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14 May 2014
Source: Deutsche Bank

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Tactical Asset Allocation Relative Strength Signal (TAARSS) Monthly Update

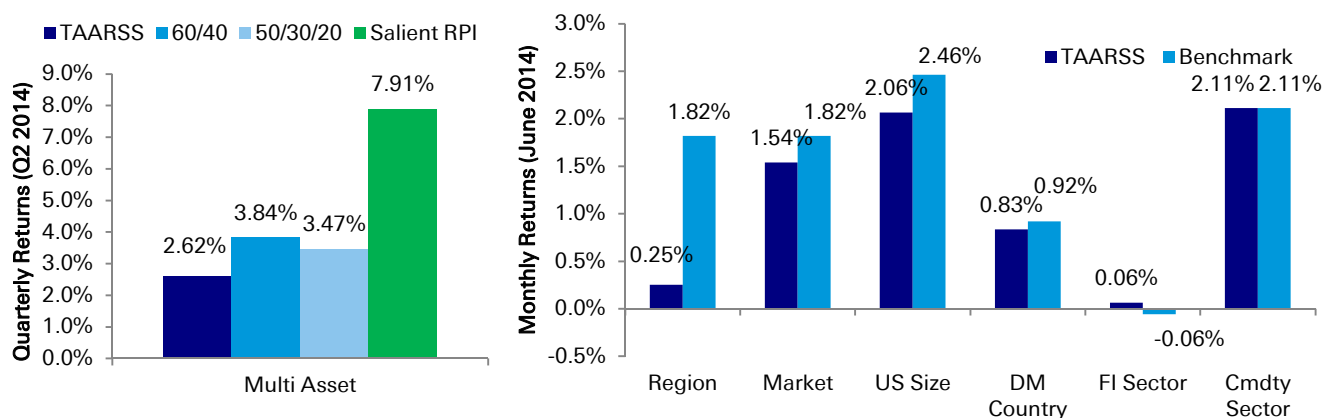
Market review

Global equities (ACWI) extended their May rally into the month of June by adding 1.82%. In turn, US bonds (AGG) were mostly flat during the same period (-0.06%); while Commodities recovered from the previous month losses by recording a 2.11% gain in June.

TAARSS rotation strategy quarterly and monthly performance review

TAARSS rotation strategies were all positive for the previous month and quarter; however most of them underperformed their benchmarks (Figure 1). Within equities, EM (2.40%), US Small Caps (5.27%), Latin America (3.22%), and Canada (5.70%) were the strongest performers per strategy; while Gold (6.32%) and Convertibles (2.30%) were the top categories within commodities and fixed income, respectively during the month of June. On a quarterly basis, Global Equities recorded the strongest returns during Q2 with 5.95%.

Figure 1: Performance Summary for Quarterly & Monthly TAARSS rotations – Q2 & June 2014



Source: Deutsche Bank, Bloomberg Finance LP. Total returns for Q2 2014 and June 2014. Benchmark details provided in Figure 2

Tactical positioning for Q3 and July 2014

For Q3, TAARSS suggests a renewed appetite for risk with an increase in equity allocations (41% from 22%); however, the strategy still favors fixed income (59%) in the multi asset rotation. For the month of July, TAARSS equity positioning indicates a preference for Mid Caps within the US, Europe among regions (although less strong than the previous month), EM for market allocations, and Italy for DM countries. In terms of fixed income sectors, TAARSS favors EM Debt; while the Energy sector saw the strongest signal within the commodity rotation.

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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	Frequency	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

*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 Fixed Income Sector and Commodity Sector rotation strategies outperformed or performed in line with their respective benchmarks in June; while the rest of the monthly equity and the quarterly multi asset strategies lagged their respective benchmarks (Figure 1). Within equities, EM (2.40%), US Small Caps (5.27%), Latin America (3.22%), and Canada (5.70%) were the strongest performers per strategy; while Gold (6.32%) and Convertible (2.30%) were the top categories within commodities and fixed income, respectively during the same period (Figure 3).

Our quarterly multi asset rotation strategy gained 2.62% during Q2, versus 3.84%, 3.47%, and 7.91% corresponding to the 60/40, 50/30/20, and Salient Risk Parity benchmarks.



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

Quarterly Rotations			Equity Monthly Rotations			DM Country			Fixed Income Monthly Rotations		
Asset Class	2014 Q2	QTD %	US Size	June 2014	1M %	DM Country	June 2014	1M %	FI Sector	June 2014	1M %
Global Equities	21.6%	5.09%	Large Cap	100.0%	2.06%	Australia	8.1%	-0.14%	Corp IG	5.4%	0.01%
US Agg. Fixed Income	72.1%	1.95%	Mid Cap	0.0%	4.17%	Austria	0.0%	0.19%	Corp HY	5.4%	0.61%
Broad Div. Cmdty	6.3%	1.76%	Small Cap	0.0%	5.27%	Canada	13.4%	5.70%	US Trsy	62.8%	-0.22%
Cash	0.0%		Cash	0.0%		France	29.4%	-1.46%	MBS	7.2%	0.21%
Commodity Monthly Rotations			Region			Germany	7.8%	-0.71%	Inflation	3.1%	0.37%
Sector	June 2014	1M %	North America	June 2014	1M %	Hong Kong	0.0%	0.92%	Convertible	4.5%	2.30%
Gold	0.0%	6.32%	Europe	87.6%	-0.08%	Italy	0.0%	-0.32%	Senior Loans	0.0%	0.49%
Div. Broad	100.0%	2.11%	Asia Pacific	0.0%	3.05%	Japan	0.0%	4.68%	Intl DM Debt	3.2%	1.60%
Energy	0.0%	3.29%	Latin America	6.4%	3.22%	Singapore	0.0%	-1.08%	EM Debt	0.0%	0.04%
Agriculture	0.0%	-0.90%	Cash	0.0%		Spain	40.2%	1.40%	Municipal	8.4%	-0.16%
Cash	0.0%		Market			Sweden	0.0%	-1.89%	Cash	0.0%	
			US	June 2014	1M %	Switzerland	0.5%	-0.43%			
			DM Intl	56.7%	0.92%	UK	0.7%	0.81%			
			EM	36.3%	2.40%	Cash	0.0%				
			Cash	0.0%							

Source: Deutsche Bank, Bloomberg Finance LP. *Returns correspond to Total returns as of June 30, 2014. 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.

Monthly returns by asset class/segment

Figure 4 presents a summary of the returns along with June's z-score ranking for all the individual asset classes within the monthly rotation strategies.

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

Investment Segment	z-scores	Direction	1M TR	Investment Segment	z-scores	Direction	1M TR
US Treasury	4.61	Positive	-0.22%	North America	-0.28	Positive	2.06%
Spain	2.05	Positive	1.40%	US	-0.30	Positive	2.06%
France	1.39	Positive	-1.46%	UK	-0.34	Positive	0.81%
Europe	1.08	Positive	-0.08%	Switzerland	-0.35	Positive	-0.43%
Canada	0.43	Positive	5.70%	Large Cap	-0.37	Positive	2.06%
Municipal	0.29	Positive	-0.16%	Senior Loans	-0.38	Positive	0.49%
DM Intl	0.28	Positive	0.92%	Austria	-0.38	Neutral	0.19%
MBS	0.19	Positive	0.21%	Italy	-0.38	Negative	-0.32%
Australia	0.11	Positive	-0.14%	Gold	-0.38	Negative	6.32%
Germany	0.10	Positive	-0.71%	Asia Pacific	-0.40	Negative	3.05%
Diversified Broad	0.08	Positive	2.11%	Energy Cmdty	-0.40	Negative	3.29%
Corp HY	0.06	Positive	0.61%	Singapore	-0.44	Negative	-1.08%
Corp IG	0.05	Positive	0.01%	Mid Cap	-0.44	Negative	4.17%
EM	0.04	Positive	2.40%	Agriculture	-0.67	Negative	-0.90%
Convertible	-0.02	Positive	2.30%	EM debt	-0.75	Negative	0.04%
Intl DM Debt	-0.12	Positive	1.60%	Hong Kong	-0.78	Negative	0.92%
Inflation	-0.13	Positive	0.37%	Small Cap	-0.88	Negative	5.27%
Latin America	-0.27	Positive	3.22%	Sweden	-1.12	Negative	-1.89%
				Japan	-1.20	Negative	4.68%
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 quarter and month

For Q3, TAARSS suggests a renewed appetite for risk with an increase in equity allocations (41% from 22%); however, the strategy still favors fixed income (59%) in the multi asset rotation. For the month of July, TAARSS equity positioning indicates a preference for Mid Caps within the US, Europe among regions (although less strong than the previous month), EM for market allocations, and Italy for DM countries. In terms of fixed income sectors, TAARSS favors EM Debt; while the Energy sector saw the strongest signal within the commodity rotation. See Figure 5 and Figure 6 for full allocation details for the month of July and Q3.

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

Quarterly Rotations		Equity Monthly Rotations				Fixed Income Monthly Rotations	
Asset Class	2014 Q3	US Size	July 2014	DM Country	July 2014	FI Sector	July 2014
Global Equities	41.0%	Large Cap	16.1%	Australia	0.0%	Corp IG	0.0%
US Agg. Fixed Income	59.0%	Mid Cap	80.2%	Austria	17.0%	Corp HY	0.0%
Broad Div. Cndty	0.0%	Small Cap	3.7%	Canada	1.2%	US Trsy	0.0%
Cash	0.0%	Cash	0.0%	France	0.0%	MBS	16.7%
Commodity Monthly Rotations		Region		July 2014		Inflation	11.6%
		Sector		July 2014		Convertible	23.0%
Gold	0.0%	North America	24.1%	Germany	0.0%	Senior Loans	0.0%
Div. Broad	0.0%	Europe	41.9%	Hong Kong	0.6%	Intl DM Debt	6.9%
Energy	100.0%	Asia Pacific	22.3%	Italy	59.8%	EM Debt	34.6%
Agriculture	0.0%	Latin America	11.7%	Japan	0.0%	Municipal	7.2%
Cash	0.0%	Cash	0.0%	Singapore	0.0%	Cash	0.0%
		Market		July 2014			
		US		25.8%			
		DM Intl		27.9%			
		EM		46.3%			
		Cash		0.0%			

Source: Deutsche Bank, Bloomberg Finance LP.



Figure 6: Normalized monthly TAARSS rankings for July 2014

Investment Segment	z-scores	Direction	Investment Segment	z-scores	Direction
Italy	4.98	Positive	US Treasury	-1.69	Negative
Spain	1.49	Positive	France	-1.28	Negative
Austria	1.26	Positive	Agriculture	-0.91	Negative
Energy Cmdty	0.26	Positive	Germany	-0.83	Negative
Mid Cap	0.24	Positive	Sweden	-0.56	Negative
EM debt	0.24	Positive	Senior Loans	-0.38	Negative
EM	0.16	Positive	Australia	-0.36	Negative
Europe	0.15	Positive	Singapore	-0.35	Negative
Convertible	0.08	Positive	Diversified Broad	-0.28	Negative
DM Intl	0.01	Positive	Japan	-0.24	Negative
MBS	0.00	Positive	Corp HY	-0.22	Negative
North America	-0.01	Positive	Corp IG	-0.22	Negative
US	-0.01	Positive			
Asia Pacific	-0.02	Positive			
Inflation	-0.07	Positive			
Switzerland	-0.10	Positive			
Canada	-0.11	Positive			
Latin America	-0.12	Positive			
Municipal	-0.12	Positive			
Large Cap	-0.13	Positive			
Intl DM Debt	-0.13	Positive			
Hong Kong	-0.16	Positive			
UK	-0.19	Positive			
Small Cap	-0.20	Positive			
Gold	-0.22	Positive			

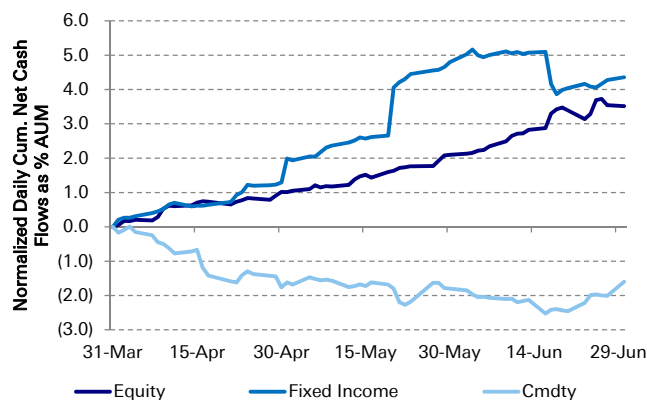
Equity
Fixed Income
Commodity

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

Multi Asset>Equity/Fixed Income/Cmdty rotation flow trend

Flow trend during Q2 was significant with good consistency and magnitude for both global equities and fixed income. The fixed income trend remained slightly stronger than the equity one for most of the second quarter. Although we can clearly note the presence of model trading anomaly in the fixed income trend, we don't think this affects the signal calculation significantly. On the commodity side, the flow trend was mostly weak and negative throughout the past quarter, with a slight pick-up in flows towards the end of the 3-month period; not enough to become relevant for the multi asset rotation strategy, however.

Figure 7: Multi Asset>Equity/FI/Cmdty monthly flow trend



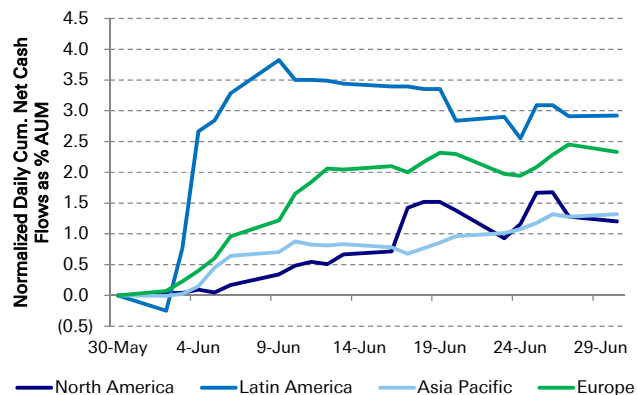
Source: Deutsche Bank, Bloomberg Finance LP.



Equity>Region rotation flow trend

Signals were positive across all regional allocations. Signal formation for Europe remained the strongest within regional allocations, although presenting a slow down relative to previous months. Europe, North America, and Asia Pacific presented similar consistency in flow trend build-up, but magnitude favored Europe. The Latin America flow trend presented a large magnitude during June, however this was mostly due to a few large allocations early in the month rather than the result of a consistent series of inflows.

Figure 8: Equity>Region monthly flow trend

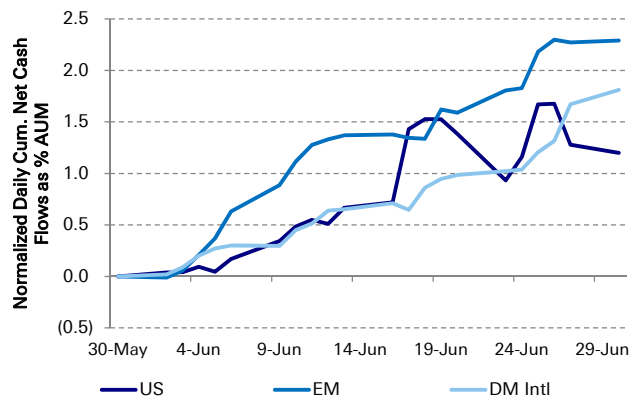


Source: Deutsche Bank, Bloomberg Finance LP.

Equity>Market rotation flow trend

Both EM and DM international presented good consistency in terms of flow trend build-up. The EM trend however registered a relatively larger magnitude and hence a stronger signal reading. The US trend showed some good signs of trend formation during June, although the flow trend experienced some choppiness on the second half of the month. It will be important to keep an eye on these trends as the DM international signal begins to lose momentum and the EM and US trends attempt to stage a comeback.

Figure 9: Equity>Market monthly flow trend



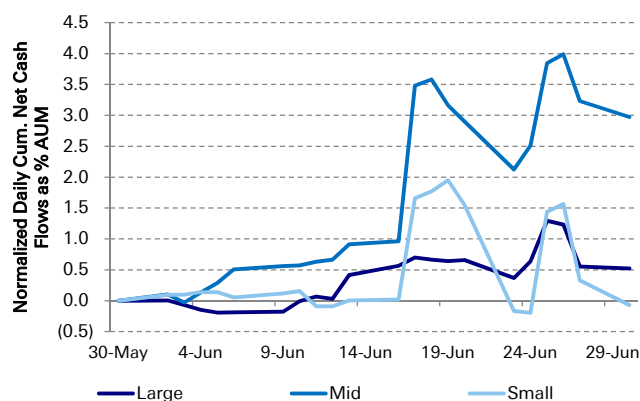
Source: Deutsche Bank, Bloomberg Finance LP.



Equity>US Size rotation flow trend

US size flow trends had a slow start all the way up to the end of the first half of June; the second half of the month was marked by flow volatility across the three market cap segments. Overall, mid caps managed to register the strongest signal, followed by weaker signals in large caps and small caps. Although signals for the size rotation were not very strong, we noticed an improvement from May which saw flat trends, probably a sign of investors coming back to the US market.

Figure 10: Equity>US Size monthly flow trend



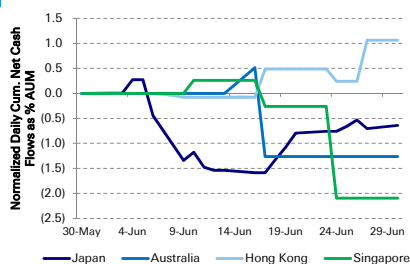
Source: Deutsche Bank, Bloomberg Finance LP.

Equity> DM Country rotation flow trend

Among DM countries, we would like to highlight two positive trends: Italy and Spain. Italy exhibited the strongest trend at a country level with sizable steady inflows throughout most of the month. Spain, however, had a strong start but then remained neutral for the remainder of the month. All in all, Eurozone peripheral countries keep attracting most of the attention within the developed market world outside the US.

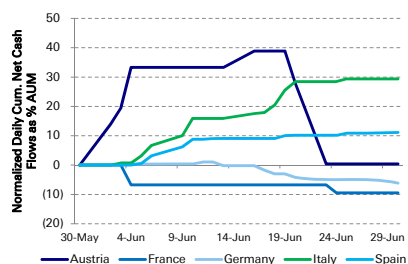
On the weak side, Japan, Germany, and France experienced negative trends during June. Japan has experienced two months of strong rally; however we haven't seen the corresponding inflows to go along with it. Having said that, we did see a pick-up in flows towards the second half of June; with prime minister Abe launching the third arrow of measures to boost the economy we will be watching the Japan flow trend very closely as this could confirm the beginning of the next phase of the Japanese equities rally along with a new round of allocations. Germany and France experienced some weakness as investors preferred peripheral Eurozone countries rather than the core ones.

Figure 11: DM Asia-Pac flow trends



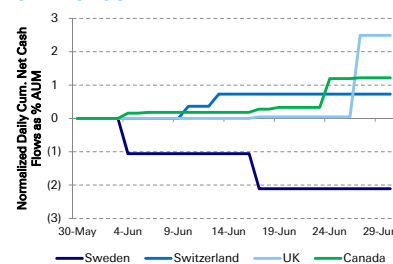
Source: Deutsche Bank, Bloomberg Finance LP.

Figure 12: DM Eurozone flow trends



Source: Deutsche Bank, Bloomberg Finance LP.

Figure 13: DM non-Euro & Canada flow trends



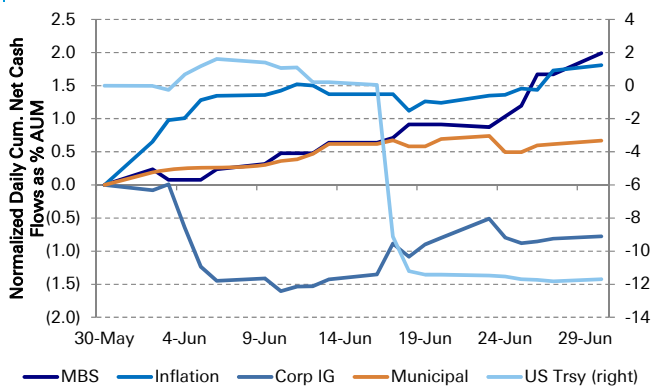
Source: Deutsche Bank, Bloomberg Finance LP.

Fixed Income> Sector rotation flow trend

Weakness in US treasuries was mostly related to the model trading activity we pointed out last month, in the absence of which the trend would be neutral. The MBS and the Inflation segments presented the most relevant positive signals within the investment grade sectors. In the meantime, corporate IG ETF flows experienced a steep pullback early in the month, but then began to reverse that trend towards the end of the month.

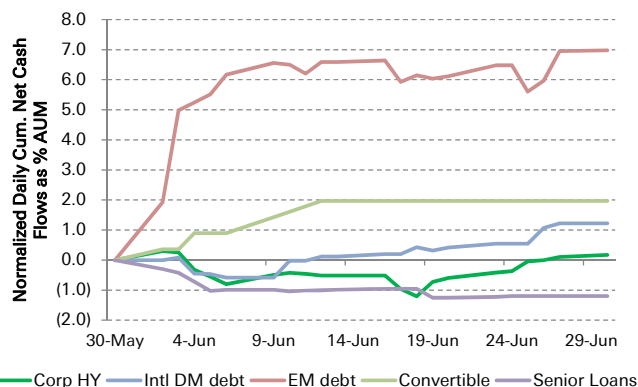


Figure 14: Fixed Income>Sector monthly flow trend –
Mainly Investment Grade exposures



Source: Deutsche Bank, Bloomberg Finance LP.

Figure 15: Fixed Income>Sector monthly flow trend –
Mainly High Yield Grade exposures



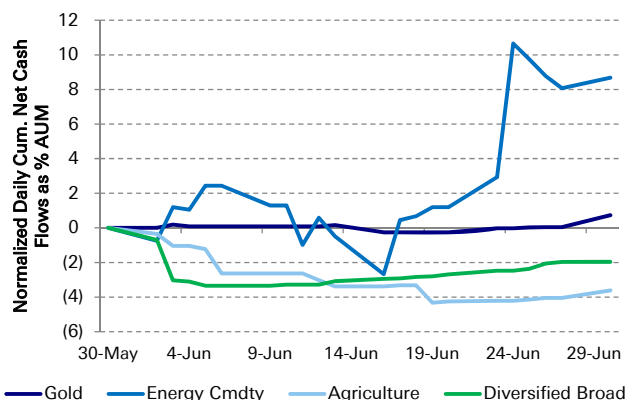
Source: Deutsche Bank, Bloomberg Finance LP.

Within the High Yield space, EM debt received very significant flows in the beginning of the month after which the flow trend remained slightly positive. EM debt is probably the only trend worth highlighting along with Senior Loans. Although not very weak, we do consider the negative trend in Senior Loans as a sign of cooling down for the asset class.

Commodities> Sector rotation flow trend

Within commodities, we highlight the positive trend in the Energy sector which was most likely driven by developments in the geopolitical situation in Irak. On the downside, the flow trend for agriculture reflected investment demand weakness for the sector. Interestingly, gold flows remained flat despite the rally experienced by the yellow metal during June.

Figure 16: Commodity>Sector monthly flow trend



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 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

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

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	Y	ACWI
EQUITY - US SECTOR & INDUSTRY			
Consumer Discretionary	9,101	Y	XLY
Leisure & Entertainment	164		PEJ
Media	165		PBS
Retail	803	Y	XRT
Industrials	16,340	Y	XLI
Aerospace & Defense	550	Y	ITA
Construction & Engineering	122		PKB
Transportation	1,249	Y	IYT
Financials	67,242	Y	XLF
Capital Markets	396	Y	IAI
Commercial Banks	5,443	Y	KRE
Insurance	415	Y	KIE
Real Estate	37,264	Y	VNO
Real Estate Intl*	8,934	Y	VNOI
Financial Services	576	Y	IYG
Thriffs & Mortgage Finance	8		KME
Technology	29,811	Y	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	377		PBJ
Healthcare	30,113	Y	XLV
Biotechnology	7,973	Y	IBB
Pharmaceutical	3,021	Y	PJP
Health Care Providers & Services	568	Y	IHF
Health Care Equipment & Supplies	739	Y	IHI
Telecom	1,434	Y	VOX
Utilities	8,600	Y	XLU
EQUITY - GEO. FOCUS: MARKET			
EM	139,187	Y	EEM
DM	225,669	Y	EFA
US	967,686	Y	SPY
Global	60,947	Y	ACWI
EQUITY - GEO. FOCUS: REGION			
North America	971,982	Y	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

Categories	AUM \$MM	Sea- soned	ETF
EQUITY - GEO. FOCUS: COUNTRY			
Developed Markets			
Australia	2,079	Y	EWA
Austria	72		EWO
Belgium	87		EWK
Canada	3,512	Y	EWK
Denmark	55		EDEN
Finland	40		EFNL
France	446	Y	EWQ
Germany	6,236	Y	EWG
Hong Kong	1,953	Y	EWK
Ireland	170		EIRL
Israel	162		EIS
Italy	1,441	Y	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	Y	SPY
Emerging Markets			
Argentina	8		ARGT
Brazil	4,497	Y	EWZ
Chile	330	Y	ECH
China	7,575	Y	FXI
Colombia	142		GXG
Egypt	76		EGPT
Greece	231		GREK
India	3,610	Y	EPI
Indonesia	764	Y	EIDO
Malaysia	790	Y	EWM
Mexico	2,888	Y	EWV
Nigeria	18		NGE
Peru	222	Y	EPU
Philippines	347	Y	EPHE
Poland	419		EPOL
Russia	1,960	Y	RSX
South Africa	574	Y	EZA
South Korea	4,444	Y	EWY
Taiwan	3,029	Y	EWI
Thailand	488	Y	THD
Turkey	591	Y	TUR
Vietnam	525	Y	VNM
EQUITY - MARKET CAP SIZE			
Large Cap	503,500	Y	SPY
Mid Cap	84,877	Y	MDY
Small Cap	81,224	Y	IWM

Categories	AUM \$MM	Sea- soned	ETF
EQUITY - STYLE			
Growth	80,049	Y	IWF
Value	79,142	Y	IWD
EQUITY - THEMES			
Commodities			
Agribusiness	3,201	Y	MOO
Coal	169		KOL
Commodities	88		CRBO
Copper	64		COPX
Gold	9,089	Y	GDV
Industrial Metals	104		HAP
Natural Gas	539	Y	FCG
Natural Resources	6,015	Y	IGE
Nuclear	311	Y	URA
Platinum	10		PLTM
Rare Earth	93		REMX
Lithium	59		LIT
Silver	220	Y	SIL
Steel	94		SLX
Timber	569	Y	WOOD
Socially Responsible Investing			
Clean Energy	1,232	Y	TAN
Clean Tech	86		PZD
Equality	5		EQLT
ESG	652	Y	DSI
Water	1,822	Y	PHO
Industry Trend			
American Industrial Renaissance	37		AIRR
Cloud Computing	299		SKYY
Consumer	1,428	Y	ECON
Defensive	146		DEF
Gaming	65		BJK
Infrastructure	1,475	Y	IGF
MLP	10,056	Y	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	Y	PKW
Forensic Accounting	12		FLAG
Hedge Fund 13F	502	Y	GURU
Insider	222		NFO
IPO	494	Y	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.





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.

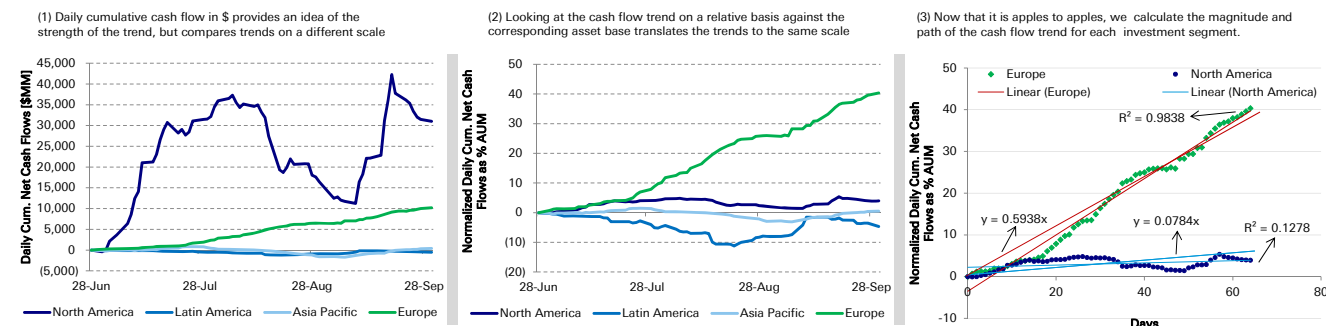
The first challenge we faced in order to use our measure as a relative strength indicator was the fact that we were looking at ETF flow trends in absolute dollar terms which we realized was not an apples to apples comparison; therefore we decided to adjust each ETF flow trend relative to the assets under 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



Source: Deutsche Bank, Bloomberg Finance LP.

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)

$$\hat{Y}_i = \hat{\beta}_1 X_i \quad (1)$$

where $\hat{\beta}_1$ = slope parameter (used for magnitude and direction measure)

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

X_i = days in the calculation period

Single linear regression – line of best fit (SLR)

$$\hat{Y}_i = \hat{\beta}_0 + \hat{\beta}_1 X_i \quad (2)$$

where $\hat{\beta}_0$ = intercept

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

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

X_i = days in the calculation period

$$R^2 = \frac{\sum_{i=1}^n (\hat{Y}_i - \bar{Y})^2}{\sum_{i=1}^n (Y_i - \bar{Y})^2} \quad (3)$$

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

\bar{Y} = Mean of the observed Y values

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

Tactical Asset Allocation Relative Strength Signal (TAARSS)

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

where $\hat{\beta}_1$ (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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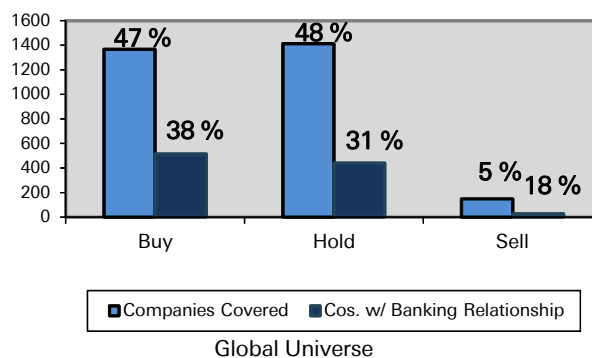
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