

Introducing iFlow Cloud

FROM DEPRESSION TO ANTICYCLONE

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Mapping Investment Cycles Through Currencies

In this note we introduce a framework designed to display investor behavior in global currency markets. iFlow Cloud maps investor exposures using four distinct states: underheld/overheld versus inflows/outflows. An additional set of indicators will assign profits and losses to each holding.

We will be launching iFlow Cloud in fixed income and equities in H2 2020.

iFlow Cloud Articulates the Full Picture

Economic activity is often classified either by flow or stock. Flow is about transactions, which take place every nanosecond. Stock is about holdings. In [iFlow Monitor](#), we document inflows and outflows on a daily basis. iFlow Cloud will report an additional layer of information denoting whether agents are overheld/underheld.

- **FX Flows:** Each FX forward transaction is cataloged daily as a buy/sell exposure. These buy/sell exposures are then added to estimate a flow indicator of daily activity. Each daily flow report is normalized by its one-year history. iFlow Cloud will aggregate daily flow indicators over the previous month for 10 currencies in Asia, 11 currencies in G10, seven currencies in EMEA and five currencies in LatAm.
- **FX Holdings:** This indicator represents the total of all existing currency exposures. By construction it is a slow-moving estimate compared to the flow indicator. Under normal market conditions it takes several trading sessions to unwind an overheld or underheld currency position. These positions are the sum of all forward transactions currently in place. We calculate this indicator for currencies in the regions listed above.
- **FX Profitability:** We introduce a third indicator. Profitability records and aggregates cumulative profit and loss of each FX transaction through the life of the exposure.

We will be updating iFlow Cloud three days prior to month end going forward.

In this note we describe investor behavior with iFlow Cloud through the recent volatility between February and May 2020.

Recent Investor Behavior

Current State of iFlow Cloud

In meteorology, a depression is an area of low atmospheric pressure, with the lowest pressure at the center. They are usually associated with stormy weather. In the North, winds flow counterclockwise in a depression; they flow clockwise in the South. The opposite of a depression is an anticyclone.

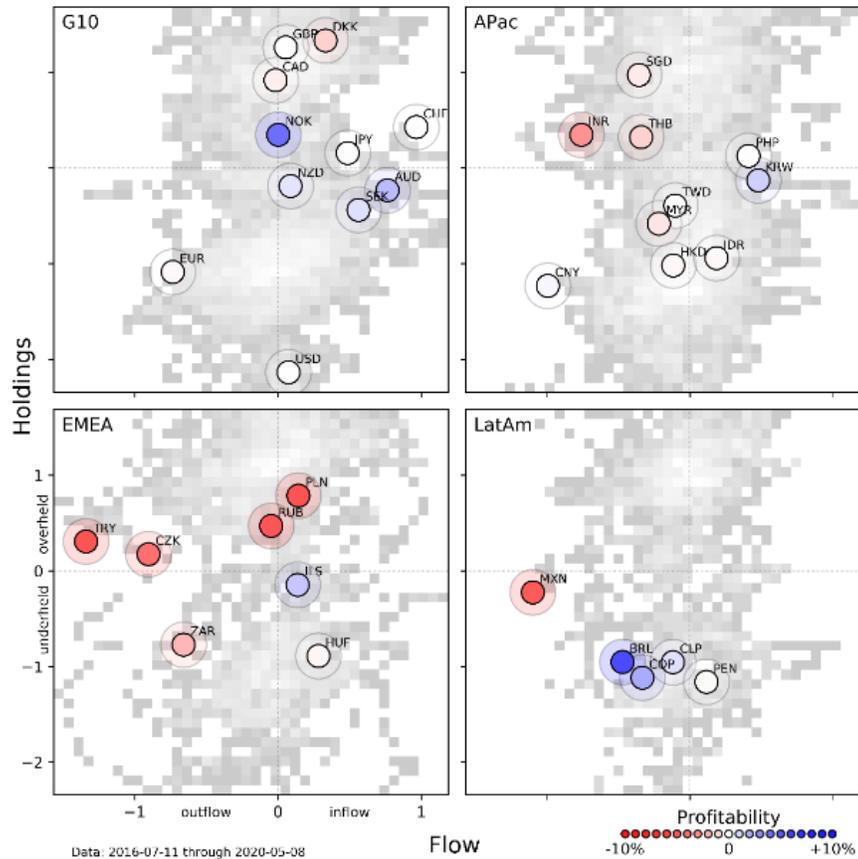
In the images below we chart, for each currency, 1,000 daily observations corresponding to a combination of overheld/underheld and inflow/outflow for that currency. In Asia ex-Japan, for instance, the image contains 10,000 dots denoting these combinations. Darker shades are regions with lower density of observations.

iFlow Cloud

May 8, 2020

Four quadrants: overheld/underheld and inflow/outflow. Clouds denote distribution over the past 1,000 days for each currency

Source: BNY Mellon



For each currency we added a shade of blue or red corresponding to the gains and losses registered for that currency holding.

The CNY and the INR are both near extremes in terms of outflows. The CNY is underheld, however, while the INR is overheld. The INR is a more painful position, where investors are registering losses. In LatAm, the BRL and the MXN are both underheld and being sold. Investors are losing in their short positions in Mexico but are posting profits on underheld BRL exposures.

In G10, the most prominent exposure is in NOK where investors are overholding the krone, with slight inflows and positions are dark blue. The USD is underheld but is witnessing inflows. Positions are neither at a profit or a loss.

In EMEA, outflows are most significant in TRY but it is overheld and positions are posting losses. This is also the case for the CZK and the RUB.

iFlow Cloud into Covid-19

Clouds Before the Storm

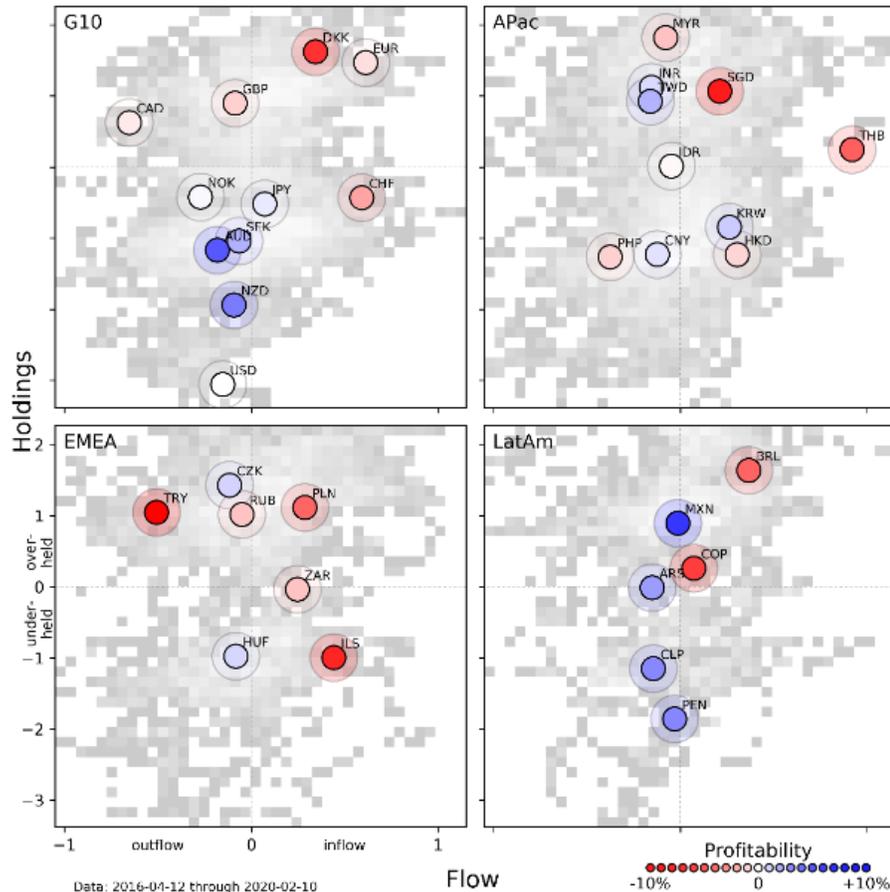
In early February, investors started to internalize the extent of the damage Covid-19 might inflict on the global economy. The main concern was Asia exposure. Below, iFlow Cloud depicts the global economy just as it entered a sudden stop.

In Asia, CNY exposures were underheld and showing outflows. Nevertheless, according to our framework, these exposures were not at extremes. The CNY dot was in a light grey area, nowhere near the border of the distribution. Elsewhere in Asia, investors were overholding and buying SGD and THB. These exposures were posting losses.

iFlow Cloud February 10, 2020

Four quadrants: overheld/underheld and inflow/outflow. Clouds denote distribution over the past 1,000 days for each currency

Source: BNY Mellon



In G10, the most interesting findings into the crisis were AUD and NZD. Investors were selling both currencies and they were both underheld. Moreover, these positions appeared to be in the money – AUD, in particular, was dark blue.

The USD was significantly under-owned and also facing large outflows. Meanwhile the EUR was at the exact opposite end of the spectrum, over-owned and witnessing inflows.

In EMEA, we find that investors were overholding but selling TRY. These positions were recording losses, indicating potential lira vulnerability.

In LatAm, both MXN and BRL were overheld. Investors were slightly tilted towards buying pesos while selling reals. Even more interestingly, overheld BRL positions were at a loss, while long MXN were registering profits.

iFlow Cloud at the Bottom of the Crisis

Clouds in the Center of the Storm

The S&P 500 bottomed on Monday, March 23. The images below represent iFlow Cloud three days after that trough. Asia was the first locale hit but also the most underheld region and the one receiving the most inflows around this time. CNY, KRW and IDR were receiving inflows and underheld. All three were also registering profits.

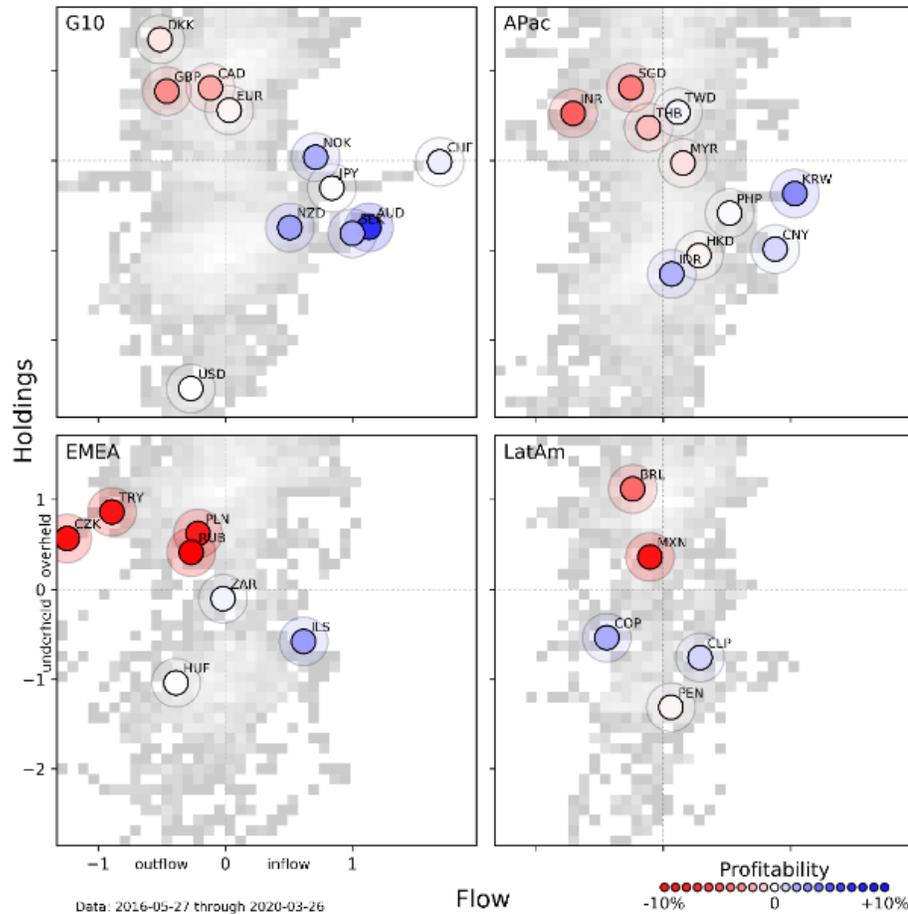
In G10, iFlow Cloud shows AUD and NZD buying, but both currencies were underheld. These two positions were also recording profits. In other words, investors were likely taking profits in short exposures. The USD was still underheld and the EUR still overheld. This explains the relentless USD buying as well as EUR selling around this period.

iFlow Cloud

March 26, 2020

Four quadrants: overheld/underheld and inflow/outflow. Clouds denote distribution over the past 1,000 days for each currency

Source: BNY Mellon



In EMEA, we find that the only currency registering profits was the ILS, where investors were underheld and buying. Otherwise, investors were selling overheld positions and recording losses in PLN, RUB, TRY and CZK.

The ZAR posts an interesting behavior. Exposures were almost perfectly neutral, no clear flow direction or holdings, despite the South Africa credit rating downgrade announcement.

In LatAm, iFlow Cloud proved to be a very helpful tool to understand BRL and MXN selling. Similar to most currencies in EMEA, at the bottom of the crisis investors were selling overheld positions in both Brazilian real and Mexican peso.

iFlow Cloud Mirrors Investor Climate

Ignore the Weather at Your Peril

iFlow Cloud is designed to provide investors a picture of market climate.

Just as it is useful to check the weather before leaving home, we believe it is critical to have a clear picture of the marketplace before making an investment decision.

Given BNY Mellon's unique position in the center of global asset flows, and with approximately \$35 trillion in assets under custody informing our iFlow data series, we are able to provide such a "weather report," describing three dimensions of currency behavior: flow, positions and profitability.

iFlow Cloud can be thought of as a weather report summarizing three main elements – flow, positions, and profitability

Overheld currencies can remain that way for some time, while still receiving inflows, but we contend that the message inferred from flows is enhanced by knowing how investors are positioned and whether or not these positions are profitable. Extreme positions are at risk of being unwound, and ones which are losing money are at risk of being reversed by investors.

In our weather system analogy, we would argue that a currency displaying extreme overheld positions, negative flows, and which is unprofitable is at risk of encountering a stormy spell of weather.

The opposite (underheld, positive flows and profitable positions) could be forecasting sunny and mild days.

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