond Market ETF	BND	(364.07)	765.84	1,150.91	18.74	1.09	15	18.07	1.27	12
iShares Core S&P Small-Cap	IJR	(354.93)	(174.34)	1,899.00	14.13	0.82	24	9.14	0.64	34
First Trust Indust/Producer Dur AlphaDEX	FXR	(270.50)	15.30	507.66	0.75	0.04	273	0.14	0.01	535

ETF News

PowerShares Rolls Out International Buyback ETF

Roundup of ETF news from the previous month.

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ETF launch activity in February was fairly quiet. Few ETF were surprises or were accompanied by major seed capital or investor backing. However, there were several noteworthy launches that are worth examining.

PowerShares Rolls Out International Buyback ETF
PowerShares brought to market an international version of the firm's very successful, $2 billion PowerShares Buyback Achievers ETF PKW. PowerShares International BuyBack Achievers Portfolio IPKW tracks an index of large international companies that have shown a history of making large share repurchases. The notion behind buybacks as an appealing signal for investors comes from the belief that corporate managers have more knowledge about their companies' values, so when they choose to deploy excess cash toward repurchases instead of toward dividends or acquisitions, that signals to investors that they believe their shares are meaningfully undervalued. (History often has proven otherwise, with firms buying back their stock at precisely the wrong time, including mass corporate repurchases occurring immediately before the financial crisis.) IPKW's index requires potential constituents to have bought back at least 5% of their market caps over the past 12 months. IPKW costs 0.55%, which actually is meaningfully less than PKW's 0.71% fee.

From iShares, 2 Actively Managed 'Enhanced' International Stock ETFs
IShares launched two actively managed ETFs targeting certain corners of the international equity market and tapping into BlackRock's insights on a variety of factors, including size, value, and quality. IShares Enhanced International Small Cap ETF IEIS holds international small-cap firms, while iShares Enhanced International Large-Cap ETF IEIL holds international large-cap companies. IShares parent BlackRock's portfolio management team manages both ETFs and uses a proprietary process to assemble a portfolio based on a variety of quantitative investment characteristics, including cash earnings, earnings variability, leverage, price-to-book ratio, and market capitalization. The ETFs also make use of multi-factor strategies based on BlackRock's expertise, combining the quality, size, and value factors that have been shown to persist in academic research. BlackRock's process also involves overweighting factors with higher average returns, accounting for correlation between factors, and minimizing portfolio risk. IEIS charges 0.49%, while IEIL costs 0.35%.

'Workplace Equality' ETF Launches
ALPS rolled out ALPS Workplace Equality ETF EQLT, which tracks an index of companies that support workplace equality for lesbian, gay, bisexual, and transgender employees. The fund tracks an equal-weight index managed by Denver Investment Advisors that contains 140 publicly traded U.S. and foreign companies. The index provider uses publicly available lists and screening sources to identify companies with workplace policies that meet the index's criteria, along with the firm's own proprietary database for LGBT screening. The criteria include non-discrimination policies regarding sexual orientation and gender identity, and providing full benefits for same-sex spouses, domestic partners, and transgender individuals. The new ETF charges 0.75%. No other ETFs have a similar mandate, and very few ETFs have socially responsible mandates of any kind.

WisdomTree, iShares Launch ETFs Holding U.S. Treasury Floating Rate Notes
IShares and WisdomTree launched passively managed ETFs that hold a new type of U.S. Treasury-issued debt. WisdomTree Bloomberg Floating Rate Treasury Fund USFR tracks a Bloomberg index of floating rate notes, which is the first new class of a security issued by the Treasury since 1997. IShares Treasury Floating Rate Bond ETF TFLO tracks a similar index created by Barclays. The aim behind the ETFs is to protect investors from credit risk while at the same time enjoying any benefit from higher interest rates. USFR charges 0.15%, while TFLO has an expense ratio of 0.15% but a fee waiver through next February makes its current fee 0.00%.

U.S. ETF Industry Data Dashboard

Morningstar data as of March 1, 2014

Industry Vitals

Total # of ETPs Currently Listed	1568
ETFs	1365
Total Assets	$1,701,959,037,578
ETNs	203
Total Assets	$24,280,833,393
Total ETP Assets	$1,726,239,870,971

Active ETFs

Actively managed ETFs	79
Total Assets	$15,156,223,934
% of total ETP assets	0.88%
New Active ETFs Launched in Feb	2

Coming and Going	February	YTD
New Launches	12	40
Delistings/Closures	4	8
Net Change	8	32
Pending closures	12	

Notable ETF Filings in February

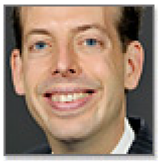
- WisdomTree filed for the WisdomTree Europe Dividend Growth Fund
- WisdomTree filed for the WisdomTree Japan Hedged Dividend Growth Fund
- State Street filed for three passively managed ETFs:
  - SPDR MSCI EAFE Quality Mix ETF
  - SPDR MSCI Emerging Markets Quality Mix ETF
  - SPDR MSCI World Quality Mix ETF
- USAA won exemptive relief to begin issuing actively managed ETFs
- Global X filed for the Global X China Bond ETF
- ETFis filed for the Infracap Active MLP ETF AMZA
- JPMorgan filed for three strategic beta ETFs:
  - JPMXF Diversified Return Global Equity ETF
  - JPMXF Diversified Return International Ex-North America Equity ETF
  - JPMXF Diversified Return Emerging Markets Equity ETF

Perspective

Howdy, Partner

Several traditional mutual fund firms have been pursuing partnerships with traditional ETF providers. How might this trend affect investors?

5 February 2014



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Even as the exchange-traded fund industry has matured, many large traditional fund managers have remained on the outside looking in. The core cadre of ETF providers has changed little over the past few years, and much of the activity from the more traditional fund managers has involved their applications to issue actively managed ETFs. For the most part, brand-new issuers whose first ETFs have started trading have been small fries. And many traditional managers have applications pending to issue actively managed ETFs. Whether players such as Dreyfus, John Hancock, Neuberger Berman, T. Rowe Price, Principal, and Eaton Vance, for example, ever actually start issuing actively managed ETFs might be an open question, but all (along with many others) have placed serious proposals to do so before the SEC.

Recently, however, we have seen the emergence of traditional fund managers entering the ETF industry through partnerships. In early January, State Street rolled out three actively managed style-based equity ETFs in partnership with Massachusetts Financial Services: SPDR MFS Systematic Core Equity ETF SYE, SPDR MFS Systematic Growth Equity ETF SYG, and SPDR MFS Systematic Value Equity ETF SYV. The three funds are subadvised by MFS and use a bottom-up approach to selecting stocks, based on both fundamental and quantitative analysis. Meanwhile, Emerging Global Advisors in early January launched three passively managed emerging-markets bond ETFs subadvised by TCW: EGShares EM Bond Investment Grade Intermediate Term ETF IEMF, EGShares EM Bond Investment Grade Long Term ETF LEMF, and EGShares EM Bond Investment Grade Short Term ETF SEMF. While it's true that the three bond funds--which are Emerging Global's first--track J.P. Morgan indexes, the ETFs also follow sampling strategies, and TCW employs quantitative analysis to pick securities from the funds' respective indexes.

The State Street-MFS and Emerging Global-TCW pairings come just a few short months after the industry's most high-profile pairing: the partnership between Fidelity and BlackRock that led in part to the October 2013 rollout of 10 passively managed, U.S. equity sector ETFs that track MSCI indexes and are subadvised by BlackRock. That rollout was just one piece of an elaborate ETF partnership between the two firms that included boosting the suite of iShares ETFs available through Fidelity's brokerage platform and Fidelity broadening access to the iShares lineup to new audiences.

So what's going on here? Clearly, two major mutual fund firms--MFS and TCW--have decided that--for now, at least--the prospect of partnerships with established ETF providers is the best route to take. And they've made these decisions on the heels of Fidelity (which in fairness already has had one passively managed ETF trading for the past decade) deciding to join forces with the biggest ETF issuer in BlackRock, rather than going it alone in a major way in the passive space.

Colleagues of mine are quick to note that when evaluating any ETF, I zero in on the fund's cost almost immediately. High-cost funds more often than not discourage me and send me elsewhere. And while partnerships strike us as solid ways to develop strong products, I'd hasten to add that the presence of an added party in the management of an ETF has the potential to significantly increase the fund’s costs.

So what do we know about the three most recently established partnerships? The Fidelity-BlackRock pairing looks promising. Fidelity has brought to market its 10 sector ETFs (which have slowly but steadily been attracting assets) with the lowest expense ratios of any equity sector ETFs, undercutting by a hair the next-lowest provider, Vanguard, which offers many of its equity sector funds for 0.14%, and also State Street, which recently reduced the fees for all of its sector SPDR ETFs from 0.18% to 0.16%. So the Fidelity-BlackRock partnership's costs are low for investors, and I would predict that the funds will continue to amass assets as they are marketed heavily and distributed extensively by Fidelity's marketing/distribution machine. Meanwhile, the State Street-MFS funds all carry what we would consider to be reasonable 0.60% price tags for actively managed strategies that combine fundamental and quantitative analysis. Finally, the Emerging

Global-TCW emerging-markets bond ETFs all charge 0.65%, which is meaningfully more than the price tags of other emerging-markets debt ETFs.

Whether or not these new ETF forays of MFS and TCW broaden into something more--including potentially issuing their own actively managed ETFs down the line--we would not be surprised to see more "marriages" between traditional fund managers and ETF issuers in the future. Such pairings can play to the respective firms' strengths and can help get investment ideas to market faster. Clearly, many traditional fund managers have moved gingerly toward the active ETF space (if at all), and developing a partnership can be a way for both sides to--in a low-cost way--test out an idea and become more comfortable with the ETF space. That said, cost is paramount, and if such a partnership adds a layer of cost to a product, that likely would lead us to question the idea's overall value proposition of the idea and quite possibly to direct investors to a lower-cost alternative.

Perspective

Are Emerging Markets Cheap?

A close look at history suggests this may not be the case.

5 February 2014

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Emerging-markets stocks are typically viewed as an asset class offering the potential for higher, albeit volatile, returns, and as a source of diversification. While these traits may still generally hold, this asset class has evolved significantly over its relatively short life span, so any analysis of current valuations of emerging markets should be viewed in this context.

Like any asset class, the long-term performance of emerging-markets stocks is driven by current valuations. At this time, the most common barometer of developing markets' stocks, the MSCI Emerging Markets Index, is trading at a trailing P/E ratio of 12, below its 18-year average of 16. Its discount relative to the MSCI USA Index, which is currently trading at 19 times, is also near eight-year highs. Current valuations would seem to suggest that emerging-markets equities are poised for strong absolute and relative performance over the next decade. However, a closer examination of the history of the emerging-markets asset class suggests that they may not be cheap after all.

Emerging Markets: A (Short!) History

Emerging-markets stocks, as an investable asset class, are only about 25 years old. The first emerging-markets funds available to U.S. investors had their inception in the mid-1980s, and the MSCI Emerging Markets Index launched in 1988. At its inception, the MSCI Index included 10 countries, with Malaysia (33%), Brazil (19%), and Chile (9%) representing its three largest country constituents. Current heavyweights such as China, Taiwan, and South Korea were not added until 1996.

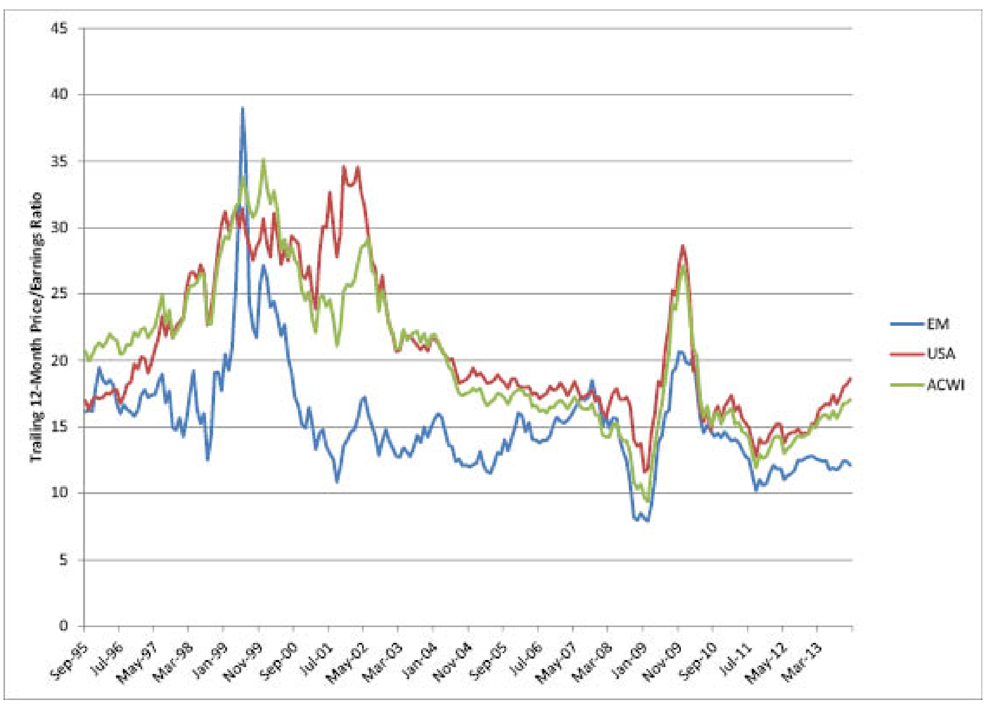
In the early years, emerging-markets stocks suffered some serious growing pains, including hyperinflation in Brazil, the Mexican peso crisis in 1995, the Asian financial crisis in 1997, and Russia's debt default in 1998. Suffice it to say, investors didn't really take to the asset class during that period, and, by the end of 2000, assets in U.S.-domiciled diversified emerging-markets funds were still low, at $16 billion (versus $385 billion at the end of 2013).

The "growth" story really took off about 10 years ago, thanks to a confluence of factors. First, the Chinese growth machine was operating at full speed. Annual gross domestic product growth rates were clocking in around 10%, thanks to economic reforms, strong export growth, and heavy investment in factories, infrastructure, and housing. Export growth was supported by low interest rates in the developed world, which drove a multiyear consumer spending boom. And thanks to China's capital investment spree, commodity prices skyrocketed, benefiting resource-rich countries such as Brazil, Russia, South Africa, and Indonesia. Emerging-markets sovereigns were also growing more fiscally stable. After the crises of the 1990s, many developing nations began to address their fiscal and balance-sheet issues, which resulted in a more stable macroeconomic environment and less currency volatility. And overall growth was strong--annual GDP growth rates in many emerging markets were trending in the high single digits.

All of these positive trends translated into exceptional equity market returns. From 2001 to 2010, the MSCI Emerging Markets Index (in U.S. dollars) returned an average of 15.8% a year, compared with the MSCI USA Index's 1.5%. Strong GDP growth and stellar equity market performance combined with improved access to the developing world's capital markets resulted in strong investment flows. By the end of 2010, assets in U.S.-domiciled emerging-markets funds had risen almost 20 times, from 10 years prior, to $300 million. Emerging-markets stocks were having their heyday.

Historical Valuations

While the MSCI Emerging Markets Index was generating annual returns of 20% to 50% from 2003 through 2007, valuations remained "reasonable" on both an absolute and relative basis. From 2001 to mid-2007, the MSCI Emerging Markets Index's trailing 12-month P/E ratio ranged from 11 to 16 times and was consistently lower than the P/E ratio of the MSCI USA Index.



In order for the MSCI Emerging Markets Index's P/E ratio to have remained in this "reasonable" range, the Earnings denominator had to keep pace with the rapidly rising Price numerator. Earnings growth among the index's underlying constituents helped drive expansion of the "E." But a significant driver of both the numerator and denominator of the P/E multiple was the addition of many large constituents in the index. According to Ernst & Young, from 2004 to 2010, capital raised via IPOs from BRIC countries reached $372 billion, with many $1 billion-plus deals, particularly from China. Some of the largest offerings in 2006 and 2007 included Industrial & Commerical Bank of China ($22 billion), Bank of China ($11 billion), and Russia's

Rosneft ($11 billion) and VTB Bank ($8 billion). At the start of 2004, giant- and large-cap firms accounted for 63% of the MSCI Emerging Markets Index, but by the end of 2007, this figure grew to 75%, thanks primarily to the addition of these mega-cap IPOs in the index. These firms were able to raise money under very favorable conditions, thanks to strong investor interest and rosy growth outlooks. Fundamentals helped drive the performance of the MSCI Emerging Markets Index in 2003 to 2005, but in 2006 and 2007, IPOs were a significant contributor to the index's performance.

Past as Prologue?

Many of the tailwinds that the emerging markets enjoyed over the past decade have since faded. China is undergoing a transition from an investment-driven growth model to one that is more oriented toward consumer spending, and it is likely to face some growing pains in the near and medium term. Foreign fund flows have grown more volatile and have helped expose which countries have relatively weaker fundamentals, resulting in higher currency volatility. Almost all emerging-markets countries appear to be settling into a period of slower GDP growth in the near term and medium term. Part of this is due to the fact that during the boom years of the past decade, many countries (especially those with commodity-driven economies like Brazil, Russia, and South Africa) were able to put off much-needed reforms that would have helped these countries realize their next phase of growth. The IPO market is also less robust relative to the past decade.

From October 1995 to December 2013, the MSCI Emerging Markets Index traded at an average P/E of 16 times. There were periods of wild swings--in June 1999, the index traded at a price/earnings multiple of 39, only to fall to a multiple of 11 times earnings two years later. During the boom years of 2003-07, the index traded between 11 and 17 times earnings. Given that emerging-markets stocks have seen great booms and busts and that the MSCI Emerging Markets Index's country and constituent composition have changed significantly, comparing the benchmark's current valuation against its historical average feels a bit like comparing apples to pears. But it is fair to say that emerging-markets equities are operating under less-favorable macroeconomic and external conditions, relative to the past decade, and, as such, current P/E multiples of around 12 times seem reasonable and not particularly cheap.

Perspective

To Hedge or Not to Hedge?

There are important trade-offs to consider when taking the foreign-currency exposure out of your international-equity ETF.

7 March 2014

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Currency-hedged exchange-traded funds (ETFs) have come into vogue of late in the U.S. Investors' interest has been piqued by the recent performance of the oldest and largest of them all: WisdomTree's Japan Hedged Equity DXJ. DXJ, which owns a portfolio of dividend-paying Japanese stocks that generate more than 80% of their revenue outside of Japan, gained nearly 42% in 2013, as a massive dose of monetary stimulus contributed to an 18% decline in the value of the Japanese yen and steady improvement in the global economy gave Japan's stock market an additional shot in the arm. Meanwhile, iShares MSCI Japan ETF EWJ —which tracks a standard market capitalization-weighted benchmark and does not hedge its yen exposure--increased by 26% in calendar 2013. Clearly, it paid for U.S. investors in Japanese stocks to have a hedge against a declining yen in 2013. But was this a flash in the pan, or do currency hedges have value over longer time frames? With DXJ coming off a banner year and four new currency-hedged ETFs having debuted in the U.S. over the past month, now is a good time for investors to explore these questions.

Back to Basics

Before diving into the details, it makes sense to revisit the basics of currency fluctuations' effects on security prices and the mechanics of hedging foreign-currency exposure.

In simple terms, a domestic investor's local currency-denominated return in a foreign security (or portfolio of them) is equal to the foreign security's (or portfolio's) return plus the foreign currency return, plus the product of the foreign security return and the foreign currency return.

Domestic Currency Return = Foreign Security Return + Foreign Currency Return+(Foreign Security Return x Foreign Currency Return)

The effect of fluctuating exchange rates can have either a positive or negative effect on investors' returns. In the case of U.S. investors holding Japanese stocks, the yen's depreciation had a significant negative effect on the U.S. dollar return for unhedged investors in 2013 (as evidenced in part by EWJ's relative underperformance versus DXJ). In another extreme example, the 34% appreciation of the Brazilian real contributed to the 124% calendar-year return posted by the iShares MSCI Brazil Capped EWZ in 2009. These examples highlight two key points to keep in mind when considering currency exposure: 1) Currency returns can add or subtract from investors' total return, and 2) currency fluctuations are volatile, are difficult to predict, and can be extreme in magnitude.

So how does currency hedging work in practice? Most currency-hedged ETFs will use currency forward contracts to reduce their foreign-currency exposure. A currency forward contract is an agreement between two parties to buy or sell a pre-specified amount of a currency at some point in the future at an exchange rate agreed upon between the two parties. The duration of the forward contract is typically one month. Because the value of the forward contract is fixed ahead of time, and the value of the fund will fluctuate during the course of a month as asset prices fluctuate and cash flows into and out of the fund--the forward may not be a perfect hedge. It's also important to note that these hedges come at a cost, though their price tag typically amounts to just a few basis points in the case of developed market currencies in stable interest rate environments.

The Effects of FX

With the basics out of the way, it is useful to look at some historical data to frame the effects of currency hedging on investors' returns (U.S. investors in this case) on their investments in foreign stocks. There are two key elements to consider when assessing the effects of currencies on equity portfolios: their contribution to return (as covered above) and their contribution to risk. Table 1 shows annualised return data dating back to 1969 for a trio of MSCI benchmarks in both their U.S. dollar and local currency denominations. These benchmarks are all currently tracked by one or more currency-hedged (and unhedged) ETFs.

Looking at 40-plus years of historical data, it is clear that it would not have paid for U.S. investors to hedge their exposure to the currencies represented in these benchmarks. In fact, in all three cases, currency returns were a significant contributor to total returns. Of course, few investors likely maintained exposure to any of these indexes over this entire period, and there were subperiods were the data looked far less favorable for those leaving their currency exposure unhedged, and some (like the case of Japan in 2013) that looked downright ugly. The one clear take-away here is that investors looking to mitigate a potential source of risk by hedging their currency exposures are also doing away with a potential source of return.

Table 1

	Annualized Return Dec. 31, 1969–Feb. 16, 2014
MSCI EAFE NR USD	9.31%
MSCI EAFE NR LCL	7.59%
Currency Return	1.72%
MSCI Japan NR USD	9.05%
MSCI Japan NR JPY	5.98%
Currency Return	3.07%
MSCI Germany NR USD	9.57%
MSCI Germany NR LCL	7.26%
Currency Return	2.31%

Source: Morningstar.

What about risk? Currency risk is a significant contributor to overall risk in the context of a foreign-equity portfolio. Table 2 shows trailing 10-year annualized returns and standard deviations for the same benchmarks featured in the first table. In the case of the MSCI EAFE and MSCI Germany benchmarks, it is clear--as evidenced in the difference in standard deviations between the U.S. dollar and local currency versions of the indexes--that currency exposure is a meaningful source of risk.

The expression for the variance (the square root of which is the standard deviation) of a foreign security or portfolio's returns is as follows:

$$\sigma^2_{DC} = \sigma^2_{FC} + \sigma^2_{S} + 2\sigma_{LC}\sigma_{S}\rho_{LC,S}$$

Where:

σ^2_{DC} = the variance of the foreign asset returns in domestic currency terms

σ^2_{FC} = the variance of the foreign asset in local currency terms

σ_{LC} = the standard deviation of the foreign asset in local currency terms

σ^2_{S} = the variance of the foreign currency

σ_{S} = the standard deviation of the foreign currency

$\rho_{LC,S}$ = the correlation between the returns of the foreign asset in local currency terms and movements in the foreign currency

This expression demonstrates that the volatility of a foreign asset in domestic currency terms is directly related to the volatility of the asset in local currency terms (the first term in the expression) and the volatility of the foreign currency (the second term). It also shows that the higher the correlation between the foreign asset in local currency terms and movements in the foreign currency, the greater the variance (again, take the square root and you'll get the standard deviation) will be in local currency terms. Hedging away currency exposure will reduce risk, as measured by standard deviation. Some will notice that in the second table the MSCI Japan NR JPY benchmark actually had a greater standard deviation of returns relative to the USD-denominated version—making it an exception amongst the trio presented. This reflects the fact that the ρLC,S term in this case has been negative (Yen goes up, Nikkei goes down, and vice versa)—hence the lower volatility when translated into USD terms. While the persistence of this type of correlation is difficult predict, there are some persistent structural factors at play that would suggest they will persist in certain cases. Specifically, it would seem intuitive that these relationships would demonstrate some perseverance in more export-oriented economies (e.g. Japan and Germany) where currency weakness can bolster exporters' competitiveness and domestic equity benchmarks are dominated by heavy exporters (Toyota, Daimler, etc.).

Table 2

	Annualized Return Feb.1, 2004–Jan. 31, 2014	Standard Deviation
MSCI EAFE NR USD	6.32%	18.21%
MSCI EAFE NR LCL	5.48%	14.52%
MSCI Japan NR USD	3.64%	16.39%
MSCI Japan NR JPY	3.26%	19.33%
MSCI Germany NR USD	8.61%	23.96%
MSCI Germany NR LCL	7.73%	18.33%

Source: Morningstar.

To Hedge or Not to Hedge?

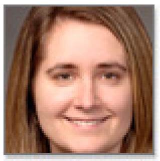
The best answer to the question of whether it makes sense to hedge the currency exposure of an international stock portfolio is this: It depends. By hedging foreign-currency exposure, investors can mitigate a source of risk--at the expense of a potential source of return. The trade-off between the two is an important one, and investors' decisions will depend on a variety of factors, including but not limited to their return requirements, risk tolerance, investment horizon, and the costs associated with hedging currency exposure.

Perspective

Active vs. Passive: The REIT Edition

Actively managed real estate funds have struggled to earn their keep over the past decade. But is the tide turning?

29 January 2014



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Passive investing is rooted in the efficient-market hypothesis, which questions if active managers are able to consistently generate excess returns over a stated benchmark. Many investors have begun to employ passive strategies in more "efficient" areas of the market, such as U.S. large caps. However, in smaller niches of the market, such as real estate, there is less of a consensus on the active versus passive debate.

The relative merit of active or passive strategies for U.S. real estate is an interesting question that deserves further exploration, especially as passive real estate strategies gain traction. Does the average actively managed real estate fund generate enough excess return to beat low-cost passive options? Have there been any interesting trends in the performance of actively managed real estate funds over the past decade? In a stable to rising-interest-rate environment, is it better to go active or passive?

To answer these questions, we created a data set of mutual funds to include all funds in Morningstar's domestic real estate category from 1996 through the end of 2013. To minimize survivorship bias, funds that liquidated or merged were included in the sample. However, because of the five-year evaluation periods used in the tests, funds that did not survive for 60 months were excluded.

The resulting sample group included 112 mutual funds. In the event that a fund had multiple share classes, only the share class with the lowest expense ratio was included. Although the average investor in each fund might not have access to lower-cost institutional share classes (and therefore would experience a higher cost of ownership than the I-share expense ratio would suggest), a mutual fund's lowest-cost share class is the best representation of the fund's cost of active management without the noise of varying distribution costs.

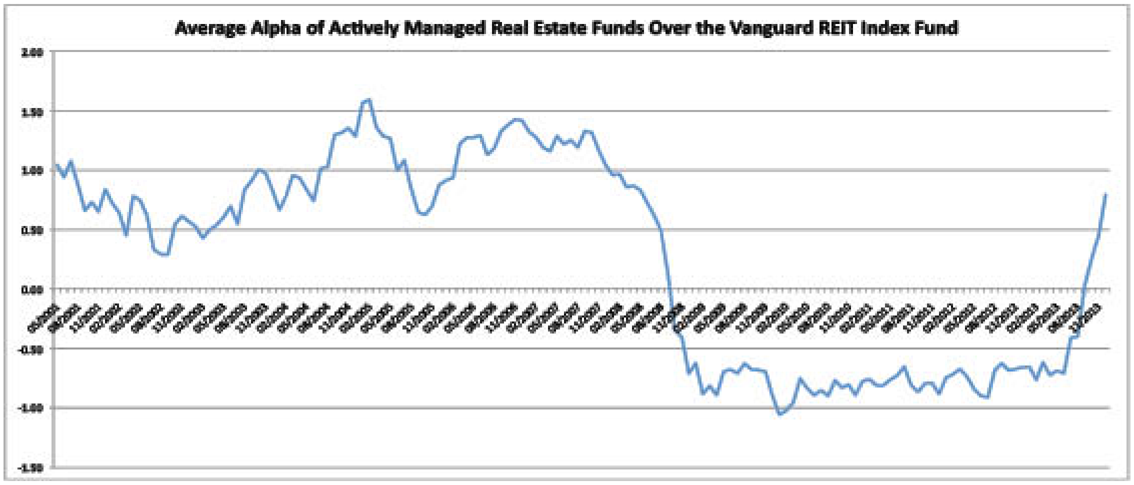
The Vanguard REIT Index Fund was used as a benchmark instead of a REIT index. By comparing active funds with a passively managed competitor, we are able to compare the performance of the two strategies on an apples-to-apples basis. The investor share class (ticker VGSIX) was used from 1996 to 2003, and the fund's even cheaper institutional share class was used (ticker VGSNX) following its inception in late 2003.

With this methodology, the deck was slightly stacked in favor of actively managed mutual funds. Calculating returns using the institutional share class may have given funds an unfair cost advantage compared with the real-life experience of investors in pricier A shares, and studying fund returns over rolling five-year periods meant that funds that flamed out in fewer than 60 months weren't present.

However, despite these distinct advantages, the actively managed funds still disappointed.

Beat Rates

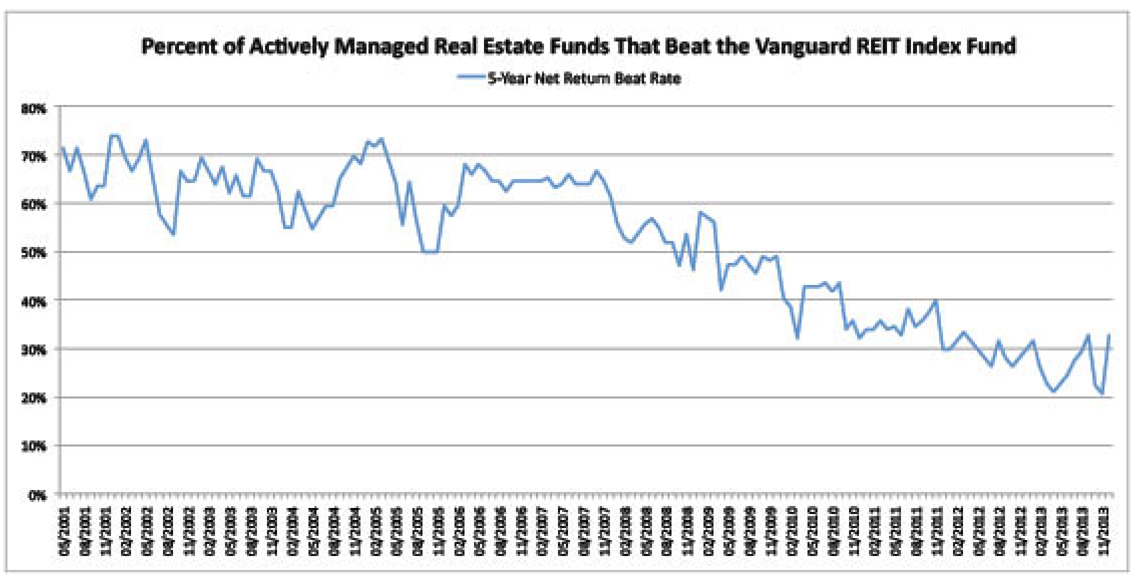
To begin, we looked at the "beat rate" of actively managed REIT funds, which is the percentage of actively managed mutual funds that outperformed the passive option over a certain time period. Beat rates change over time, so we used rolling five-year annualized returns starting in 1996. The Y-axis states the ending month and year of the rolling five-year period.



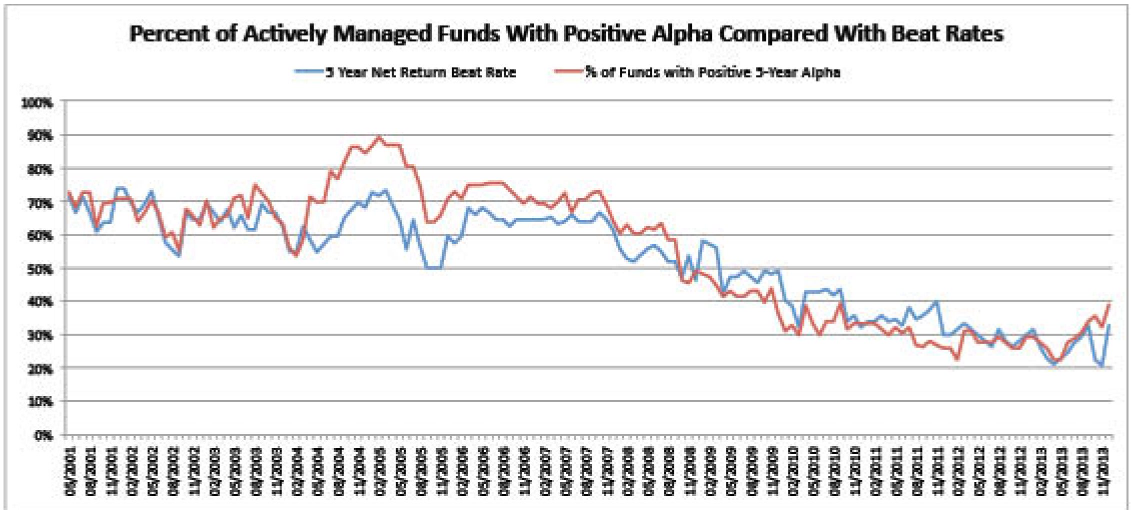
Beat rates fluctuated between 50% and 70% from 1996 until 2002, at which point they begin to sharply decline. No more than 40% of active funds were able to beat the Vanguard fund since the five-year period beginning in October 2005, and more recently, the beat rate has fallen as low as 20%. For a sector often considered a strong candidate for active management, the actively managed funds, as a group, have not performed well compared with passive options over the past decade.

A Precipitous Decline in Alpha

With the decline in beat rates in mind, we calculated the average rolling five-year alpha of actively managed real estate funds with respect to the Vanguard fund.



Before the five-year period beginning in September 2003, the average real estate fund consistently generated positive alpha. However, in the following years, the percentage of funds able to provide alpha declined to below 40%, and the average fund’s alpha fell below zero for several years. Only recently have actively managed funds, on average, been able to generate positive alpha.



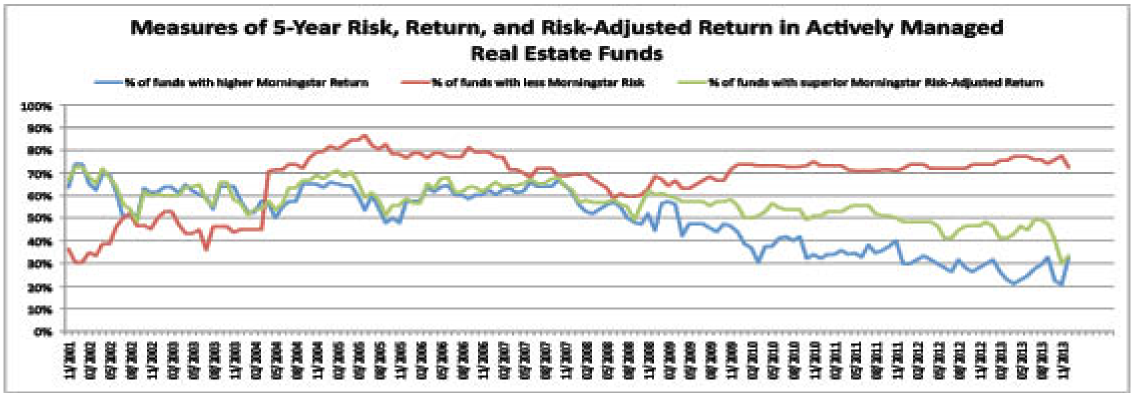
Not surprisingly, the percentage of funds that exhibited positive alpha over five-year periods declined concurrently with beat rates. Over the past decade, active fund managers on average found it increasingly difficult to beat the market.

Contributing Factors to Active Fund Underperformance
There are several factors that may have combined over the past 10 years to contribute to the declining relative performance of actively managed real estate funds.

As my colleague Sam Lee pointed out in his recent article, "something about REITs changed in the early 2000s." One likely culprit is the inclusion of REITs in major indexes, such as the S&P 500 in 2001. Before the rise of indexing and passively managed investments, most REITs were small-cap value investments. During the 80s and 90s, an active manager would have had a better chance at beating the market, as REITs were relatively underowned, under-researched, and less liquid. Index inclusion has resulted in strong inflows to the asset class, turning REITs into a more mainstream asset class.

Another contributing factor is style purity, or the tendency of active funds to not be 100% invested in assets related to their fund category. When an asset experiences a bull market, index funds can outperform active funds that do not have the same style purity. Actively managed funds, by holding a small cash reserve or real estate-related (but not REIT) securities, can result in a lag relative to a passive fund in years like 2009 when the Vanguard REIT Index fund returned more than 30%. REITs have, in fact, experienced a sustained bull market over the past several years.

Are We at an Inflection Point?
Morningstar Risk is a measure of a fund's annualized downside volatility, and Morningstar Return is a fund's load-adjusted excess return over the risk-free rate. Combining the two into Morningstar Risk-Adjusted Return allows investors to compare the returns of funds after controlling for risk. Below is a graph that shows the percentage of actively managed funds that provided 1) higher Morningstar Return, 2) lower Morningstar Risk, and 3) higher Morningstar Risk-Adjusted Return, on a rolling five-year period, than the Vanguard fund.



Although the percentage of actively managed funds with higher Morningstar Return has steadily declined, an increasing percentage has been able to provide lower Morningstar Risk than the Vanguard fund. The group's lower risk helped damp the effect of decreasing return in the risk-adjusted return equation. Over the past 10 years of rolling five-year risk-adjusted return, about half of actively managed funds were able to beat the Vanguard fund--higher than their beat rate in simple net return terms, with a more gradual decrease than the beat rates based on net returns.

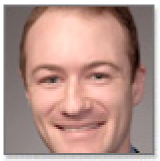
The recent decline in actively managed funds' Morningstar Risk, combined with the potentially rising-interest-rate environment for REITs, could trigger an improvement in the relative performance of actively managed real estate funds. 2013 marked the first year of subpar returns for the REIT sector after the Fed announced that it would consider tapering. Real estate could be entering a bear market, during which an active fund's style impurity could serve as a boost to returns. Furthermore, as rates tick upward, active managers may be able to generate alpha by managing the "duration" risk of REITs, which rely on debt for growth. For REITs, higher rates mean more-expensive debt servicing and less business reinvestment. The five-year beat rate has already begun to tick upwards again and may continue to do so if REITs lag the broad market.

Perspective

Does the Small-Cap Premium Exist?

It is unreliable at best.

22 January 2014



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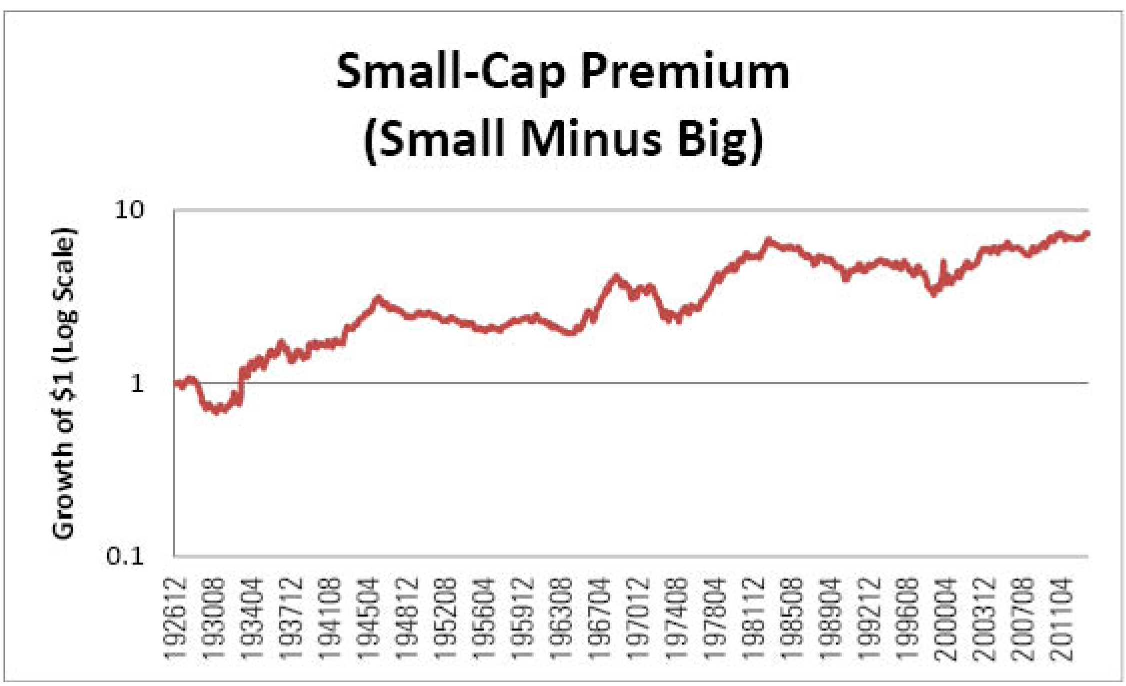
It is intuitive to presume that small-cap stocks should outperform their large-cap counterparts over the long run. After all, small caps tend to have more limited financial resources, weaker competitive advantages (if any), and lower profitability than large caps, and also tend to be more volatile and have less analyst coverage, which may increase the risk of mispricing. An efficient market should compensate investors for accepting greater non-diversifiable risk with higher expected returns. Consistent with this view, United States small-cap stocks historically have outpaced their large-cap counterparts over the long term. The University of Chicago's Rolf Banz first published this finding in 1981, and it served as the foundation for Dimensional Fund Advisors' first equity fund when the firm was founded later that year. However, since the early 1980s, the small-cap premium has diminished despite outperformance during the past decade. Even if the premium still exists, it is unreliable at best. Investors should not count on a small-cap tilt as a way to boost long-term performance.

From 1927 through 1981, U.S. small-cap stocks outperformed large caps by 3.1% annualized, according to the Fama-French "Small Minus Big" factor. But this performance was uneven. In fact, much of this premium was concentrated in the month of January (Keim, Horowitz, and Easterday). This uneven performance suggests that the market is not offering a consistent risk premium for small caps. It's hard to argue that small caps are riskier at the start of the year. As an alternative explanation, some researchers suggest that small caps may experience greater tax-loss selling in December because they include a disproportionate number of stocks that have declined in value (Crain). In January, when this selling pressure subsides, small caps are poised for greater gains, or so the argument goes. However, arbitrage should eliminate this effect, at least in the more liquid stocks. Small caps' inconsistent performance edge over time further undermines the view that they offer a reliable risk premium. As the chart below illustrates, they have underperformed their large-cap counterparts for decade-long spans, such as during the 1950s and 1980s. That's a long time to wait.



In the periods when small caps did outperform large caps, the illiquid micro-cap stocks included in the group drove a significant portion of the performance gap (Horowitz, Fama, and French). This suggests that the small-cap premium may actually be compensation for liquidity risk. A few studies have presented direct evidence that liquidity risk helped explain the small-cap premium (Amihud and Liu). But small-cap stocks are more liquid than they used to be, partially because the proliferation of small-cap funds has made these securities more accessible. That may explain why the U.S. small-cap premium declined to 1.02% annualized from 1982 through November 2013. During that time period, this premium was not statistically significant, meaning that it may not really exist. Investors may have a tough time capturing what's left of the small-cap premium because most small-cap stock funds invest in fairly liquid securities. For instance, from its inception in December 1978 through 2013, the Russell 2000 Index generated a nearly identical annualized return (12.1%) as the Russell 1000 and S&P 500 Indexes (12%).

There is also no evidence of a small-cap premium in many foreign markets during the past two decades. Small-cap stocks actually underperformed their large-cap counterparts in Europe, Japan, and Asia ex-Japan, from July 1990 through November 2013, based on the Fama-French "Small Minus Big" factor. This illustrates that small market capitalization is not a reliable source of higher expected returns, even over long horizons.

Valuation Matters

Valuations ultimately determine the long-term performance of small caps relative to larger stocks. In January 2004, the stocks in the Russell 2000 Index were trading at a lower price/forward earnings multiple (16.9) than those in the Russell 1000 Index (18.6). They subsequently generated higher returns over the next decade. However, these stocks are now trading at a premium (19.7 times forward earnings) to those in the Russell 1000 Index (16.2). Consequently, they are less likely to outperform going forward. Differences in expected growth rates can influence the valuation gap between large- and small-cap stocks.

In some cases, lofty growth expectations can work against small-cap stocks. Small-cap growth stocks have actually underperformed their large-cap counterparts over the long term, as illustrated in the table below. These stocks resemble lottery tickets. Some will offer big payoffs, but most won't. On average, investors overpay for these stocks, leading to mediocre returns. However, small-value stocks have a better record relative to their large-cap counterparts. The value premium historically has been greatest among small-cap stocks. Consequently, a small-cap value fund may offer investors a better chance of boosting returns over the long run than a broad small-cap fund. Within this category, Gold-rated DFA US Small Cap Value (DFSVX) (0.52% expense ratio) and Vanguard Small-Cap Value ETF (VBR) (0.10% expense ratio) might be worth considering.

Annualized Stock Returns by Style, January 1982 Through November 2013

	Deep Value	Value	Blend	Growth	High Growth
Large	12.7%	11.6%	11.5%	12.7%	11.8%
Mid	14.7%	14.8%	12.9%	12.5%	12.3%
Small-Mid	18.4%	14.9%	14.4%	14.1%	9.2%
Small	15.0%	15.6%	15.9%	12.3%	7.2%
Micro	17.3%	16.4%	14.2%	12.2%	1.4%

Source: French Data Library.

But All Is Not Lost

Even if a broad portfolio of small-cap stocks won't reliably outperform large-cap stocks, it still can offer good diversification benefits, particularly in the international arena. Small-cap stocks tend to be more highly leveraged to the domestic economy than large-cap stocks. As a result, foreign small-cap stocks tend to have lower correlations with U.S. stocks than their large-cap counterparts. For example, during the past decade, the MSCI ACWI ex USA Index was 0.89 correlated with the Russell 1000 Index, while the corresponding figure for the MSCI ACWI ex USA Small Cap Index was slightly lower at 0.85. Vanguard FTSE All-World ex-US Small-Cap ETF VSS (0.25% expense ratio) offers low-cost exposure to foreign small-cap stocks from 46 developed and emerging markets.

Investors still may be able to capture an illiquidity premium from micro-cap stocks. However, index funds are poor vehicles to get exposure to these stocks because they usually screen out the most illiquid securities, which may offer higher expected returns than more-liquid stocks. Index funds may also incur high market-impact costs of trading when they rebalance, because they often have to pay a premium to obtain the necessary liquidity to quickly execute trades. (Samuel Lee's article "Micro-Cap ETFs: Still Bad" in the March 2013 Morningstar ETFInvestor newsletter explains these challenges in more depth.)

DFA US Micro Cap DFSCX (0.52% expense ratio) offers a better model. It provides broad exposure to U.S. micro-cap stocks, which DFA defines as the smallest 5% of the market by market capitalization. Yet, because it does not track an index, the fund is not forced to trade when doing so would not be cost-effective. The fund's traders often act as liquidity providers in thinly traded stocks--buying when the herd is selling or selling to satisfy demand--which allows them to obtain better transaction prices. Consequently, this fund offers investors a cost-efficient way to harness an illiquidity premium.

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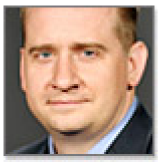
ETF Spotlights

The Quintessential U.S. Equity ETF, and Low Volatility Abroad

Each month our "ETF Spotlight" section features two full-length ETF research reports written by Morningstar analysts.

9 December 2013



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Vanguard Total Stock Market VTI

Vanguard Total Stock Market (VTI) is our favorite equity exchange-traded fund for passive exposure to the U.S. stock market, as it provides the broadest possible exposure for the incredibly low cost of 0.05%, or $5 for every $10,000 invested. While SPDR S&P 500 (SPY) may attract more trading volume, it is not the best choice for broad exposure to the U.S. market. Because large-cap stocks dominate the S&P 500 Index, SPY does not include most mid-caps or any small-cap and micro-cap stocks. In contrast, VTI invests in most liquid U.S. stocks, sweeping in more than 3,500 holdings across the market-cap spectrum. Over the long run, small-cap stocks tend to outperform their larger counterparts. This may partially explain why VTI has generated a slightly higher annualized return during the past 10 years (8.04%) than SPY (7.23%).

VTI has about $35 billion in assets, less than a quarter of SPY's $150 billion in assets. But as a separate share class of the Gold-rated Vanguard Total Stock Market Index (VITSX) mutual fund, VTI is part of a $262 billion pool of assets. This large scale spreads fixed costs over more assets and helps to improve efficiency. During the past decade, VTI matched its index almost perfectly, while SPY lagged by 0.11%. SPY is also prohibited from engaging in securities lending, a strategy VTI uses conservatively to offset shareholder expenses.

Holding a total-market index fund is more efficient than holding separate funds for large-cap and small-cap exposure because the broad fund requires less turnover as stocks move up and down in size. VTI is an ideal fund for passive investors who believe in the benefits of index investing, as well as for active investors who wish to follow a core-and-explore approach.

Few equity funds are as diversified as VTI. While this diversification mitigates stock-specific risk, it cannot eliminate the risk of the market itself. For example, the fund had a standard deviation of 15.3% over the past 10 years compared with 14.7% for the S&P 500. The higher risk of VTI is due to the inclusion of more-volatile small-cap stocks. The best way to reduce the risk of VTI further would be to pair it with a high-quality bond fund.

23 January 2014

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iShares MSCI EAFE Minimum Volatility EFAV

In the context of investing, volatility usually isn't a good thing. Sure, in theory, the market should compensate investors with higher expected returns for accepting greater risk that cannot be diversified, but it hasn't always turned out that way in practice. Historically, the most volatile stocks and bonds have offered the lowest risk-adjusted returns, according to a study by AQR principals Andrea Frazzini and Lasse Pedersen. In other words, incremental increases in risk have not been matched with commensurate improvements in return. More problematically, volatility tends to encourage the perverse tendency that investors have to buy high and sell low. It may also deter investors from adequately diversifying into international stocks.

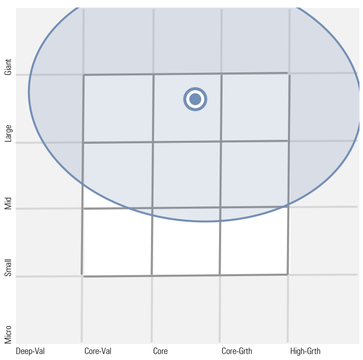
While international stocks tend to be more volatile than their U.S. counterparts, much of this incremental risk comes from currency fluctuations. Currency hedging is one way to reduce this risk, but this approach also sacrifices the protection that foreign stocks can offer against a decline in the value of the dollar.

Vanguard Total Stock Market ETF VTI

Overall Morningstar Rating™
★★★★

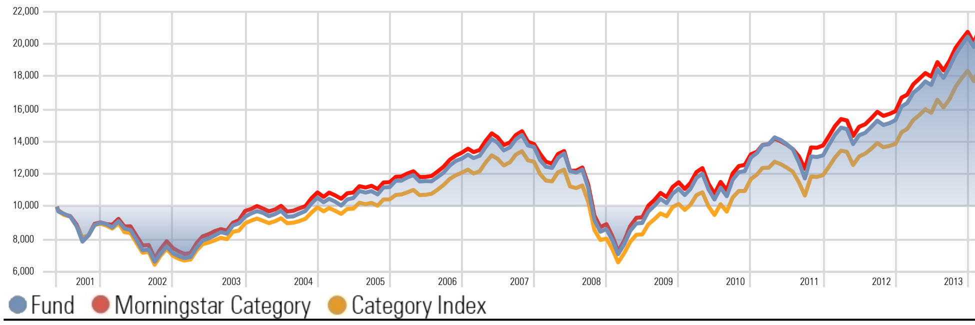
Morningstar Category	**Category Index**	**Prospectus Benchmark**
US ETF Large Blend	S&P 500 TR USD	CRSP US Total Market TR USD

Style Map



Performance Since Inception - Growth of 10,000

Time Period: 5/25/2001 to 3/11/2014



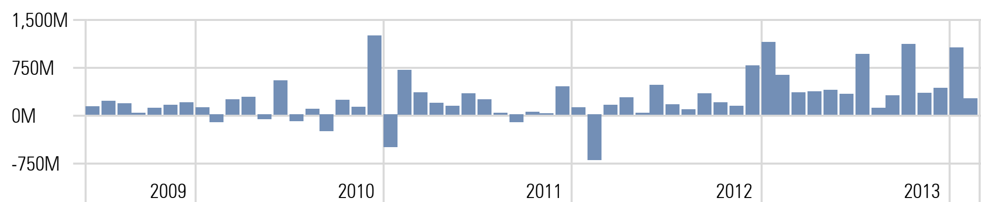
Snapshot

Inception Date	5/24/2001
Gross Expense Ratio	0.05
Assets (millions USD)	41,411
Avg Dly Vol (3 Mo)	3,431,590
12 Month Yield %	1.72
30-Day SEC Yield	1.82
30-Day Unsubsidized Yield	—
Portfolio Date	1/31/2014
Distribution Freq	Quarterly
Exchange Traded Note	No
Replication Method	Physical-Sample
Fund Lgl Structure	Open Ended Investment Company

Annual Total Returns %

*annualized returns	Inception*	2009	2010	2011	2012	2013	YTD
Vanguard Total Stock Market ETF	6.14	28.82	17.26	1.06	16.41	33.51	1.50
S&P 500 TR USD	5.19	26.46	15.06	2.11	16.00	32.39	0.96
US ETF Large Blend	5.67	31.32	18.48	2.91	14.90	30.72	0.92

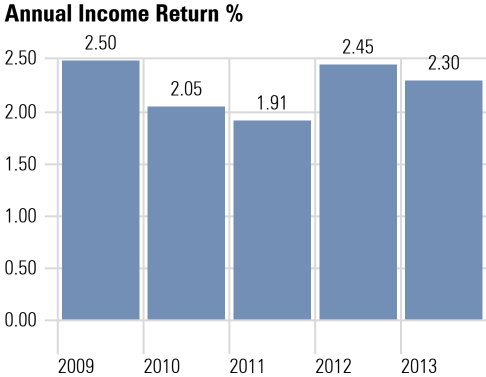
Monthly Fund Flows (millions USD)



***Performance Disclosure:** The performance data quoted represents past performance and does not guarantee future results. The investment return and principal value of an investment will fluctuate; thus an investor's shares, when sold, may be worth more or less than their original cost. Current performance may be lower or higher than return data quoted herein. For performance data current to the most recent month-end, please call **877-662-7447** or visit **www.vanguard.com**.*

The Overall Morningstar Rating is based on risk-adjusted returns, derived from a weighted average of the three-, five-, and 10-year (if applicable) Morningstar metrics.

Annual Income Return %



Risk/Return Analysis (3 years)

	ETF	Cat Index	Cat Avg
Standard Deviation %	13.05	12.49	12.45
Arithmetic Mean %	1.21	1.19	1.14
Sharpe Ratio	1.11	1.14	1.10
R-Squared	99.51	—	94.83
Beta	1.04	—	0.97
Alpha %	-0.30	—	-0.12
Treynor Ratio	13.96	—	14.17
Sortino Ratio	1.94	2.01	1.94

Suitability

By Michael Rawson, CFA 12/9/2013

Vanguard Total Stock Market ETF VTI covers the entire U.S. equity market for a razor-thin 0.05% expense ratio. VTI is the quintessential core equity holding. It provides investors with an excellent choice for passive exposure to equities. It is low-cost, low-turnover, and provides a market-cap weighted portfolio which can serve as a building block toward a complete asset allocation. Combined with an appropriate fixed-income investment, this is the closest thing to the "U.S. market portfolio" available. Vanguard is constantly looking for ways to improve its index portfolio management, and it recently switched indexes on this ETF from one provided by MSCI to a similar index provided by CRSP, citing potential cost savings. While CRSP is not a household name, it has been providing academic quality index data for decades.

Although this portfolio includes a substantial 19% stake in mid-cap stocks and 9% in small- and micro-cap names, investors should not be too concerned about additional risk from these smaller holdings. The fund has had a 99% correlation with the large-cap S&P 500 for the past 10 years. Despite the high correlation, the index returned an annualized 8.5% over that time period, while the S&P 500 returned 7.5%. It accomplished this with only slightly greater volatility (15.1%) than the S&P 500 Index (14.6%). This fund offers excellent diversification. No matter what industry, size segment, or company does well over the next decade, investors are likely to own them in this fund. Market-cap weighted funds rely on the wisdom of the crowd. It turns out that this wisdom makes the market very hard to consistently beat on a risk-adjusted basis. Market-cap weighting also helps to tamp down on risk, as larger firms tend to be multinational conglomerates with diversified revenue streams. In addition, holding a broad index fund instead of a separate large- and small-cap fund reduces the need for rebalancing, both at the index level and within the fund at the stock level.

Vanguard Total Stock Market ETF VTI

Overall Morningstar Rating™
★★★★

Morningstar Category	**Category Index**	**Prospectus Benchmark**
US ETF Large Blend	S&P 500 TR USD	CRSP US Total Market TR USD

Fundamental View

The equity risk premium--which is simply the return on stocks minus the risk-free rate--has historically averaged 3.2% in inflation-adjusted terms. Expectations for long-run stock returns that are significantly above the level implied by this historical risk premium may not be realistic. Current market valuations can help inform these expectations.

The expected return for stocks can be broken down into two components: dividends and capital appreciation. Capital appreciation is driven by a combination of growth in earnings and changes in the valuation multiple investors apply to those earnings. Real earnings growth has averaged around 3% between 1947 and 1999, a period in which real U.S. GDP grew by 3.6%. Since 2000, GDP growth has averaged just 1.8% while earnings have grown by an average of 2% per year. If the economy continues to grow at a below-average rate, it is reasonable to expect earnings will do the same. However, one should also consider the effect of growth from outside of the U.S. as stocks are increasingly affected by the global economy.

As for changes in valuation multiples, investors should not bank on further expansion of the current price/earnings multiple. At 18 times trailing earnings, the current price/earnings ratio for the S&P 500 is above its median level of 16, dating back to 1947. In the past, when the valuation multiple has been above its long-term average, future returns have tended to be lower versus periods marked by a below-average valuation multiple. In other words, the valuation multiple of the S&P 500--historically the most volatile and least impactful component of long-term returns--has a tendency to revert to its historical average.

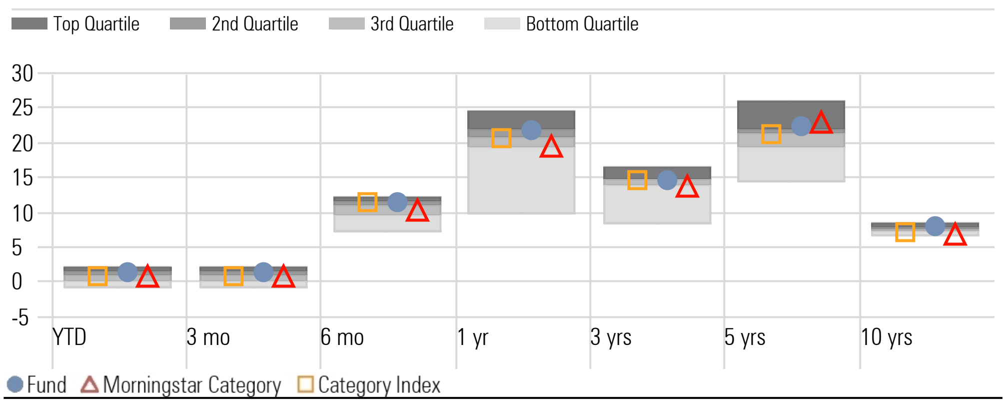
That valuation multiple for the S&P 500 is based on as reported earnings. Analysts also provide forecasts of future operating earnings. According to S&P Dow Jones Indexes, analysts currently forecast earnings that result in a price/forward operating earnings multiple of 15 for the index. This implies earnings growth over the coming year of 15%, well above the 4% average growth rate of the past two years, suggesting that analysts' forecasts may prove overly optimistic.

While earnings growth and valuation multiples do not look compelling, the relative dividend yield is more attractive. The current dividend yield for the S&P 500 is around 1.98%, just 86 basis points less than the 2.84% yield on the 10-year U.S. Treasury. Historically, the dividend yield on stocks has hovered around a level about 300 basis points less than the yield on the 10-year Treasury. So by this measure, dividend yields currently look attractive relative to bond yields.

As a final gauge of valuation, we can look at the work of Morningstar's equity analysts. Morningstar equity analysts cover stocks representing 85% of the value of the index. Based on their fair value estimates of the fund's underlying holdings, it is currently trading at a price/fair value multiple of 1.03. Therefore, the fund appears to be fairly valued, as of this writing.

Trailing Total Returns Relative to Peer Group %

Peer Group (5-95%): Exchange Traded Funds - U.S. - Large Blend



	YTD	3 mo	6 mo	1 yr	3 yrs	5 yrs	10 yrs
Vanguard Total Stock Market ETF	1.50	1.50	11.74	22.06	14.89	22.35	8.06
S&P 500 TR USD	0.96	0.96	11.57	20.84	14.78	21.35	7.39
US ETF Large Blend	0.92	0.92	10.46	19.51	13.94	23.18	7.05
Peer group rank	36	36	38	40	31	5	12
# of investments ranked in peer group	65	65	63	56	41	32	13

Morningstar Fundamental Analysis

Fair Value Estimate	—
Valuation Rating	—
Price/Fair Value	—
# of Holdings Covered	—
# of Holdings	3,651

Economic Moat %

Wide Moat	—
Narrow Moat	—
No Moat	—

Key Fundamental Ratios

	ETF	Cat Index	Cat Avg
Net Margin %	12.83	14.11	13.08
Return on Equity %	18.11	20.29	19.71
Return on Assets %	7.04	8.00	8.10
Debt to Capital %	36.07	35.23	33.21

Value and Growth Measures

	ETF	Cat Index	Cat Avg
Price/Prospective Earnings	18.05	17.87	17.23
Price/Book	2.50	2.56	2.41
Price/Sales	1.55	1.67	1.57
Price/Cash Flow	10.91	10.90	11.39
LT Earnings Growth %	9.56	10.25	12.54
Sales Growth %	-7.27	3.27	0.63
Cash Flow Growth %	3.63	5.43	4.95
Book Value Growth %	3.16	7.19	-10.35

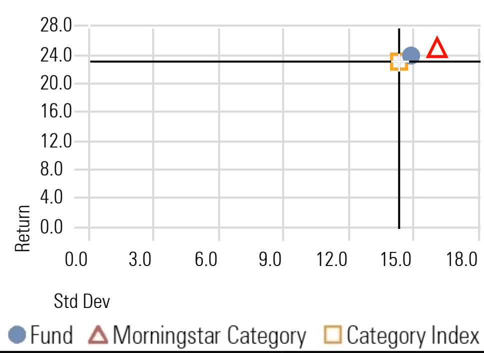
Market Performance Statistics

Time Period: 6/1/2001 to 2/28/2014

	ETF	Cat Index	Cat Avg
Up Capture Ratio %	106.50	100.00	103.62
Down Capture Ratio %	103.12	100.00	101.95
Max Drawdown %	-50.84	-50.95	-54.30
Max Gain %	213.61	187.81	205.43
Best Month %	11.53	10.93	13.46
Worst Month %	-17.62	-16.79	-19.00

Risk-Reward

Time Period: 3/1/2009 to 2/28/2014



Vanguard Total Stock Market ETF VTI

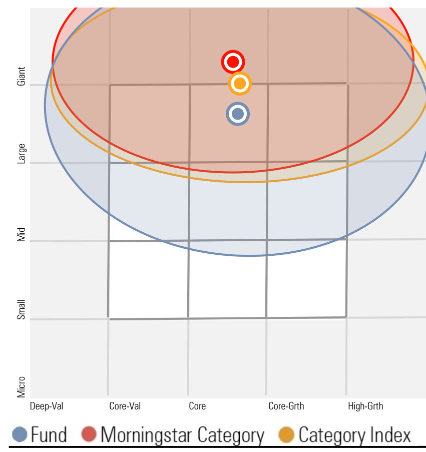
Overall Morningstar Rating™
★★★★

Morningstar Category	Category Index	Prospectus Benchmark
US ETF Large Blend	S&P 500 TR USD	CRSP US Total Market TR USD

Portfolio Construction

This ETF tracks the CRSP U.S. Total Market Index, which holds almost every liquid stock. It includes all stocks with a primary listing on a major U.S. stock exchange, incorporated or with a major business presence in the U.S., with a market cap of at least $10 million, at least 10% of shares publicly available, and that meet minimum trading requirements. While it includes real estate investment trusts, it excludes business development companies, American Depository Receipts, royalty trusts, and limited partnerships. The CRSP market-cap segment indexes also incorporates banding and packeting, two techniques designed to limit unnecessary turnover. In general, it should correlate closely with other broad stock indexes. The fund employs full replication for the largest 1,200 or so stocks and then samples from the remaining smaller-cap stocks, resulting in approximately 3,400 holdings compared with about 3,600 in the index.

Holdings Based Style Map

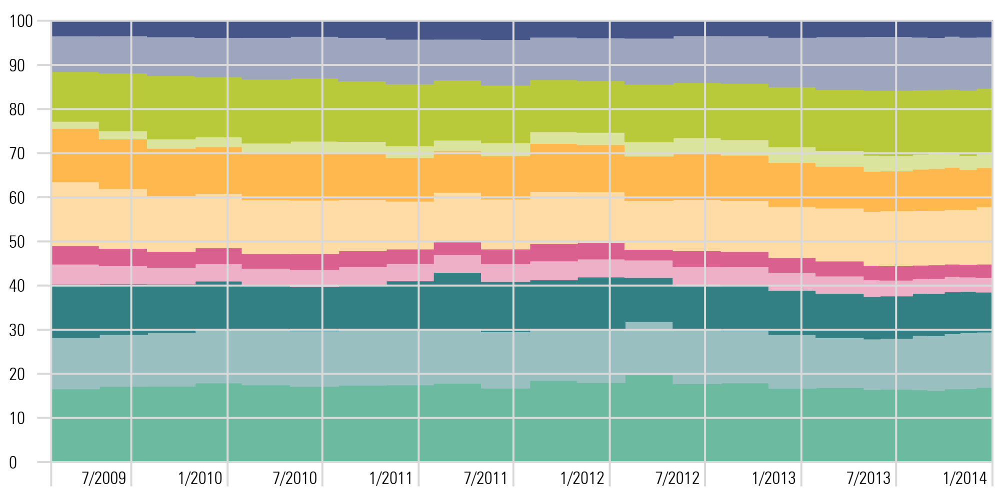


	ETF	Cat Index	Cat Avg		ETF	Cat Index	Cat Avg
Avg Market Cap (mil)	35,510	43,655	10,424	Turnover Ratio %	4.00	—	18.86
12 Month Yield %	1.72	—	—	% Asset in Top 10	14.22	8.30	47.25
Market Price	97.83	180.97	—	# of Holdings	3,651	2,431	543

Market Cap %

	ETF	Cat Index	Cat Avg
Giant	41.44	51.37	71.82
Large	30.73	37.16	10.26
Mid	19.08	11.45	15.29
Small	6.28	0.02	2.53
Micro	2.47	0.00	0.10

Equity Sector Breakdown History



Current Equity Sector Breakdown %

	ETF	Cat Index	Cat Avg
Basic Materials	3.67	3.38	3.74
Consumer Cyclical	11.61	10.93	11.13
Financial Services	14.59	15.14	15.91
Real Estate	3.39	1.85	1.46
Consumer Defensive	8.88	10.15	9.96
Healthcare	12.97	13.31	13.24
Utilities	3.04	3.03	2.12
Communication Services	3.31	3.64	3.28
Energy	9.05	9.99	9.67
Industrials	12.57	11.56	13.79
Technology	16.92	17.02	15.70

Top 10 Holdings

Portfolio Date: 1/31/2014

	Ticker	Portfolio Weighting %	Morningstar Rating	Total Ret YTD
Apple Inc	AAPL	2.26	★★★	-3.81
Exxon Mobil Corporation	XOM	2.02	★★★	-6.28
Google, Inc. Class A	GOOG	1.64	★★	7.73
Microsoft Corporation	MSFT	1.43	★★★	3.05
General Electric Co	GE	1.27	★★★★	-7.31
Johnson & Johnson	JNJ	1.25	★★★	2.92
Wells Fargo & Co	WFC	1.20	★★★	6.65
Chevron Corp	CVX	1.08	★★★★	-6.61
Procter & Gamble Co	PG	1.04	★★★★	-1.93
JPMorgan Chase & Co	JPM	1.04	★★★	-0.31

Equity Region %

	ETF	Cat Index	Cat Avg
North America	98.29	98.19	95.02
Latin America	0.04	0.00	0.03
Japan	0.00	0.00	0.17
Australasia	0.01	0.00	0.06
Asia Developed	0.08	0.00	0.25
Asia Emerging	0.02	0.00	0.10
United Kingdom	0.32	0.38	1.36
Europe Developed	1.24	1.43	2.92
Europe Emerging	0.00	0.00	0.01
Africa/Middle East	0.00	0.00	0.09

Vanguard Total Stock Market ETF VTI

Overall Morningstar Rating™
★★★★

Morningstar Category	**Category Index**	**Prospectus Benchmark**
US ETF Large Blend	S&P 500 TR USD	CRSP US Total Market TR USD

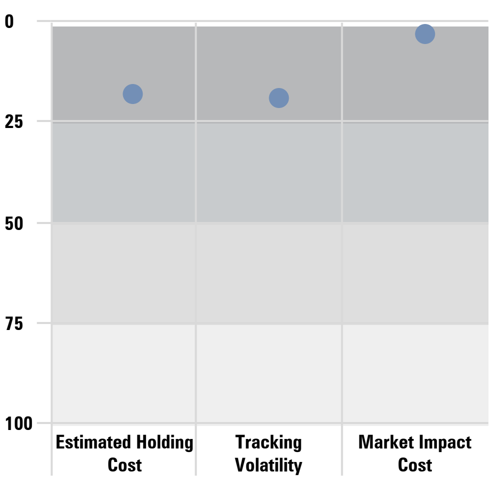
Fees

This ETF charges a 0.05% expense ratio, which is normally the kind of rate that only large institutions can command in private accounts. Indeed, this is among the lowest-cost and broadest funds that retail investors can buy.

Expenses

	ETF	Cat Avg
Gross Expense Ratio %	0.05	0.47
Net Expense Ratio %	0.05	0.39
Expense Waiver	—	—
Expense Waiver Expiration Date	—	—
Expense Waiver Type	—	—
Prospectus Date	8/12/2013	—

Percentile Rank Relative to ETF Universe



Total Cost Analysis Data Points

Estimated Holding Cost %	0.08
Tracking Volatility %	0.04
Market Impact Cost %	0.00

Estimated Holding Cost is essentially the difference between the ETF return and the benchmark return and represents the realized cost of replicating the benchmark. Lower costs indicate that the ETF is doing a better job of matching its benchmark while minimizing costs.

Tracking Volatility measures the uncertainty with which an ETF tracks a benchmark. A higher tracking error indicates a wider confidence interval for expected performance around the benchmark. Lower numbers and ranks are better.

Market Impact Cost represents the liquidity of the ETF and is based on the average market price movement in percent caused by a $100,000 trade in the ETF. Calculated as the residual volatility unexplained by movements in NAV and the previous day's premium or discount, scaled by average dollar volume traded. Lower numbers and ranks are better.

Alternatives

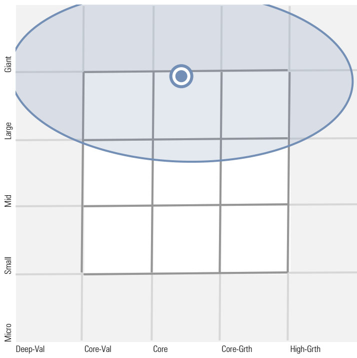
No other ETF has such a broad diversity of U.S. stocks for such a low cost. Schwab U.S. Broad Market ETF SCHB has a lower stated expense ratio at only 0.04% but is less liquid and holds 2,500 stocks, so it excludes micro-caps. IShares Russell 3000 Index IWV charges 0.20% and covers a similar group of stocks, including some micro-caps. IShares Core S&P Total US Stock Market ETF ITOT charges 0.07% and covers the largest 1,500 companies, so it also avoids micro-cap and even some small-cap stocks. The S&P index committee includes some quality criteria for new index constituents. For those who want to avoid overlap with existing holdings in large-cap stocks or funds, Vanguard Extended Market Index ETF VXF charges 0.10% to cover all stocks except for those in the S&P 500 Index.

iShares MSCI EAFE Minimum Volatility EFAV

Overall Morningstar Rating™

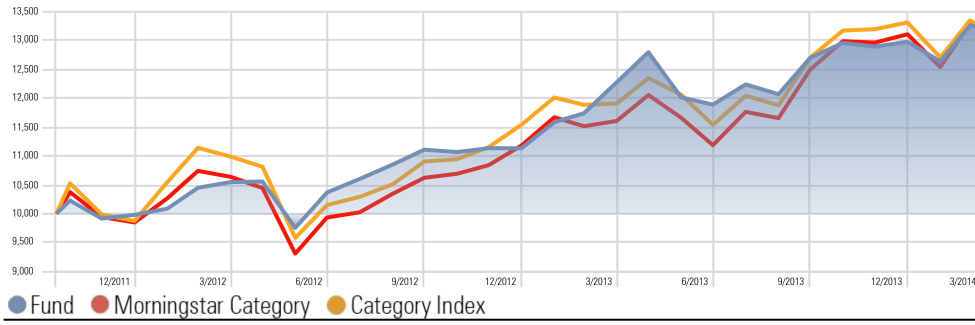
Morningstar Category	**Category Index**	**Prospectus Benchmark**
US ETF Foreign Large Value	MSCI ACWI Ex USA NR USD	MSCI EAFE Minimum Volatility NR USD

Style Map



Performance Since Inception - Growth of 10,000

Time Period: 10/19/2011 to 3/11/2014



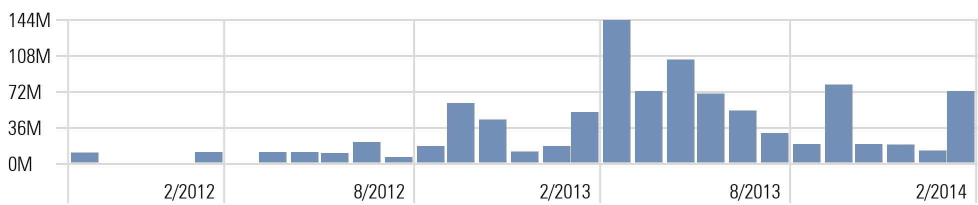
Snapshot

Inception Date	10/18/2011
Gross Expense Ratio	0.34
Assets (millions USD)	1,046
Avg Dly Vol (3 Mo)	128,307
12 Month Yield %	2.49
30-Day SEC Yield	—
30-Day Unsubsidized Yield	—
Portfolio Date	3/11/2014
Distribution Freq	Semi-Annually
Exchange Traded Note	No
Replication Method	Physical-Sample
Fund Lgl Structure	Open Ended Investment Company

Annual Total Returns %

*annualized returns	Inception*	2009	2010	2011	2012	2013	YTD
iShares MSCI EAFE Minimum Volatility	11.72	—	—	—	11.51	16.52	2.14
MSCI ACWI Ex USA NR USD	10.68	41.45	11.15	-13.71	16.83	15.29	0.25
US ETF Foreign Large Value	11.30	42.93	5.59	-9.12	13.01	17.71	1.48

Monthly Fund Flows (millions USD)



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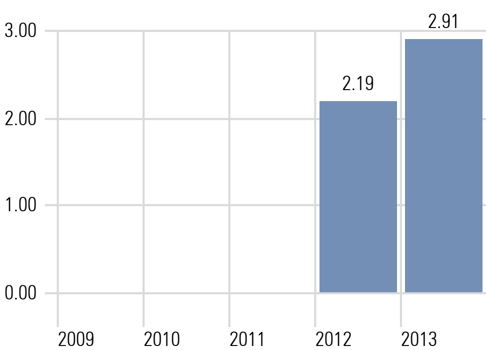
Annual Income Return %



Risk/Return Analysis (3 years)

	ETF	Cat Index	Cat Avg
Standard Deviation %	—	16.88	17.66
Arithmetic Mean %	—	0.44	0.52
Sharpe Ratio	—	0.31	0.36
R-Squared	—	—	93.67
Beta	—	—	1.01
Alpha %	—	—	0.92
Treynor Ratio	—	—	4.89
Sortino Ratio	—	0.45	0.55

Suitability

By Alex Bryan 1/23/2014

Risk-averse investors can get efficient exposure to foreign developed-markets stocks through iShares MSCI EAFE Minimum Volatility ETF. It attempts to form the least-volatile portfolio from the MSCI EAFE Index, which includes stocks from developed markets in Europe, Australia, and Asia. These stocks are more likely to enjoy durable competitive advantages than the average company in the MSCI EAFE Index and tend to be more profitable. They skew toward defensive sectors including health care, telecom, consumer defensive, and utilities. But these tilts aren't too exaggerated because the fund's sector and country weightings are anchored to the MSCI EAFE Index. Not surprisingly, the fund's quality holdings tend to be less sensitive to the business cycle than their peers', which makes for a smoother ride. Consequently, it is a suitable core holding.

The back-tested performance of the fund's strategy is impressive. From June 1988 through December 2013, the MSCI EAFE Minimum Volatility Index outpaced its parent index, with about 80% of the volatility. This performance is consistent with empirical studies, which have found that the least-volatile stocks have historically offered the best risk-adjusted returns.

While they may not continue to keep pace with the broad market going forward, there is reason to believe that low-volatility strategies, such as the one this fund pursues, will continue to offer better risk-adjusted returns than the market. Most active money managers are compensated based on their performance relative to a benchmark. However, many are not allowed to use leverage to boost returns. In order to juice their returns, these investors may tilt toward high-beta (volatile) stocks, which should, in theory, outperform their less-risky counterparts. However, this collective bet on high-beta stocks pushes their prices above their fair values, leading to low risk-adjusted returns. Conversely, these managers may neglect boring low-volatility stocks, which can cause them to become undervalued relative to their risk. This bias is not isolated to professional managers. Rather, it extends to any investor who is unable or unwilling to use leverage to meet their return objectives. Investors may also overpay for volatile stocks because they often offer a small chance of a large payoff--much like a lotte...

iShares MSCI EAFE Minimum Volatility EFAV

Overall Morningstar Rating™

Morningstar Category	Category Index	Prospectus Benchmark
US ETF Foreign Large Value	MSCI ACWI Ex USA NR USD	MSCI EAFE Minimum Volatility NR USD

Fundamental View

Despite the structural advantages low-volatility stocks enjoy, they carry relatively high interest-rate risk because their cash flows are less sensitive to the business cycle than the average company. That has worked to their advantage over the past few decades when interest rates were falling. However, rising interest rates could create a bigger hurdle for low-volatility stocks going forward because they will likely experience less growth to offset the negative impact of higher rates.

The fund's geographic diversification helps reduce this risk. Just over half of the fund's assets are invested in continental Europe and Japan, where rates will likely remain low for quite some time. The Bank of Japan's new governor, Haruhiko Kuroda, has committed to an aggressive monetary policy to stimulate demand. As a result, Japanese interest rates will likely remain ultra-low. Similarly, the European Central Bank is unlikely to raise interest rates in the near term because the eurozone is struggling with an unemployment rate above 12% and anemic growth. Even with their interest-rate sensitivity, low-volatility stocks will likely continue to be less risky than the broad market.

The eurozone has a long way to go to resolve structural imbalances and establish a sustainable growth trajectory. Deleveraging in the public and financial sectors has significantly weakened demand, which has intensified price competition. In order to control costs, firms have laid off workers and cut back on hiring. High unemployment contributes to the vicious cycle of weak demand, as consumers cut discretionary spending. Given these challenges, it is not surprising that the fund currently underweights eurozone stocks.

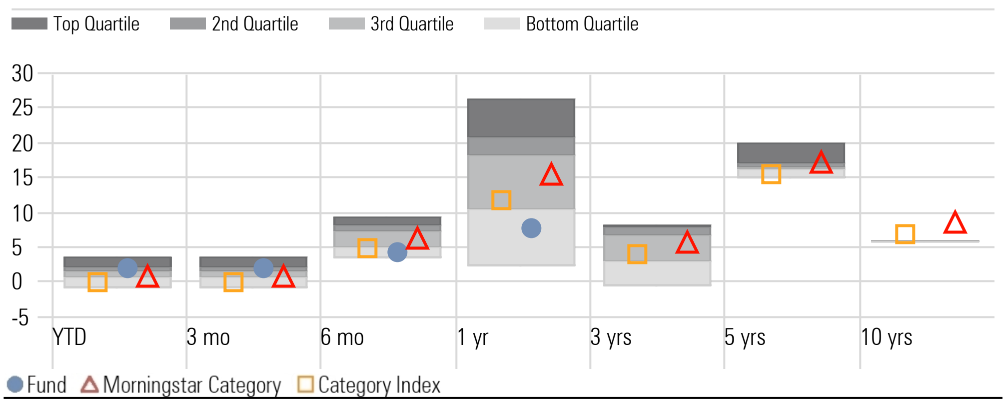
However, conditions in Europe have started to stabilize. Business activity across the eurozone has expanded throughout the second half of 2013, according to Markit Purchasing Manager Index Survey data. This improvement in demand has helped reduce the number of job losses, though the labor market remains weak. The recovery has been uneven, with Ireland and Germany generally holding up better than Italy, France, and Spain. The U.K. has held up better than its neighbors on the continent. It enjoyed healthy growth in the manufacturing and services sectors throughout much of 2013, based on PMI survey data. This growth has driven an improvement in business confidence and employment.

Japan faces similar structural challenges as Europe, including the highest level of debt to gross domestic product of any developed country, a thrifty and rapidly aging population, and persistent deflation. However, the Bank of Japan's new aggressive monetary policy could help bolster domestic demand. This policy shift has already caused the yen to depreciate sharply against the U.S. dollar. A weaker yen may also make Japanese exports more competitive.

While the fund's holdings were generally better positioned to weather the tough economic climate of the past few years better than the broad market, they will likely lag as the global economy strengthens. As a result of their relative safety, the fund's holdings were trading at a slightly higher price/forward earnings multiple (16.1) than those in the broad MSCI EAFE Index (14.9) at the end of December.

Trailing Total Returns Relative to Peer Group %

Peer Group (5-95%): Exchange Traded Funds - U.S. - Foreign Large Value



	YTD	3 mo	6 mo	1 yr	3 yrs	5 yrs	10 yrs
iShares MSCI EAFE Minimum Volatility	2.14	2.14	4.37	7.97	—	—	—
MSCI ACWI Ex USA NR USD	0.25	0.25	5.03	12.02	4.18	15.74	7.16
US ETF Foreign Large Value	1.48	1.48	6.41	15.38	5.18	16.48	8.72

Morningstar Fundamental Analysis

Fair Value Estimate	—
Valuation Rating	—
Price/Fair Value	—
# of Holdings Covered	—
# of Holdings	203

Economic Moat %

Wide Moat	—
Narrow Moat	—
No Moat	—

Key Fundamental Ratios

	ETF	Cat Index	Cat Avg
Net Margin %	18.41	13.23	11.40
Return on Equity %	19.97	15.13	14.67
Return on Assets %	7.95	5.75	5.13
Debt to Capital %	31.14	31.95	32.11

Value and Growth Measures

	ETF	Cat Index	Cat Avg
Price/Prospective Earnings	15.91	14.73	12.58
Price/Book	1.96	1.58	1.34
Price/Sales	1.53	1.06	0.81
Price/Cash Flow	9.90	8.46	7.72
LT Earnings Growth %	7.26	10.34	5.65
Sales Growth %	3.74	-30.28	5.26
Cash Flow Growth %	2.93	-17.15	2.44
Book Value Growth %	5.65	-24.50	-3.13

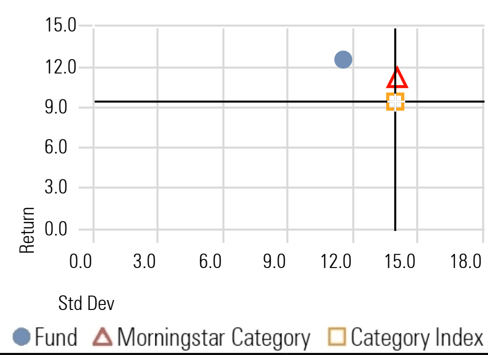
Market Performance Statistics

Time Period: 11/1/2011 to 2/28/2014

	ETF	Cat Index	Cat Avg
Up Capture Ratio %	76.40	100.00	98.41
Down Capture Ratio %	55.27	100.00	93.75
Max Drawdown %	-7.57	-13.95	-12.89
Max Gain %	35.78	39.14	41.89
Best Month %	6.26	6.95	7.25
Worst Month %	-7.57	-11.36	-10.74

Risk-Reward

Time Period: 3/1/2012 to 2/28/2014



iShares MSCI EAFE Minimum Volatility EFAV

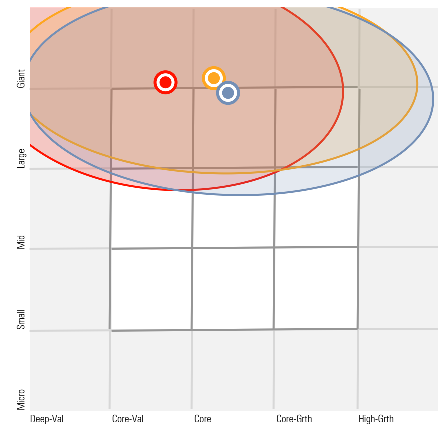
Overall Morningstar Rating™

Morningstar Category	**Category Index**	**Prospectus Benchmark**
US ETF Foreign Large Value	MSCI ACWI Ex USA NR USD	MSCI EAFE Minimum Volatility NR USD

Portfolio Construction

The fund employs full replication to track the MSCI EAFE Minimum Volatility Index, which attempts to create the least-volatile portfolio with stocks from the MSCI EAFE Index. This selection universe includes large- and mid-cap stocks based in developed-markets countries in Asia, Europe, and Australia. MSCI draws on the Barra Equity Model for estimates of the risk factor exposures for each security in the MSCI EAFE index and the covariances of these risk factors between securities. It then feeds this data into an optimization algorithm that produces a minimum-variance portfolio, subject to several constraints. These constraints include keeping stock weightings between 0.05% and 1.5% of the portfolio, sector and country weights within 5% of the EAFE Index (this limit is tighter for countries that represent less than 2.5% of the MSCI EAFE Index), and limit one-way turnover to 10%. The algorithm also applies constraints to limit tilts to other factors, such as value. This model implicitly assumes that past correlations and volatility estimates will persist in the short term, which has been a reasonable assumption in the past. The index is reconstituted semiannually.

Holdings Based Style Map



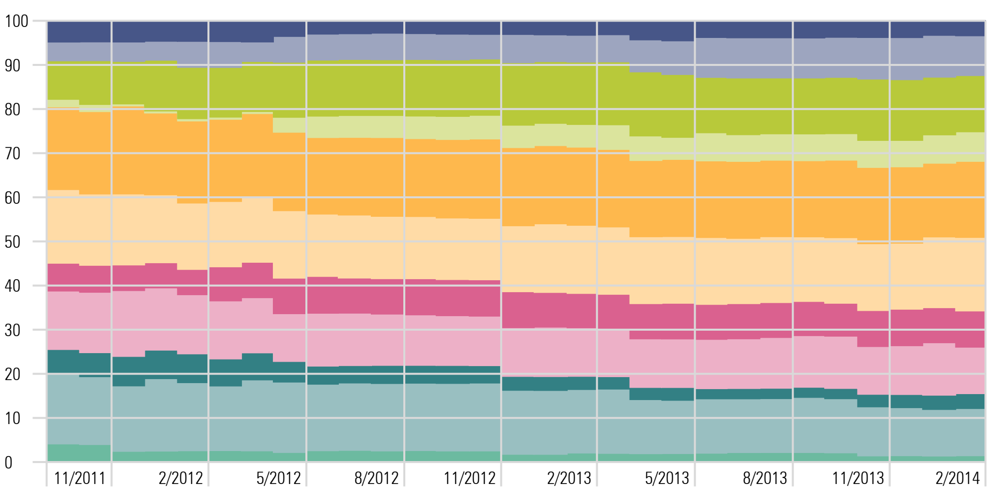
Fund · Morningstar Category · Category Index

	ETF	Cat Index	Cat Avg		ETF	Cat Index	Cat Avg
Avg Market Cap (mil)	24,024	31,833	33,041	Turnover Ratio %	27.00	—	34.30
12 Month Yield %	2.49	—	—	% Asset in Top 10	15.96	9.41	18.82
Market Price	62.09	196.46	—	# of Holdings	203	1,822	701

Market Cap %

	ETF	Cat Index	Cat Avg
Giant	43.75	57.34	58.46
Large	42.31	33.16	25.26
Mid	13.94	9.37	15.15
Small	0.00	0.12	1.12
Micro	0.00	0.00	0.02

Equity Sector Breakdown History



Current Equity Sector Breakdown %

	ETF	Cat Index	Cat Avg
Basic Materials	3.29	9.13	7.59
Consumer Cyclical	9.48	10.29	11.20
Financial Services	13.07	23.37	22.64
Real Estate	6.43	3.02	2.05
Consumer Defensive	16.70	9.74	7.98
Healthcare	16.03	8.24	9.21
Utilities	7.94	3.86	4.27
Communication Services	11.89	6.30	7.67
Energy	3.23	8.73	11.27
Industrials	10.56	9.92	9.86
Technology	1.37	7.39	6.26

Top 10 Holdings

Portfolio Date: 3/12/2014

	Ticker	Portfolio Weighting %	Morningstar Rating	Total Ret YTD
AstraZeneca PLC	AZN	1.88	★★	14.88
Swisscom AG	SCMN	1.72	★★	10.78
National Grid PLC	NG.	1.63	★★★	4.58
Roche Holding AG	ROG	1.59	★★★	6.95
Reckitt Benckiser Group PLC	RB.	1.57	★★	3.41
Novartis AG	NOVN	1.57	★★★	4.96
GlaxoSmithKline PLC	GSK	1.56	★★★	3.37
SSE PLC	SSE	1.54	★★★	5.60
Nestle SA	NESN	1.52	★★★★	0.91
Hang Seng Bank Ltd.	00011	1.44	—	-2.22

Equity Region %

	ETF	Cat Index	Cat Avg
North America	0.00	7.26	5.33
Latin America	0.00	3.17	1.14
Japan	25.93	15.41	15.68
Australasia	6.59	5.48	3.39
Asia Developed	10.99	8.68	6.37
Asia Emerging	0.80	7.39	2.67
United Kingdom	27.12	15.96	21.65
Europe Developed	27.18	32.86	42.29
Europe Emerging	0.00	1.93	0.63
Africa/Middle East	1.39	1.86	0.86

iShares MSCI EAFE Minimum Volatility EFAV

Overall Morningstar Rating™

Morningstar Category	Category Index	Prospectus Benchmark
US ETF Foreign Large Value	MSCI ACWI Ex USA NR USD	MSCI EAFE Minimum Volatility NR USD

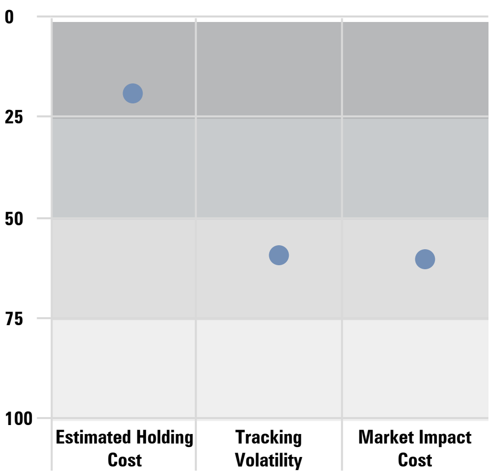
Fees

At 0.20%, this fund's expense ratio isn't much higher than the cheapest market-cap-weighted alternatives. Its turnover cap helps keep trading costs down without sacrificing much style purity. BlackRock engages in securities-lending. It passes 65% of the proceeds to investors, which partially offsets the fund's expenses. As a result, the fund lagged its benchmark by slightly less than the amount of its expense ratio over the past year.

Expenses

	ETF	Cat Avg
Gross Expense Ratio %	0.34	0.42
Net Expense Ratio %	0.20	0.37
Expense Waiver	—	—
Expense Waiver Expiration Date	12/31/2014	—
Expense Waiver Type	Contractual	—
Prospectus Date	12/1/2013	—

Percentile Rank Relative to ETF Universe



Total Cost Analysis Data Points

Estimated Holding Cost %	0.08
Tracking Volatility %	0.44
Market Impact Cost %	0.05

Estimated Holding Cost is essentially the difference between the ETF return and the benchmark return and represents the realized cost of replicating the benchmark. Lower costs indicate that the ETF is doing a better job of matching its benchmark while minimizing costs.

Tracking Volatility measures the uncertainty with which an ETF tracks a benchmark. A higher tracking error indicates a wider confidence interval for expected performance around the benchmark. Lower numbers and ranks are better.

Market Impact Cost represents the liquidity of the ETF and is based on the average market price movement in percent caused by a $100,000 trade in the ETF. Calculated as the residual volatility unexplained by movements in NAV and the previous day's premium or discount, scaled by average dollar volume traded. Lower numbers and ranks are better.

Alternatives

PowerShares S&P International Developed Low Volatility IDLV (0.25% expense ratio) is the closest alternative. It simply ranks international stocks by their trailing 12-month volatilities, selects the least-volatile fifth, and weights them by the inverse of their volatilities. The least-volatile stocks receive the greatest weightings in the portfolio. However, IDLV does not anchor its sector or country weights to a market-cap-weighted benchmark. Consequently, it may take more-concentrated bets. In contrast to EFAV, this fund also includes Canadian stocks. It also rebalances more frequently (once per quarter).

Investors interested in applying a low-volatility strategy to a global portfolio of stocks might consider iShares MSCI All Country World Minimum Volatility ETF ACWV (0.34% expense ratio). It applies the same methodology as EFAV but includes stocks from both emerging and developed markets, including the United States.

Db X-trackers MSCI EAFE Hedged Equity ETF DBEF (0.35% expense ratio) offers broad currency-hedged exposure to large- and mid-cap developed-markets stocks. This currency hedge helps reduce volatility. However, DBEF does not specifically target stocks with low volatility.