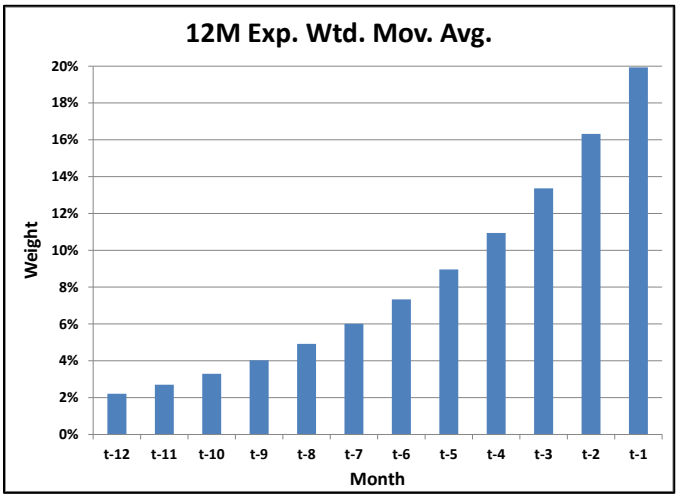
SelectAlts
Wisely Managed Absolute Return Portfolios

Trend-Following with International ETFs

Factor Definition

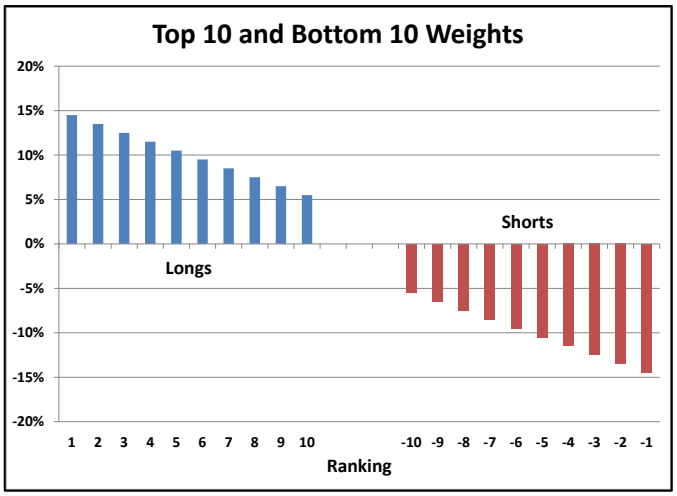
The purpose of this article is to present the results of a simple one factor trend-following return model—twelve month exponentially-weighted moving average return—as applied to a highly liquid universe of international ETFs. Although in practice I use a variety of momentum, value, fundamental, and economic factors in forecasting ETF returns, for purposes of this article the expected return for an ETF is simply the exponentially-weighted average return over the trailing twelve months (weights shown at right).



I published a more detailed description of the trend-following model methodology in an introductory article, "Trend-Following with ETFs". This article will focus on the application of that model to international ETFs. Two other articles in this series focus on its application to sector and industry ETFs and alternative ETFs.

Portfolio Construction Rules

Two methods of implementing the trend-following model are presented: long-only and long/short. Long positions are the same for the long side of the long/short portfolio and the long-only portfolio. The long-only portfolio simply omits the shorts. The long/short portfolio may have up to ten long positions and ten short positions. In most months, however, the number of either longs or shorts is likely to be reduced because of the trailing return of the U.S. stock market, which tends to affect all U.S. ETFs to some extent. That is, if the market has been up, the portfolio is likely to have fewer shorts (ETFs with a negative trend), and if it has been down, it is likely to have fewer longs (ETFs with a positive trend).



Portfolio weights are based upon expected return. The ETF with the highest expected return gets a long weight of 14.5%, the next highest a long weight of 13.5%, and so on down to a long weight of 5.5%, at which point 100% of capital has been invested long. Short weights are a mirror image of this methodology. The ETF with the lowest negative return gets a short weight of 14.5% and so on (as shown in the graph above).

In the trend-following model, all long positions must have a positive expected return and all short positions must have a negative expected return. Long positions may sum to less than 100% and short positions may sum to less than 100%.

Universe Definition

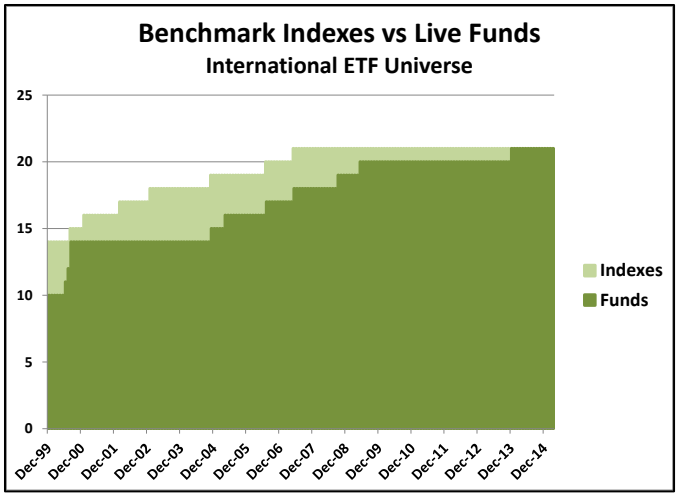
My full International ETF universe currently contains 69 ETFs. In practice, the various transaction cost and borrowing cost inputs into my portfolio construction process generally prevent me from using the most illiquid of these. My purpose here is to keep things simple, so have culled down my full universe into a highly liquid industry and sector ETF universe that currently contains only 21 constituents, each with more than $1 billion in current assets under management, as shown in the table below.

International ETF Universe Constituents

	Region	Investment Focus	Index Name	Fund Name	Fund Ticker	Fund AUM ($M)
1	Broad International	International Small Cap	FTSE Global Small Cap Se	VANGUARD FTSE ALL WO X-US SC	VSS	2,209
2	Asia Pacific	Asian Pacific Region	MSCI Daily TR Net Pacific USD	VANGUARD FTSE PACIFIC ETF	VPL	3,205
3	Asia Pacific	Asian Pacific Region ex Japan	MSCI AC Daily TR Net Asia Ex	ISHARES MSCI ALL COUNTRY ASI	AAXJ	4,427
4	Asia Pacific	Australia	MSCI Daily TR Net Australia US	ISHARES MSCI AUSTRALIA ETF	EWA	1,662
5	Asia Pacific	China A Shares	CSI300 net TRI USD	DEUTSCHE X-TRACKERS HARVEST	ASHR	1,212
6	Asia Pacific	China Large Cap	FTSE CHINA 25 N TR $	ISHARES CHINA LARGE-CAP ETF	FXI	7,395
7	Asia Pacific	Hong Kong	MSCI Daily TR Net Hong Kong US	ISHARES MSCI HONG KONG ETF	EWH	3,464
8	Asia Pacific	Japan	MSCI Daily TR Net Japan USD	ISHARES MSCI JAPAN ETF	EWJ	18,301
9	Asia Pacific	Japan $ Hedged	WisdomTree Japan Hedged Equity	WISDOMTREE JAPAN HEDGED EQ	DXJ	16,791
10	Asia Pacific	South Korea	MSCI Daily TR Net Emerging Mar	ISHARES MSCI SOUTH KOREA CAP	EWY	4,352
11	Asia Pacific	Taiwan	MSCI Daily TR Net Emerging Mar	ISHARES MSCI TAIWAN ETF	EWT	4,010
12	Canada	Canada	MSCI Daily TR Net Canada USD	ISHARES MSCI CANADA ETF	EWC	2,626
13	Europe	European Region	S&P Europe 350 Net TR	ISHARES EUROPE ETF	IEV	2,916
14	Europe	Germany	MSCI Daily TR Net Germany USD	ISHARES MSCI GERMANY ETF	EWG	7,195
15	Europe	Italy	MSCI Daily TR Net Italy USD	ISHARES MSCI ITALY CAPPED ET	EWI	1,001
16	Europe	Russia	MV Russia TR Index	MARKET VECTORS RUSSIA ETF	RSX	2,255
17	Europe	Spain	MSCI Daily TR Net Spain USD	ISHARES MSCI SPAIN CAPPED ET	EWP	1,720
18	Europe	Switzerland	MSCI Daily TR Net Switzerland	ISHARES MSCI SWITZERLAND CAP	EWL	1,482
19	Europe	U.K.	MSCI Daily TR Net UK USD	ISHARES MSCI UNITED KINGDOM	EWU	2,874
20	Latin America	Brazil	MSCI Daily TR Net Brazil USD	ISHARES MSCI BRAZIL CAPPED E	EWZ	3,291
21	Latin America	Mexico	MSCI Mexico IMI USD Net	ISHARES MSCI MEXICO CAPPED	EWW	1,896

Limiting the universe to ETFs with more than $1 billion in assets under management helps ensure that the strategies could be readily implemented with low transaction costs and reasonable short borrowing costs for a long/short implementation.

My historical simulations all begin on December 31, 2002, which provides over twelve years of historical returns. Instead of requiring that all ETF constituents have live fund returns for that entire time period, where available I included pro-forma returns for earlier time periods based upon the fact that all of the ETFs are index funds tied to well-recognized benchmark indexes. Where live fund returns were available, I used them, but for prior periods I used the following formula to estimate pro-forma ETF performance:

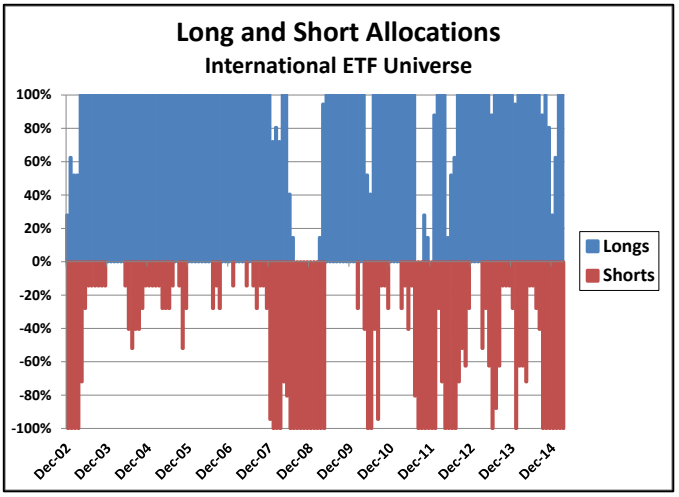


Benchmark index return – expense ratio = pro-forma fund return.

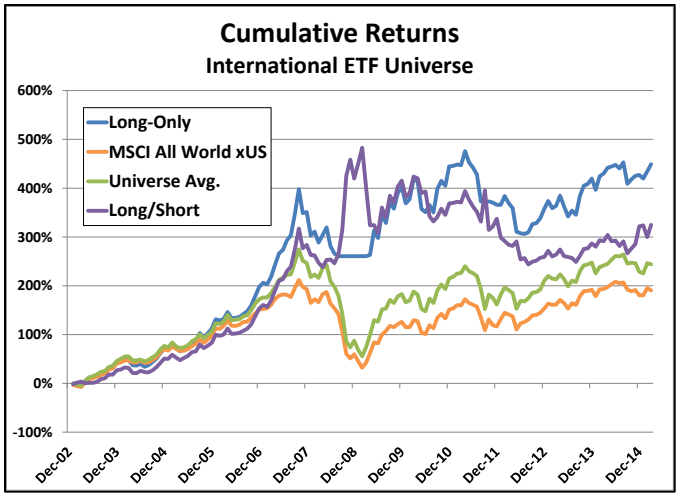
The graph above illustrates the number of "live" ETFs available (dark green) back to December 31, 1999, and also depicts the availability of "pro-forma" ETF returns (light green) using the above formula.

Trend-Following Performance Results

The long and short allocations at each month-end during the test period are shown in the graph at right. Note the preponderance of long positions (in blue) for the bulk of the test period, and the relatively scant short positions (in red). I find it interesting how seldom the trend-following strategy had no long positions at all, but how frequently it had few short positions or none at all. It is also interesting that currently (as of March 31, 2015) both longs and shorts are 100%, perhaps indicating that recent returns have been fairly balanced as well as widely spread.



Cumulative returns for the trend-following strategy were very impressive for both the long-only portfolio (blue line at right) and the long/short portfolio (purple line). The equal-weighted average of the 21 constituents in the universe (green line) outperformed the MSCI All World xUS (orange line), probably due to a combination of the positive bias introduced by selecting only ETFs in excess of $1 billion in AUM and the fact that equal-weighting of the constituents of the universe takes advantage of their diversifying effects relative to each other, particularly since the universe average index rebalanced all constituents back to equal weights each month. (Although estimated transaction costs were subtracted for the long-only and long/short portfolios, no transaction costs were subtracted from the universe average portfolio. The long/short portfolio also had estimated borrowing costs subtracted.)



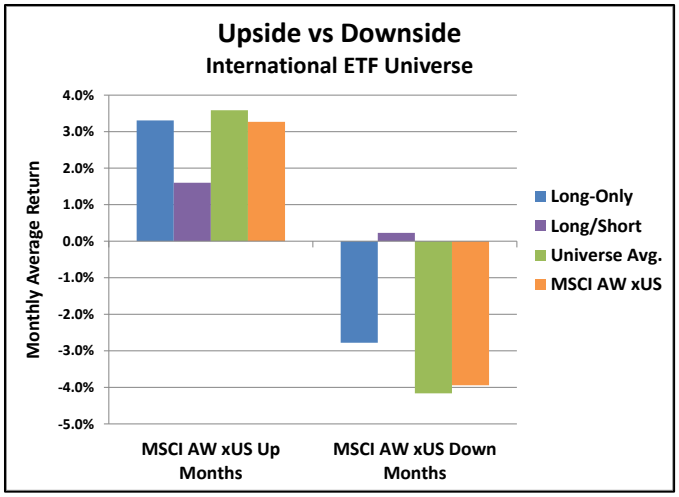
The table at right provides summary statistics on the long-only and long/short implementations of the trend-following strategy. The long-only portfolio achieved returns well above both the universe average and the MSCI All World xUS index, with volatility well below both. Its returns had a modest level of correlation with market returns, indicating the potential for robust diversification benefits.

International ETF Universe

	Long-Only	Long/Short	Universe Average	MSCI All World xUS
12/31/2002 - 3/31/2015				
Annualized compound return	13.98%	11.87%	10.13%	8.74%
Annualized avg. monthly return	15.33%	13.71%	12.02%	10.37%
Annualized monthly std. dev.	16.50%	19.40%	19.32%	17.87%
Return/Risk	0.93	0.71	0.62	0.58
Risk Statistics Relative to MSCI AW xUS				
Beta	0.65	-0.15	1.06	1.00
Correlation	0.71	-0.14	0.98	1.00
R-Squared	0.50	0.02	0.96	1.00
Annualized avg. monthly return				
12/31/2002 - 12/31/2007	31.65%	28.25%	22.34%	25.88%
12/31/2007 - 12/31/2012	1.90%	1.63%	0.06%	1.23%
12/31/2012 - 3/31/2015	8.87%	8.27%	6.67%	5.23%

The long/short strategy also achieved consistently superior returns, though with slightly higher volatility, although this is probably more the result of upside volatility than downside volatility. Importantly, the long/short portfolio's returns were negatively correlated with the market, a rare and valuable characteristic. Its negative correlation with the market means that it could be combined with other more long-oriented investments (even a long MSCI All World xUS position) to lower overall portfolio risk without sacrificing return.

On average, the long-only portfolio (blue bar) captured all of the upside of the MSCI All World xUS (orange bar) during up market months, but provided noticeable downside protection during down market months. The downside protection of the long/short portfolio (purple bar), however, was truly spectacular. Upside capture was nearly half of the MSCI All World xUS during rising months, and downside exposure was nonexistent. This is exactly the kind of performance profile most sought by investors in alternative assets.



Summary and Conclusions

A trend-following strategy using the twelve month exponentially-weighted moving average return to forecast next month's return was extremely effective when applied to a universe of highly liquid international ETFs during the time 12+ years from December 31, 2002 to March 31, 2015. A long-only implementation handily outperformed the MSCI All World xUS, largely because of the downside protection the portfolio provided during down market months. The outperformance of the long-only portfolio was not limited to 2008 however. Indeed, its best relative performance occurred during the sub-periods before and after 2008-2012. A long/short implementation roughly matched the return of the MSCI All World xUS during the full test period, and its return was completely uncorrelated to the market. This performance characteristic would have offered excellent diversification benefits when combined with other investments with more market risk.

Kevin Means, CFA
Principal
Select Alternative Investments LLC

May 11, 2015

SELECT ALTERNATIVE INVESTMENTS LLC

GENERAL DISCLAIMER

THIS DOCUMENT IS BEING PROVIDED ON A CONFIDENTIAL BASIS SOLELY TO ITS DIRECT RECIPIENT AND SHALL NOT BE REPRODUCED, QUOTED FROM OR DISTRIBUTED WITHOUT THE EXPRESS CONSENT OF SELECT ALTERNATIVE INVESTMENTS LLC AND IN ANY EVENT IS NOT INTENDED FOR PUBLIC USE OR DISTRIBUTION. THE INFORMATION CONTAINED HEREIN IS SUMMARY IN NATURE AND INCOMPLETE AND IS SUBJECT TO CHANGE OR ADDITION WITHOUT NOTICE. SUCH INFORMATION HAS BEEN PREPARED WITH REASONABLE CARE BUT DOES NOT CONSTITUTE ANY REPRESENTATION OR WARRANTY BY SELECT ALTERNATIVE INVESTMENTS LLC, THE INVESTMENT MANAGER OR ANY OF THEIR AFFILIATES. PAST INVESTMENT PERFORMANCE IS NO ASSURANCE OF FUTURE RESULTS. THERE ARE IMPORTANT MATTERS (INCLUDING RISK FACTORS, TAX CONSEQUENCES AND RELEVANT INVESTMENT CONSIDERATIONS) TO BE CONSIDERED IN CONNECTION WITH BECOMING A CLIENT THAT ARE NOT DISCUSSED HEREIN AND PROSPECTIVE CLIENTS ARE RESPONSIBLE FOR REVIEWING THE SAME WITH THEIR PERSONAL ADVISORS. PROSPECTIVE CLIENTS ARE NOT BEING SOLICITED AS SUCH IN ANY JURISDICTION IN WHICH SUCH SOLICITATION WOULD BE UNLAWFUL UNLESS AND UNTIL THE REQUIREMENTS OF THE LAWS OF SUCH JURISDICTION HAVE BEEN SATISFIED. THIS DOCUMENT IS NOT INTENDED FOR USE BY BROKER-DEALERS, MARKETERS OR OTHER THIRD PARTIES.