



BNY MELLON

Introducing iFlow Trend

BUCKING THE TREND



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Head of Markets Strategy

- We introduce iFlow Trend, which measures investor appetite for trend in FX markets
- During the past decade, where broad USD strength was recorded, we find that when FX flows are chasing trending currencies, non-dollar crosses tend to underperform
- In an era in which CTA strategies have fared poorly, iFlow trend may enhance the performance of such strategies



John Velis
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In FX investing, there are three classic strategies: carry (buying currencies with higher local yields); trend (buying currencies with strong trend); and value (buying currencies that are considered cheap, relative to fundamentals). In a recent whitepaper, we introduced **iFlow Carry**, which examined the relationship between iFlow FX flows and local yields across the world. In this document, we present iFlow Trend, which similarly examines FX flows towards currencies with high (or low) trend.

Two important issues prevailed in global markets over the sample period studied (mentioned below) in this exercise. First, since the end of 2010, the USD appreciated 31% on a trade-weighted basis. Second, monetizing trends proved to be exceptionally difficult. Most hedge fund CTA/Managed Futures experienced annualized total returns ranging from 15% to 30% between 2000 and 2011. By comparison, total returns declined to between -5% and +5% over the past five to seven years.



John Arabadjis
*Head of Markets Macro
Strategy Product & Analytics*

With iFlow Trend, when FX Flows are highly correlated with trending FX markets, we have observed broad USD strength. By contrast, when the correlation of flows with trend is low, iFlow Trend captures prevailing trends in non-USD crosses, such as euro and yen and most emerging market currencies. This behaviour may have been prevalent in the past ten years or so, due to broad based USD appreciation. It may well change in the near future, once and if USD trends turn negative.

In such a challenging environment iFlow Trend may be helpful by indicating periods where USD trends have prevailed while flows towards this particular investment style were predominant.

We also find that periods where iFlow Trend correlation was neutral proved to be somewhat friendly towards non-USD trends.

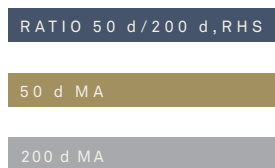
CONSTRUCTING IFLOW TREND

To construct the iFlow Trend index we follow a straightforward and transparent recipe. We use aggregated and anonymized FX flows from our iFlow database, all expressed in US dollars for 32 currencies. Each flow series is smoothed using a five-day exponential moving average (with the weightings corresponding to a one-day half-life).

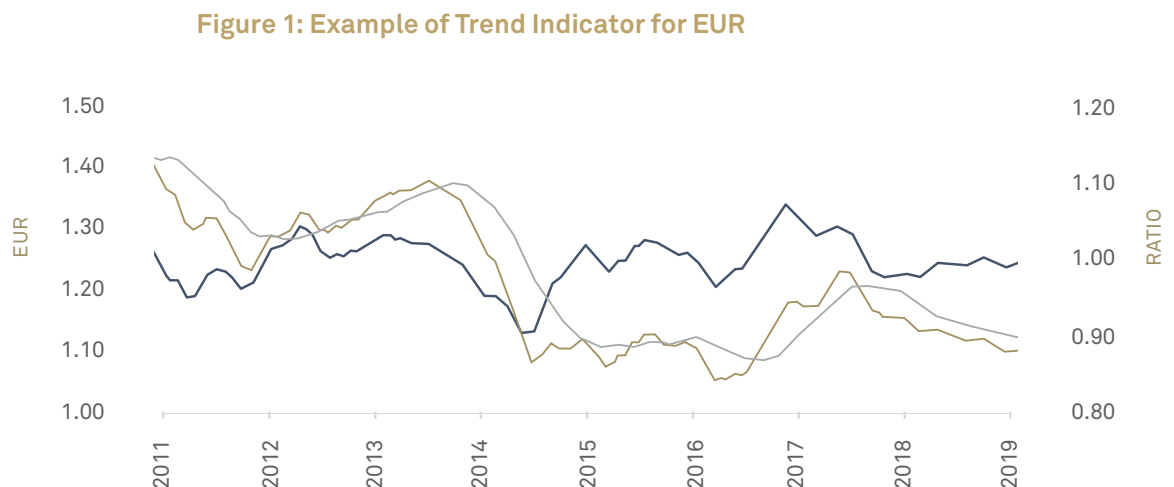
Each smoothed series is then standardized by its own standard deviation (calculated over a rolling sample of 260 days). This produces a set of 32 z-scores for each currency in our sample. To eliminate day-to-day noise, we use a simple 20-day (i.e. one trading month) rolling averaged of the flow measures for each series. The sample period runs from January 27, 2011 through November 1, 2019.

For the same 32 currencies, we calculated a trend indicator based on spot rates versus the USD. This indicator is simply the ratio of the 50-day moving average of the spot rate versus its 200-day moving average. This is a classic price trend calculation. For the US dollar, we used the DXY Spot Index. No additional smoothing to these trend series was used.

Figure 1 shows the trend series and the 50-day and 200-day moving averages for the euro to illustrate its construction



SOURCE:
BNY Mellon Markets,
Bloomberg



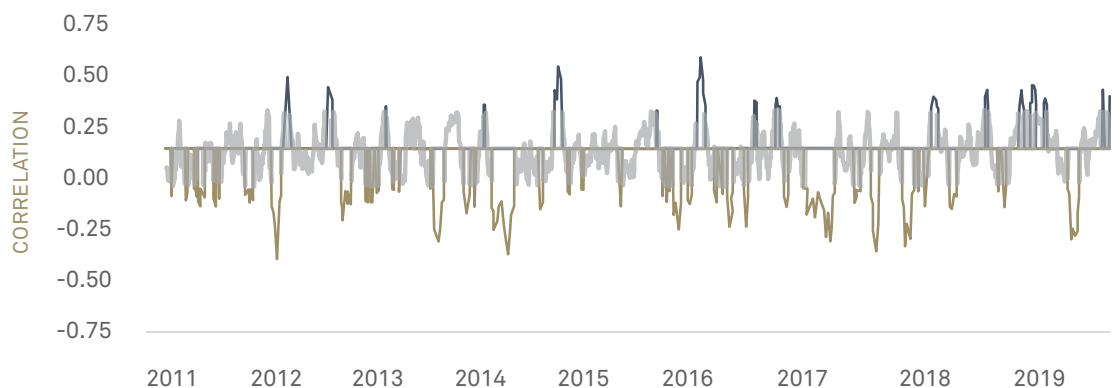
We next compute the daily Spearman rank correlation between the 32 iFlow indicators and the trend indicators. This gauges the strength of flows' alignment with their corresponding trend measures. In other words, we measure whether or not the highest (or lowest) spot trend lines up with the currencies that have the highest (or lowest) FX flows. This gives us a daily measure of investor appetite for FX trend.

Figure 2 plots the daily values of this measure; this is our iFlow Trend index. For the Spearman rank correlation to be statistically significantly different from zero (and not just statistical noise) we also compute the P-value for this correlation, choosing a threshold of 0.30. We did no optimization or data-mining when choosing this parameter; we merely choose a strict enough criteria that also produces enough high or low observations for our series to test the behavior of trend-following strategies.

The blue portion of the iFlow Trend index corresponds to periods when correlation is statistically positive (investor FX flows display trend-following) and the P-value is less-than-or-equal-to 0.30. The gold portions indicate periods when investors have avoided trend and the Spearman rank correlation is statistically negative.

We note from the incidences of gold segments in Figure 2 that iFlow Trend indicates more significant observations on the low side, indicating trend strategies are shunned more than they are strongly favored. This is quite telling. The past 10 years have been extraordinarily challenging for trend-following strategies.¹

Figure 2: iFlow Trend



LOW CORRELATION OF FLOWS WITH TREND

HIGH CORRELATION OF FLOWS WITH TREND

NEUTRAL

SOURCE:
BNY Mellon Markets,
iFlow®, Bloomberg

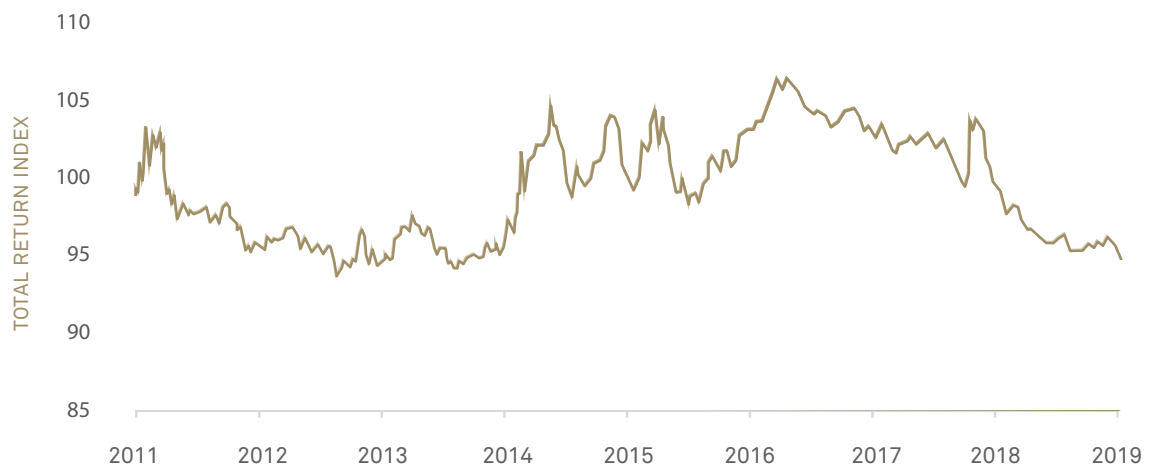
¹ We examined a range of reasonable P-values between 0.1 and 0.35. The results in our analysis did not materially change with any of the choices.

IFLOW TREND: A SIMPLE FILTER

Next, we construct a total return index of trend strategies to serve as a control, or a benchmark to mimic trend-following strategies in global FX investing. For the 32 currencies in our sample we calculate the total return of each currency, while taking long/short exposure to that currency as long as the 50-day moving average is above/below the 200-day moving average.

The basket is essentially a long-short trend index, constructed using the daily total return series for each currency. For US dollar total returns, we use the Bloomberg Dollar Total Return I series. Figure 3 presents our trend index aggregated to all 32 currencies in the sample.

Figure 3: FX Trend Total Return Index

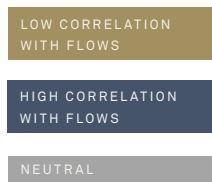


SOURCE: BNY Mellon Markets, Bloomberg

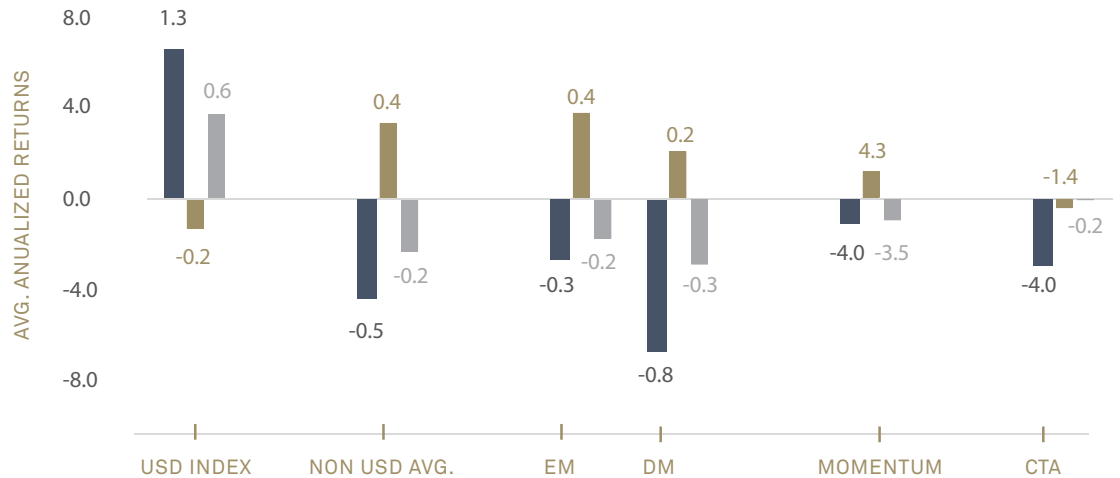
We then segregate the past history into three distinct states, corresponding to observations if our iFlow Trend index is in the high, neutral or low regions per Figure 2. The correlation between trend and flows is high, it indicates USD performance. The past USD strength trend dominated FX markets for quite a while.

In **figure 4** we show an illustration of behavior of different exposures according to each iFlow Trend regime – high low, and neutral correlation of flows with trend.

Figure 4: FX Returns By iFlow Trend Regime



SOURCE:
BNY Mellon Markets,
iFlow®, Bloomberg.
NOTE: Information ratios above/below bars



IFLOW TREND MAY HELP INVESTORS BETTER ESTIMATE MOMENTUM

The intuition behind iFlow Trend is similar to what we found with our iFlow Carry index. When trend following reaches its apex, trend strategies tend to subsequently underperform. Positions have become crowded and reversion to the mean asserts itself. When trend following is out of favor, it means reversion reasserts itself and trend becomes attractive as investors snap up previously shunned crosses.

The past 10 years have been extraordinarily challenging for trend following. In Figure 5 we show the total returns indices of global bonds against Macro/CTAs. In 2014 and 2016, despite dollar appreciation which led to weaker global bond returns, CTAs struggled.

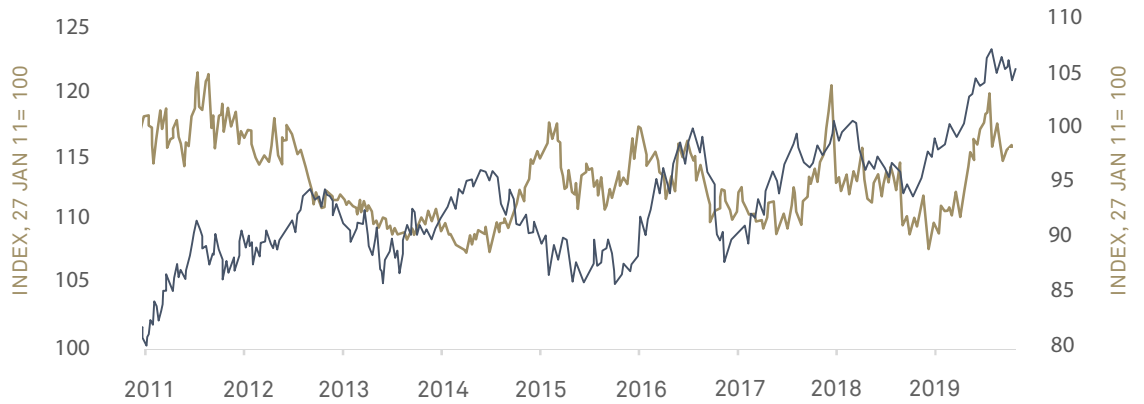
Figure 5: CTA/Macro Hedge Fund Returns and Global Bond Returns

HEDGE FUND RESEARCH
HFRX MACRO SYSTEMATIC
DIVERSIFIED CTA INDEX

BLOOMBERG BARCAP
GLOBAL AGGREGATE BOND
INDEX TOTAL RETURNS

SOURCE:

BNY Mellon Markets,
Bloomberg



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