Global

# Synthetic Equity & Index Strategy The Flow Whisperer



Date 4 June 2014

# TAARSS says Europe, Spain, US Large Caps, and Treasuries

Tactical Asset Allocation Relative Strength Signal (TAARSS) Monthly Update

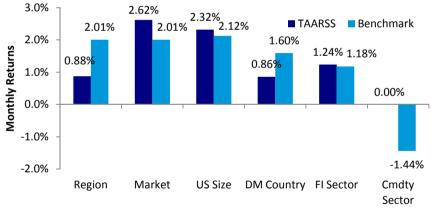
## Market review

Despite a slow start, global equities (ACWI) rallied into the end of the month and recorded gains of 2.01% for the month of May. In turn, US bonds (AGG) advanced 1.18% steadily throughout the month driven by a pull-back in rates; while Commodities dropped by 1.44% due to sustained weakness during last month.

# TAARSS rotation strategy monthly performance review

Our Market, US Size, Fixed Income Sector, and Commodity Sector rotation strategies outperformed their respective benchmarks in May; while the Region and DM country rotation strategies lagged their respective benchmarks (Figure 1). Within equities, EM (2.95%), US Large Caps (2.32%), Asia Pacific (3.54%), and Hong Kong (4.68%) were the strongest performers per strategy; while Energy (0.74%) and EM Debt (3.47%) were the top categories within commodities and fixed income, respectively during the same period.

Figure 1: Performance Summary for Monthly TAARSS rotations – May 2014



Source: Deutsche Bank, Bloomberg Finance LP. 1-Month Total returns for May 2014. Benchmark details provided in Figure 2

### Tactical positioning for June 2014

For the month of June, TAARSS equity positioning indicates a preference for Large Caps within the US, Europe among regions, International DM for market allocations, and Spain for DM countries. In terms of fixed income sectors, TAARSS favors US Treasuries, albeit we are slightly cautious about this specific signal. Last but not least, diversified broad exposure is the chosen one for the current month. As a reminder, the preferred quarterly multi asset TAARSS allocation is Fixed Income during Q2.

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#### Related recent research

Source: Deutsche Bank

Date

Tactical Asset Allocation (TAA) insights from ETF flows Sebastian Mercado

14 May 2014

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# **TAARSS Update**

## Performance Review

In this section we provide a performance update for all seven TAARSS monthly and quarterly direct rotation strategies. Readers may refer to Figure 2 for full details pertaining each of the monthly and quarterly rotation strategies.

Figure 2: Summary of monthly and quarterly rotation strategies implementable with TAARSS methodology

Asset Class	Rotation Strategy	Frenquency	Universe	Exposure	Benchmark
Multi Asset	Asset Class	Quarterly	All ETPs Ex SPY, IWM, 9 Select Sector SPDRs	Global Equities, US Aggregate Fixed Income, Broad Diversified Commodities	60/40, 50/30/20, Salient Risk Parity Index*
Equity	US Size	Monthly	All ETPs Ex SPY, IWM, 9 Select Sector SPDRs	Large Cap, Mid Cap, Small Cap	Russell 3000
Equity	Region	Monthly	All ETPs Ex SPY, IWM, 9 Select Sector SPDRs	North America, Europe, Asia Pacific, Latin America	MSCI ACWI
Equity	Market	Monthly	All ETPs Ex SPY, IWM, 9 Select Sector SPDRs	US, DM ex US, EM	MSCI ACWI
Equity	DM Country	Monthly	All ETPs	Australia, Austria, Canada, France, Germany, Hong Kong, Italy, Japan, Singapore, Spain, Sweden, Switzerland, UK	MSCI EAFE
Fixed Income	Sector	Monthly	All ETPs	Corp IG, Corp HY, US Trsy, MBS, Inflation, Convertible, Senior Loan, Intl DM Debt, EM Debt, Municipal	Barclays US Agg
Commodity	Sector	Monthly	All ETPs	Gold, Div. Broad, Energy, Agriculture	DBIQ Optimum Yield Diversified Commodity

<sup>\*</sup>Represented by the Salient Risk Parity Index, all other benchmarks or components are represented by US-listed ETFs

Source: Deutsche Bank

### TAARSS rotation strategies

Our Market, US Size, Fixed Income Sector, and Commodity Sector rotation strategies outperformed their respective benchmarks in May; while the Region and DM country rotation strategies lagged their respective benchmarks (Figure 1). Within equities, EM (2.95%), US Large Caps (2.32%), Asia Pacific (3.54%), and Hong Kong (4.68%) were the strongest performers per strategy; while Energy (0.74%) and EM Debt (3.47%) were the top categories within commodities and fixed income, respectively during the same period (Figure 3).

Figure 3: Quarterly and monthly TAARSS allocation and performance\* review - individual position details

Quarterly Rotations			<b>Equity Monthly</b>	Rotations					Fixed Income N	Monthly Rota	tions
Asset Class	2014 Q2	QTD %	US Size	May 2014	1M %	<b>DM Country</b>	May 2014	1M %	FI Sector	May 2014	1M %
Global Equities	21.6%	3.22%	Large Cap	99.3%	2.32%	Australia	6.2%	0.42%	Corp IG	1.0%	1.51%
US Agg. Fixed Income	72.1%	2.01%	Mid Cap	0.7%	1.64%	Austria	0.0%	-0.99%	Corp HY	0.8%	1.21%
Broad Div. Cmdty	6.3%	-0.34%	Small Cap	0.0%	0.79%	Canada	3.8%	0.52%	US Trsy	2.5%	1.82%
			•			France	10.4%	0.53%	MBS	1.8%	1.27%
<b>Commodity Monthly Ro</b>	tations		Region	May 2014	1M %	Germany	0.0%	1.45%	Inflation	0.0%	2.00%
Sector	May 2014	1M %	North America	6.4%	2.32%	Hong Kong	0.0%	4.68%	Convertible	41.8%	2.06%
Gold	0.0%	-3.05%	Europe	93.6%	0.78%	Italy	17.6%	-2.00%	Senior Loan	0.3%	0.69%
Div. Broad	0.0%	-1.44%	Asia Pacific	0.0%	3.54%	Japan	0.0%	4.51%	Intl DM Debt	35.3%	0.14%
Energy	0.0%	0.74%	Latin America	0.0%	-1.21%	Singapore	3.3%	1.84%	EM Debt	1.9%	3.47%
Agriculture	0.0%	-5.33%	•			Spain	49.9%	1.98%	Municipal	14.7%	1.12%
Cash	100.0%		Market	May 2014	1M %	Sweden	0.0%	0.33%			
			US	2.7%	2.32%	Switzerland	8.8%	0.66%			
			DM Intl	23.4%	1.60%	UK	0.0%	0.98%			
			EM	74.0%	2.95%		•				

Source: Deutsche Bank, Bloomberg Finance LP. \*Returns correspond to Total returns as of May 30, 2014. Asset classes returns are based on ETF and ETV returns as given by the tables in the Appendix A. The returns for the Asia Pacific region position are not based on a single ETF, but rather on the MSCI All Country Asia Pacific Net Total Return USD Index.

Page 2



Our quarterly multi asset rotation strategy has gained 2.12% QTD, versus 2.66%, 2.10%, and 4.66% corresponding to the 60/40, 50/30/20, and Salient Risk Parity benchmarks.

#### Monthly returns by asset class/segment

Figure 4 presents a summary of the returns along with May's z-score ranking for all the individual asset classes within the monthly rotation strategies. Combining the rotation strategies and the z-score ranking provides several relative value trade opportunities. For example, long US Large cap short Small Caps, long Energy comdty short Agriculture, and long EM short US provided positive spread returns during May.

Figure 4: Monthly TAARSS single asset class performance\* for May 2014

Investment Segment	z-scores	1M TR
Spain	4.44	1.98%
Italy	1.42	-2.00%
Convertible	0.94	2.06%
Intl DM Debt	0.76	0.14%
France	0.75	0.53%
Switzerland	0.60	0.66%
Australia	0.35	0.42%
EM	0.32	2.95%
Municipal	0.18	1.12%
Canada	0.13	0.52%
Singapore	0.09	1.84%
DM Intl	-0.05	1.60%

Investment Segment	z-scores	1M TR
US Treasury	-0.16	1.82%
EM debt	-0.17	3.47%
MBS	-0.18	1.27%
Corp IG	-0.20	1.51%
North America	-0.20	2.32%
Corp HY	-0.20	1.21%
US	-0.21	2.32%
Large Cap	-0.21	2.32%
Senior Loans	-0.22	0.69%
Mid Cap	-0.23	1.64%
Energy Cmdty	-0.23	0.74%
Diversified Broad	-0.23	-1.44%

Investment Segment	z-scores	1M TR
Sweden	-0.23	0.33%
Inflation	-0.26	2.00%
Latin America	-0.27	-1.21%
Hong Kong	-0.39	4.68%
Agriculture	-0.41	-5.33%
Small Cap	-0.42	0.79%
Asia Pacific	-0.42	3.54%
UK	-0.54	0.98%
Gold	-0.57	-3.05%
Japan	-0.59	4.51%
Germany	-0.60	1.45%
Austria	-2.80	-0.99%

Equity

Fixed Income

Commodity

Source: Deutsche Bank, Bloomberg Finance LP. \*Z-scores valid for the month of May. Returns correspond to Total returns. Asset class returns are based on ETF and ETV returns as given by the tables in the Appendix A. The returns for the Asia Pacific region position are not based on a single ETF, but rather on the MSCI All Country Asia Pacific Net Total Return USD Index.

# Positioning for the current month

For the month of June, TAARSS equity positioning indicates a preference for Large Caps within the US, Europe among regions, International DM for market allocations, and Spain for DM countries. In terms of fixed income sectors, TAARSS favors US Treasuries, albeit we are slightly cautious about this specific signal. Last but not least, diversified broad exposure is the chosen one for the current month. See Figure 5 and Figure 6 for full allocation details for the month of June.



June 2014

5.4%

5.4%

62.8%

7.2%

3.1%

4.5%

0.0%

3.2%

0.0%

8.4%

0.0%

Monthly Rotations

Figure 5: Current allocation for direct rotation TAARSS quarterly and monthly portfolios

Quarterly Rotations	
Asset Class	2014 Q2
Global Equities	21.6%
US Agg. Fixed Income	72.1%
Broad Div. Cmdty	6.3%
Cash	0.0%

Commodity Monthly Rotations			
Sector	June 2014		
Gold	0.0%		
Div. Broad	100.0%		
Energy	0.0%		
Agriculture	0.0%		
Cash	0.0%		

<b>Equity Monthl</b>	y Rotations	
US Size	June 2014	<b>DM Country</b>
Large Cap	100.0%	Australia
Mid Cap	0.0%	Austria
Small Cap	0.0%	Canada
Cash	0.0%	France
		Germany

Hong Kong

Singapore Spain

Sweden Switzerland

UK

Cash

Italy Japan

Region	June 2014
North America	6.0%
Europe	87.6%
Asia Pacific	0.0%
Latin America	6.4%
Cash	0.0%
	_

Market	June 2014
US	7.0%
DM Intl	56.7%
EM	36.3%
Cash	0.0%

	Fixed Income
June 2014	FI Sector
8.1%	Corp IG
0.0%	Corp HY
13.4%	US Trsy
29.4%	MBS
7.8%	Inflation
0.0%	Convertible
0.0%	Senior Loans
0.0%	Intl DM Debt
0.0%	EM Debt
40.2%	Municipal
0.0%	Cash
0.5%	

0.7%

Source: Deutsche Bank, Bloomberg Finance LP.

Figure 6: Normalized monthly TAARSS rankings for June 2014

Investment Segment	z-scores Direction
US Treasury	4.63 Positive
Spain	2.05 Positive
France	1.40 Positive
Europe	1.09 Positive
Canada	0.43 Positive
Municipal	0.29 Positive
DM Intl	0.28 Positive
MBS	0.19 Positive
Australia	0.11 Positive
Germany	0.10 Positive
Diversified Broad	0.08 Positive
Corp HY	0.06 Positive
Corp IG	0.05 Positive
EM	0.04 Positive
Convertible	-0.02 Positive
Intl DM Debt	-0.12 Positive
Inflation	-0.13 Positive
Latin America	-0.27 Positive
North America	-0.28 Positive
US	-0.30 Positive
UK	-0.34 Positive
Switzerland	-0.35 Positive
Large Cap	-0.37 Positive
Senior Loans	-0.38 Positive

9	
Investment Segment	z-scores Direction
Japan	-1.20 Negative
Sweden	-1.13 Negative
Small Cap	-0.88 Negative
Hong Kong	-0.79 Negative
EM debt	-0.76 Negative
Agriculture	-0.67 Negative
Mid Cap	-0.44 Negative
Singapore	-0.44 Negative
Energy Cmdty	-0.40 Negative
Asia Pacific	-0.40 Negative
Gold	-0.38 Negative
Italy	-0.38 Negative

Investment Segment	z-scores Direction
Austria	-0.38 Neutral

Equity
Fixed Income
Commodity

Source: Deutsche Bank, Bloomberg Finance LP. Rankings calculated as of the end of May 2014

## Multi Asset class rotation flow trend

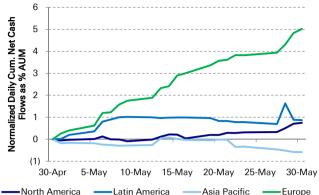
No changes for the quarterly multi asset rotation. Remain overweight fixed income versus equity and commodities.



#### Equity>Region rotation flow trend

Signal formation for Europe remains the strongest within regional allocations. Evenly-distributed and large new flows relative to its asset base points to increasing demand momentum for Europe. Other regional flow trends remained subdued during May, although the Asia Pacific and North America trends may have begun to hint probable downside and upside moves, respectively.

# Figure 7: Equity>Region monthly flow trend

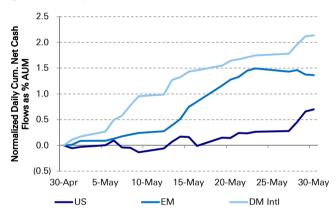


Source: Deutsche Bank, Bloomberg Finance LP.

# Equity>Market rotation flow trend

DM International formed the strongest trend among markets during last month. Steady build-up and size of the trend should provide better support for this market relative to the other two. EM flow trend had a good start, but began to lose momentum towards the end of the month; continuity of the technical rebound for the asset class may be challenged. The US trend remained muted for most of the month; however the inflow surge towards the end of the month is, if anything, a positive sign.

Figure 8: Equity>Market monthly flow trend

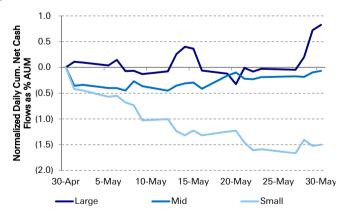


Source: Deutsche Bank, Bloomberg Finance LF

#### Equity>Region rotation flow trend

Overall, there weren't strong positive trends within US Size segments. US Large Cap was probably the least weak (rather than the strongest) flow trend; despite a fairly dull flow path for most of the month, the attention received in the form of new cash towards the end of the month helped this segment to end this period on a positive note. US Mid Cap had a slow start, but slowly began to recover flows throughout the month; although not enough to escape a flattish reading. US Small Cap, on the other hand, had a clear direction driven by steady outflows during the major part of the month. Despite the fact that outflows receded towards the end of the month, the reading from an investment demand perspective for small caps is most likely weak.





Source: Deutsche Bank, Bloomberg Finance LP.



# Equity> DM Country rotation flow trend

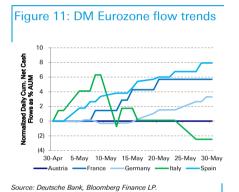
Among DM countries, we would like to highlight three trends: Spain, France, and Germany. Spain continues to reflect the increased interest from investors through steady and large flows relative to their asset base; this should imply a better support for Spanish equity prices relative to other DM countries. France also experienced decent interest through ETF investor flows during May. Similarly, Germany began to regain investors' interest as expressed by flows since the middle of May.

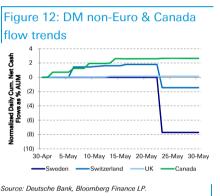
On the downside, Japan and Italy presented weak trends that may be suggesting that investors are becoming disenchanted with these two country allocations. The case of Japan is of particular interest given the 4.51% rally experienced by Japan (EWJ) during May. In general, it is rare to see a rally without inflows; hence we wouldn't be surprised if last month's rally ends up being short-lived.

Figure 10: DM Asia-Pac flow trends

4
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3
3
Apra 5-May 10-May 15-May 20-May 25-May 30-May

Japan Australia Hong Kong Singapore





Fixed Income> Sector rotation flow trend

Source: Deutsche Bank, Bloomberg Finance LP

First, we need to talk about US Treasuries. The signal for Treasuries was particularly strong (so strong that we had to plot it on its own axis), however we have reasons to believe that the flow trend is affected by model trading anomaly, hence despite the strength of the signal we would suggest caution while reading it. Outside Treasuries, most of the other investment grade sectors presented attractive trends that suggest investor interest for the respective sectors.

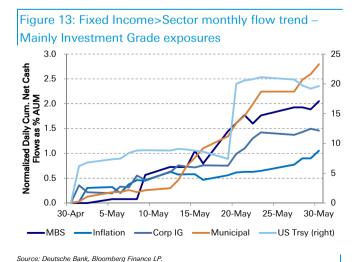


Figure 14: Fixed Income>Sector monthly flow trend -Mainly High Yield Grade exposures 4.0 Normalized Daily Cum. Net Cash 3.0 2.0 % AUM 1.0 0.0 (2.0) (3.0)(4.0)(5.0)5-May 10-May 15-May 20-May 25-May 30-May Intl DM debt —EM debt —Convertible – Source: Deutsche Bank, Bloomberg Finance LP.



Within the High Yield space, Corporate HY presented the strongest trend; while EM debt, although overall weak, recorded a notable comeback towards the end of the month.

#### Commodities> Sector rotation flow trend

Commodity sector trends were mostly weak during May, with the exception of diversified broad which captured some investor interest in the form of inflows during the beginning of the month and remained flat thereafter.

Source: Deutsche Bank, Bloomberg Finance LP.



# Appendix A: ETF TAARSS

This appendix is an extract from the original report published on May 14th, 2014; readers may refer to the full original report for further detail. This section describes our Tactical Asset Allocation Relative Strength Signal (TAARSS) based on ETF flow trends. The objective of the signal is to identify those asset classes that seem more attractive based on investors asset allocation preferences.

The underlying principle behind our signal is that at the end of the day what moves markets are the technical forces of supply and demand. In other words, although fundamentals are very important they do not move markets, but rather serve as a catalyst of technical forces that in turn will be the ones driving the investment demand for a specific asset class or market and therefore move markets. For example, even if the fundamentals for a country are very strong that country is not going to experience a price rally until enough investors are convinced of the fundamental story and begin to manifest their preferences through their asset allocation decisions; this would translate into an increase in investment demand for the specific country and hence would drive its price higher. In general, the supply curve for an asset class tends to be more stable in the short or medium term than the demand side of the equation; hence the reason why we have focused on understanding the investment demand shifts.

Our new methodology seeks to measure the strength of the directional consensus among different asset classes in order to identify those that have the best potential for price appreciation based on shifts in the investment demand curve. Because of the points discussed earlier in the report, we believe that ETF flow trends can serve as an ideal proxy to identify and measure the strength of these trends. In the next subsections we discuss in detail our TAARSS methodology, its governing principles, and parameters.

# Universe

Our objective is to measure investors' directional asset allocation preferences. Therefore we should focus on asset allocation products that offer non-levered (i.e. delta one) directional access (i.e. only long products). In addition, we care about products that can reflect their activity in the underlying market; therefore we only consider funded products. In ETP terms, we only consider US-listed long-only non-levered ETFs and ETVs as part of the initial universe; ETNs are excluded because they are not funded as well as leveraged and inverse products because they are more of a trading vehicle than an asset allocation one.

# Classification

Using the right classification is as important as selecting the right universe. The ideal classification should be asset allocation-driven and have enough granularity to allow for sufficient tactical insight and implementation. In our case we use our proprietary classification system which identifies 181 different investment segments distributed among 4 main asset classes, multiple dimensions, and multiple levels. Furthermore, our classification is completely

The objective of the signal is to identify those asset classes that seem more attractive based on investors asset allocation preferences.

We have identified 181 different investment segments distributed across four main asset classes: Equity, Fixed Income, Commodity, and Currency.



investable via ETFs and ETVs. All of the 181 investment segments can be accessed through a single product, with two exceptions which are accessed via two products. Figure A1 and Figure A2 display our classification system with the corresponding AUM for the whole segment as of the end of April 2014 and an ETP implementation for each individual segment. Because we use the product prices in the backtesting of the strategies presented in the next section, we selected most of the ETPs based in their listing date and size; therefore these should not be necessarily seen as the best or only alternative for each asset class but rather as a representative one, especially for the backtesting period. We have also included a column to indicate whether we consider an investment segment seasoned or not; we provide more details about the meaning of being a seasoned investment segment in the next section.

The classification of products is also very important because it allows us to aggregate the flow data in a more meaningful way. For example, some of the small individual product flow anomalies may dissipate at an aggregated level.

Figure A1: DB ETF Classification System for Tactical Asset Allocation – Fixed Income, Commodity, Currency

Categories	AUM \$MM	Sea- soned	ETF	Categories	AUM \$MM	Sea- soned	ETF
Fixed Income	280,839	Υ	BND	Commodity	59,539	Υ	DBC
FIXED INCOME - SECTOR				COMMODITY - SECTOR 8			
US Treasury	30,648	Υ	IEF	Diversified Broad	7,951	Υ	DBC
Convertible	2,754	Υ	CWB	Energy	2,003	Υ	DBE
IG Corporates	62,691	Υ	LQD	Crude Oil	898	Υ	USO
HY Corporates	37,480	Υ	HYG	Natural Gas	539	Υ	UNG
Inflation	20,874	Υ	TIP	Gasoline	46		UGA
Municipal	12,838	Υ	MUB	Heating Oil	3		UHN
IG Broad	69,060	Υ	BND	Agriculture	1,596	Υ	DBA
International DM Debt	4,509	Υ	BWX	Sugar	3		CANE
EM Debt	10,535	Υ	EMB	Corn	86		CORN
Preferred	14,311	Υ	PFF	Soybean	4		SOYB
Collateralized Debt	6,799	Υ	MBB	Wheat	12		WEAT
Senior Loans	8,290	Υ	BKLN	Industrial Metals	104		DBB
				Precious Metals	47,719	Υ	DBP
FIXED INCOME - DURATION				Copper	4		CPER
Floating	12,442	Υ	FLOT	Gold	39,373	Υ	GLD
Very Short	7,832	Υ	SHV	Silver	6,668	Υ	SLV
Short	68,577	Υ	SHY	Platinum	770	Υ	PPLT
Intermediate	62,496	Υ	IEI	Palladium	521	Υ	PALL
Long	8,560	Υ	TLT				
			<del></del>	Currency	2,533	Υ	UUP
FIXED INCOME - CREDIT				Bull USD	717	Υ	UUP
Investment Grade	207,310	Υ	LQD	Bear USD	1,817	Υ	UDN
High Yield	48,530	Υ	HYG		·		

Source: Deutsche Bank, Bloomberg Finance LP. AUM as of May 30, 2014.

# Figure A2: DB ETF Classification System for Tactical Asset Allocation – Equity

Categories	AUM \$MM	Sea- soned	ETF	
Equity	1,393,488	Υ	ACWI	
EQUITY - US SECTOR & INDUSTRY				
Consumer Discretionary	9,101	Υ	XLY	
Leisure & Entertainment	164		PEJ	
Media	165		PBS	
Retail	803	Υ	XRT	
Industrials	16,340	Υ	XLI	
Aerospace & Defense	550	Υ	ITA	
Construction & Engineering	122		PKB	
Transportation	1,249	Υ	IYT	
Financials	67,242	Υ	XLF	
Capital Markets	396	Υ	IAI	
Commercial Banks	5,443	Υ	KRE	
Insurance	415	Υ	KIE	
Real Estate	37,264	Y	VNQ	
Real Estate Intl*	8,934	Y	VNQI	
Financial Services	576	Y	IYG	
Thrifts & Mortgage Finance	8		KME	
Technology	29,811	Υ	VGT	
Communication Equipment	340	Y	IGN	
Internet Software & Services	2.110	Y	FDN	
Semiconductors	940	Y	SMH	
Software	1,162	Y	IGV	
Energy	22,532	Y	XLE	
Energy Equipment & Services	2,270	Y	OIH	
Oil, Gas, and Cosumable Fuels	1.814	Y	XOP	
Materials	13,032	Y	XLB	
Construction Materials	3,244	Y	XHB	
Metals and Mining	492	Y	XME	
Consumer Staples	9,776	Y	XLP	
Food & Beverage	3,770		PBJ	
Healthcare	30,113	Y	XLV	
Biotechnology	7.973	Y	IBB	
Pharmaceutical	3,021	Y	PJP	
Health Care Providers & Services	568	Y	IHF	
	739	Y	IHF IHI	
Health Care Equipment & Supplies Telecom	1,434	Y	VOX	
Telecom Utilities	•	<u>Ү</u> Ү	XLU	
Otilities	8,600	Y	λLU	
EQUITY - GEO. FOCUS: MARKET				
EM	139,187	Υ	EEM	
DM	225,669	Υ	EFA	
US	967,686	Υ	SPY	
Global	60,947	Υ	ACWI	
EQUITY - GEO. FOCUS: REGION				
North America	971,982	Υ	SPY	
Latin America	9,295	Y	ILF	
Asia Pacific	61,891	Y	AAXJ+EWJ	
Europe	64,588	Y	VGK	
Global	284,591	Y	ACWI	
Middle East & Africa	1,142	Y	MES+AFK	
IVIIUUIE EdSt & AITICd	1,142	Y	IVIES+AFK	

Categories	AUM \$MM	Sea-	ETF
EQUITY - GEO. FOCU		soned	
Developed Markets	S. COUNTRY		
Australia	2,079	Υ	EWA
Austria	72		EWO
Belgium	87		EWK
Canada	3,512	Υ	EWC
Denmark	55	<u>'</u>	EDEN
Finland	40		EFNL
France	446	Y	EWQ
Germany	6,236	Y	EWG
Hong Kong	1,953		EWH
Ireland	170		EIRL
Israel	162		FIS
Italy	1,441	Υ	EWI
Japan	25,626	Y	EWJ
Netherlands	233		EWN
New Zealand	177		ENZL
Norway	115		NORW
Portugal	26		PGAL
Singapore	1,053	Y	EWS
Spain	2.351	Y	EWP
Sweden	528	Y	EWD
Switzerland	1,207	Y	EWL
UK	4,440	Y	EWU
US	967,686		SPY
Emerging Markets	307,000	- 1	3F I
Argentina	8		ARGT
Brazil	4.497	Υ	EWZ
Chile	330	Y	ECH
China	7,575		FXI
Colombia	142		GXG
	76		EGPT
Egypt Greece	231		GREK
India	3,610	Y	EPI
Indonesia	764	Y	EIDO
Malaysia	790		EWM
Mexico	2,888		EWW
Nigeria	2,000	T	NGE
Peru	222	Y	EPU
	347		EPHE
Philippines Poland	419	<u> </u>	EPOL
Russia	1,960	Y	RSX
South Africa	574	Y	EZA
South Africa South Korea	4,444	Y	
		Y	EWY EWT
Taiwan	3,029	Y	
Thailand Turkey	488 591	<u>Ү</u> Ү	THD TUR
		Y	
Vietnam	525	Y	VNM
EQUITY - MARKET CA	AP SIZE		
Large Cap	503,500	Y	SPY
Mid Cap	84,877	Ý	MDY
iriid dap	07,077		IVIDI

81,224

IWM

		_	
Categories	AUM \$MM	Sea-	ETF
EQUITY - STYLE		soned	
Growth	80,049	Υ	IWF
Value	79,142	<u>'</u>	IWD
Value	75,142		IVVD
EQUITY - THEMES			
Commodities			
Agribusiness	3,201	Υ	MOO
Coal	169		KOL
Commodities	88		CRBQ
Copper	64		COPX
Gold	9,089	Υ	GDX
Industrial Metals	104		HAP
Natural Gas	539	Υ	FCG
Natural Resources	6,015	Υ	IGE
Nuclear	311	Υ	URA
Platinum	10		PLTM
Rare Earth	93		REMX
Lithium	59		LIT
Silver	220	Υ	SIL
Steel	94		SLX
Timber	569	Υ	WOOD
Socially Responsible Investing			
Clean Energy	1,232	Υ	TAN
Clean Tech	86		PZD
Equality	5		EQLT
ESG	652	Υ	DSI
Water	1,822	Υ	PHO
Industry Trend			
American Industrial Renaissance	37		AIRR
Cloud Computing	299		SKYY
Consumer	1,428	Υ	ECON
Defensive	146		DEF
Gaming	65		BJK
Infrastructure	1,475	Y	IGF
MLP	10,056	Υ	AMLP
Robotics	96		ROBO
Shipping	118		SEA
Smartphone	11		FONE
Social Media	138		SOCL
Unconventional Oil & Gas	71		FRAK
Other			
Analyst Recommendations	296		RYJ
Buybacks	2,987	Υ	PKW
Forensic Accounting	12		FLAG
Hedge Fund 13F	502	Υ	GURU
Insider	222		NFO
IPO	494	Υ	FPX
Nashville	7		NASH
No-Analyst Coverage	59		WMCR
NYSE Century listed	4		NYCC
Spin-Off	710	Y	CSD

Source: Deutsche Bank, Bloomberg Finance LP. \*This is the only industry presented under US Sector & Industry which is not US-focused. AUM as of May 30, 2014.

Small Cap



4 June 2014 The Flow Whisperer



# Methodology

Our calculation methodology is an interpretation of a phenomenon we have observed for the last five years of live ETF flow analysis. As we studied ETF flow cumulative trends across asset classes we noticed that not all trends were created equal. For example, some were very choppy; others exhibited significant step patterns as a result of lump sum inflows or outflows; and others were very steady in one specific direction. We also realized that those flow trends that presented a steadier path and larger size were more likely to be related to future directional performance compared to other trends. We believe that this behavior is grounded on the fact that a large directional and steady flow trend is an indication of an investment demand shift and hence should be accompanied by the corresponding price move. With these insights in mind we sought to develop a quantitative measure that would help us quantify this behavior and provide a gauge of the strength of each ETF flow trend.

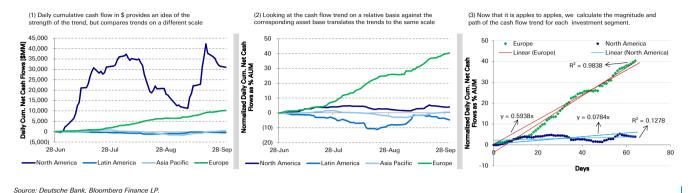
The first challenge we faced in order to use our measure as a relative strength indicator was the fact that we were looking at ETF flow trends in absolute dollar terms which we realized was not an apples to apples comparison; therefore we decided to adjust each ETF flow trend relative to the assets under management within the respective asset class in order to look at asset classes on a more comparative basis. For instance, from Figure we could say that, in absolute terms, North American equity ETFs received over \$30bn in new flows compared to \$10bn received by European equity ETFs over a period of 3 months; or we could also say, in relative terms, that North American equity ETFs received about 5% of AUM in new flows compared to about 40% of AUM in new cash for European equity ETFs in the same period. As shown by this example, we can clearly see that the strength reading from an absolute scale compared to a relative scale can vary significantly. In our case, we are more concern with relative scale comparisons as these would actually provide a better understanding of investors' sentiment towards different asset classes.

Now that we were able to compare apples to apples, the second challenge was to measure the steadiness and the size of the trend, or to put it in other words the path and the magnitude of the ETF flow trend. We propose to measure the path and magnitude of the trend with the help of two single linear regressions. Both regression lines would be based on the flow trend (known Ys) and the number of days over which the signal is being calculated (known Xs). For measuring the consistency of the trend path we use the R-squared of the line of best fit, this gives us an idea of how linear or how steady the ETF flow trend is; the higher the R-squared the more linear and steady the trend. On the other hand, we use the slope of a single linear regression through the origin as a proxy for measuring the size or magnitude of the trend; the steepest the slope the stronger the trend. Embedded within the size measure, we should add that the sign of the slope also reflects the direction of the trend (Figure A3).

The steeper and steadier the ETF flow trend, the stronger the signal.

# /

Figure A3: Measuring ETF flow trend strength



The last step in our calculation is to combine our path and magnitude measures to get an overall strength indicator for the flow trend. We do this by multiplying magnitude by path, or in other words, slope times R-squared. Mathematically:

Single linear regression through origin (SLRTO)

$$\hat{Y}_i = \hat{\beta}_1 X_i \tag{1}$$

where  $\hat{m{\beta}}_{\rm l}$  = slope parameter (used for magnitude and direction measure)

 $\hat{Y}_{i}$  = Estimated values for cash flow relative to AUM [%]

 $X_{\scriptscriptstyle i}$  = days in the calculation period

Single linear regression - line of best fit (SLR)

$$\hat{Y}_i = \hat{\beta}_0 + \hat{\beta}_1 X_i \tag{2}$$

where  $\hat{oldsymbol{eta}}_0$  = intercept

 $\hat{\beta}_1$  = slope parameter

 $\hat{Y}_{\!\scriptscriptstyle i}$  = Estimated values for cash flow relative to AUM [%]

 $X_i$  = days in the calculation period

$$R^{2} = \frac{\sum_{1}^{n} (\hat{Y}_{i} - \overline{Y}_{i})^{2}}{\sum_{1}^{n} (Y_{i} - \overline{Y}_{i})^{2}}$$
(3)

where  $R^2$  = coefficient of determination (used as proxy for measuring flow trend path consistency)

 $\overline{Y}_i$  = Mean of the observed Y values

 $Y_i$  = Actual observed cash flow relative to AUM [%] values

Tactical Asset Allocation Relative Strength Signal (TAARSS)

TAARSS = 
$$\hat{\beta}_1$$
 (SLRTO) x  $R^2$  (SLR) (4)

where  $\hat{\beta}_{\rm l}$  (SLRTO) = slope parameter of the single linear regression through origin.



 $R^2$  (SLR) = coefficient of determination of the single linear regression (line of best fit).

This calculation suggests that a flow trend with steep slope and linear path will translate into a stronger trend compared to a flow trend with just one of the two components (e.g. steep slope, but very low R-squared).

In addition, the combination of path and magnitude also help us to adjust for the effects of some of the ETF flow anomalies described in the previous section. For example, while rebalancing or model trading inflows would have the effect of increasing the slope of the trend, they would also translate into a lower R-squared; therefore the combination of both would keep the overall strength of the flow trend in check.

# Signal and Rebalancing Frequency

Another important input for the signal computation is the period of time over which the signal is going to be calculated or in other words the flow trend data that is going to be considered in the calculation. We refer to this as signal frequency. We think of the signal frequency as the formation period over which a flow trend gathers enough flow momentum from investors' allocations so as to translate into price performance momentum.

On the other hand, we refer to rebalancing frequency to the time interval between signal calculation updates. The rebalancing frequency should be reflective of how often investors tend to reexamine their allocations in order to have enough flexibility to capture new market rotations. As mode of example, a signal that is calculated every quarter using data from the previous month would have a quarterly rebalancing frequency with a monthly signal frequency.



# Appendix 1

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#### Notes

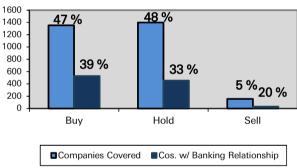
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Global Universe



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the amount of funds initially deposited.

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