BBVA Research

Global Funds Outlook
4Q17

Still sunny in Emerging Markets. Clouds in the horizon?

January 2018

BBVA | Research

Executive summary

1. In 4Q17, solid net inflows to Global Investment Funds (GIF) continued to decelerate, but only slightly thus ending stronger than expected.

2. Such resiliency, particularly in EM assets, is backed by global factors: stronger than expected macroeconomic outlook, higher oil prices –mainly driven by rising global demand- and subdued financial volatility despite monetary normalization.

3. The year ended with investors having a healthy appetite for risk - more optimistic than early in the year and less euphoric than over the summer. Recently, both equity and EM has gaining some momentum.

5. What´s next? Inflows to GIF shall continue to cool down as the unwinding of central bank balance sheets starts draining liquidity off the markets. Averting spikes in volatility (and/or bond sell-offs) remains a critical mission. Our baseline scenario assumes a smooth normalization process.

BBVA | Research

Global Investment Funds (GIF)

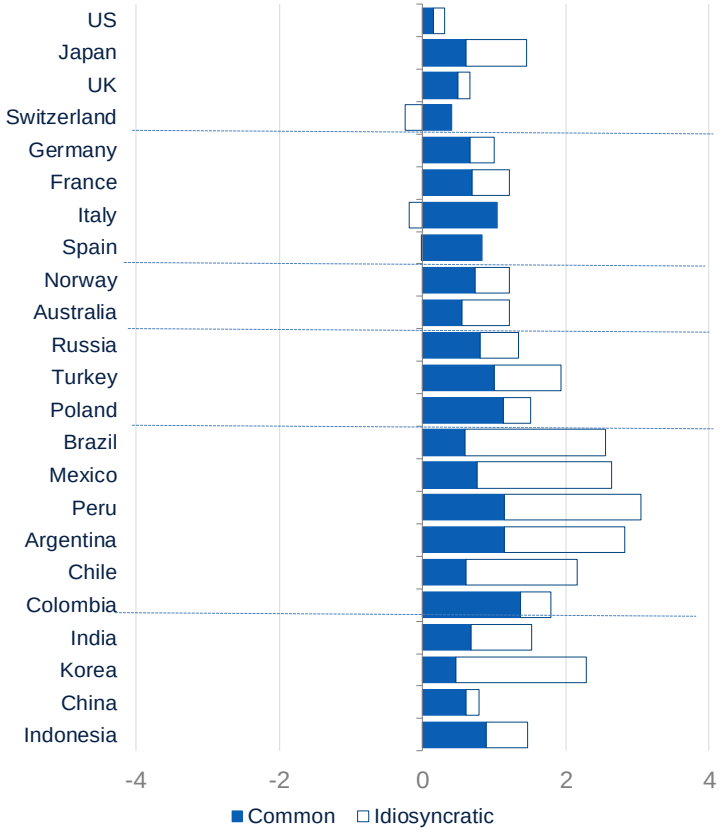
We analyse EPFR data on global fund flow over the quarter:

- to track asset volume,
- to describe net reallocations across regions and asset types
- to identify common factors underlying those dynamics

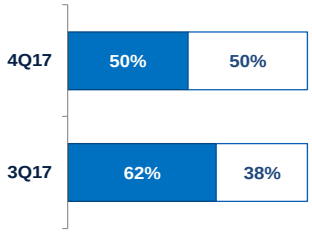
In 4Q17, solid net inflows to Global Investment Funds (GIF) continued to decelerate, but only slightly

GIF flows across countries in 4Q17: common vs idiosyncratic factors

(selected countries, % AUM)



Q4 vs Q3 Breakdown

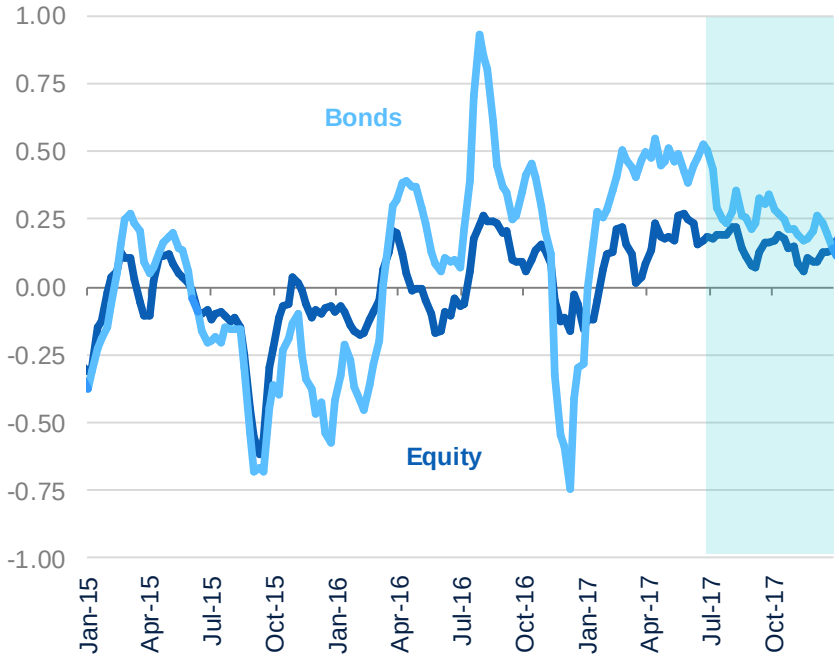


- GIF assets ended the year stronger than expected
- Common dynamics lost some steam but continued to drive overall strong GIF performance, while idiosyncratic dynamics also helped assets from several EMs
- Moderation diverged across assets:
  - The previously-observed preference for bonds over equity tempered down significantly
  - The gap favouring EM over DM flows also fell

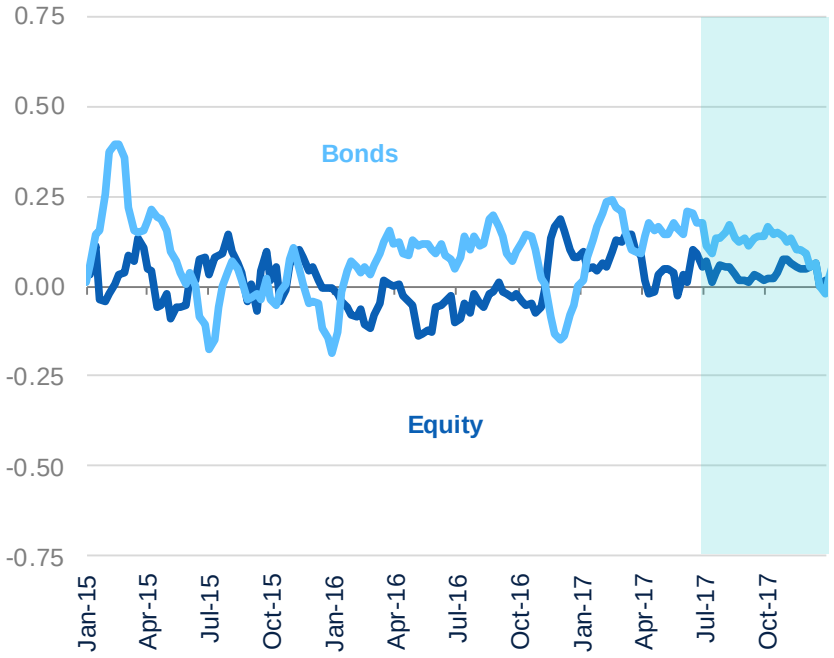
*All comparative inferences across countries are based on inflows relative to each country's total assets under management (AUM). They are NOT based on actual USD flows, which tend to be significantly larger for the US than for any other economy.
Source: BBVA Research, EPFR4

For EM assets, larger equity inflows offset decreasing carry trade opportunities in bonds

GIF flows to Emerging Markets
(weekly flows, 4w moving average, % AUM)



GIF flows to Developed Markets
(weekly flows, 4w moving average, % AUM)



Source: BBVA Research, EPFR

Strong overall EM performance has slowed down the portfolio's rebalancing towards DM, mainly due to equity

Appetite for bonds diminished in both, DM dragged by the upcoming monetary normalisation and in EM as carry strategies faded

BBVA | Research

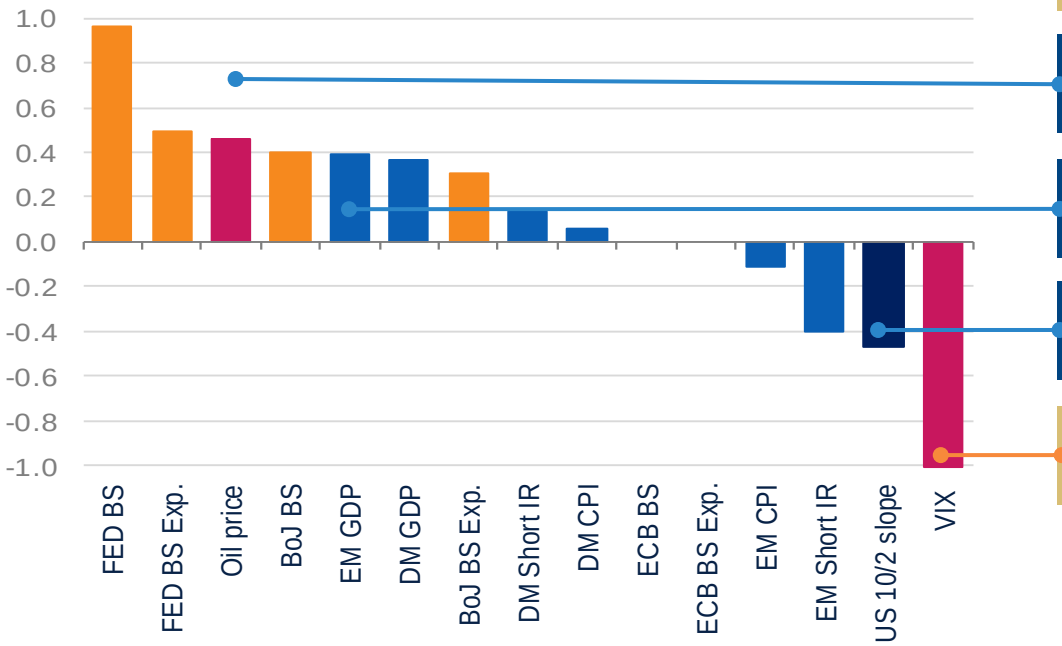
Major macro determinants of GIF flows

We identify the global and idiosyncratic macro-drivers of net GIF inflows to both EM and DM

As a result, throughout 2H17 – an outcome driven by global factors, notably stronger global growth and higher oil prices

Sensitivity of EM GIF flows

(Coefficient of standardised variables in a panel regression)

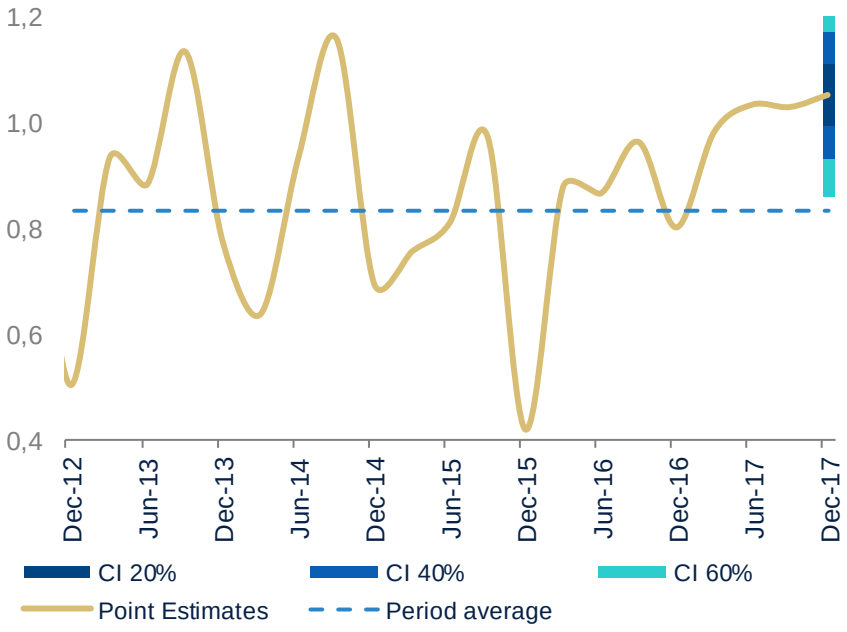


	QoQ
(Abundant) Global liquidity	250* USD Bn
(Higher) Oil prices	17%
(Stronger) Global growth	0.3%**
(Flatter) US yield curve	0.3%
(Multi-year low) Financial volatility	6%

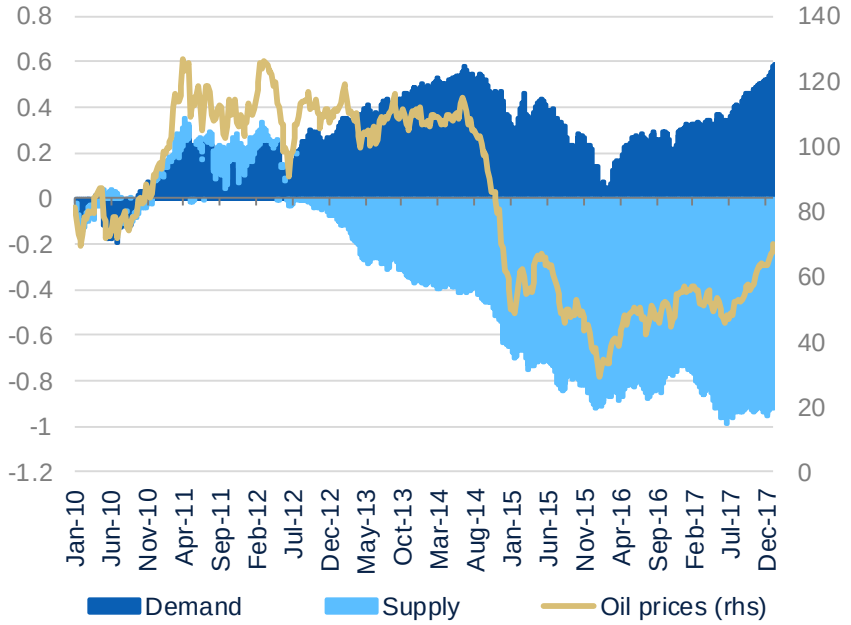
*The balance sheet of main central banks (ECB, BoJ and Fed) increased US$250 billion (exchange rate constant), US$ 100 billion less than the average of three last quarters
**Global growth expected growth by BBVA research for 2018
Source: BBVA Research, EPFR

2H17 global factors: economic growth accelerated while oil and commodity prices continued to rise above expectations.

World GDP growth Forecast based on BBVA-GAIN
(%, QoQ)



Oil prices and decomposition between demand and supply sides
(USD and accumulated weekly change since January 2010, NY Fed)



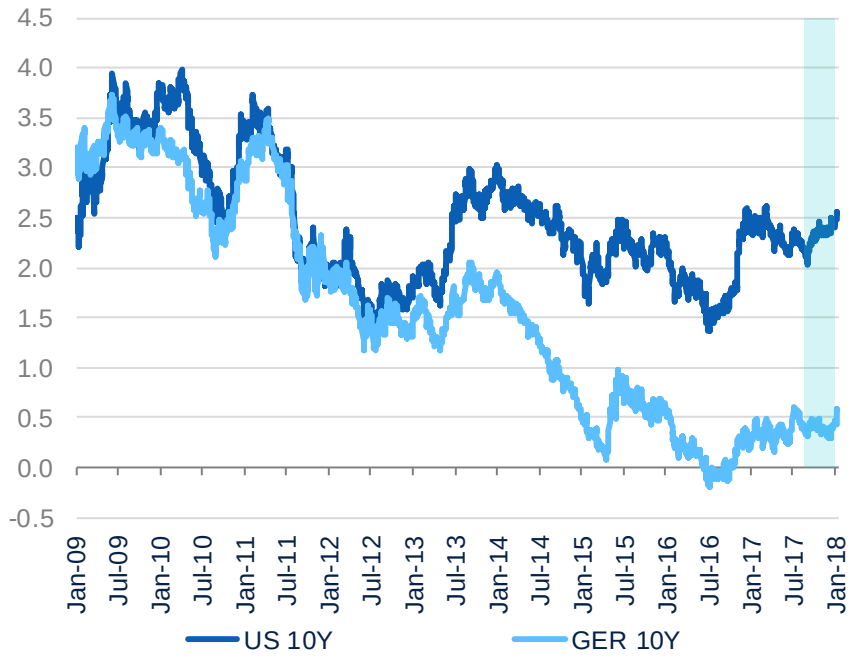
Source: BBVA Research, Bloomberg and NY Fed

We have upgraded our projections for major economic areas. Recent confidence data suggest that activity could maintain such pace in coming quarters

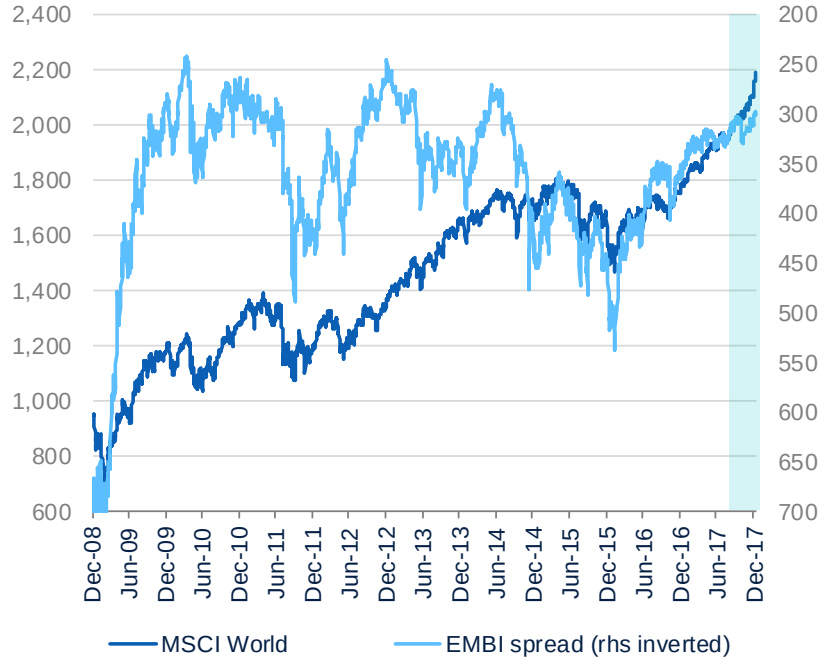
Most EM are benefiting from higher oil prices, mainly driven by rising global demand expectations while the drag effect of supply factors diminished

2H17 global factors: positive mood in financial markets lingers as financial conditions remains loose

US and Germany 10Y sovereign yields
(%)



MSCI World and EMBI Global spread
(Points, global equity and bond performance measure)



Source: BBVA Research, Bloomberg

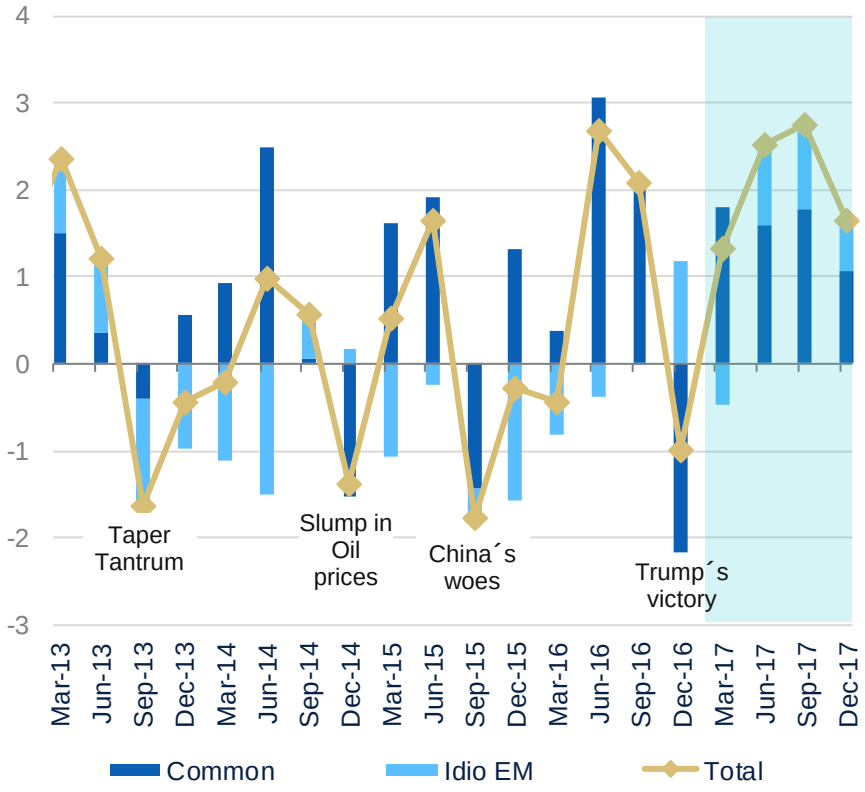
Despite a recent rebound, bond yields remain subdued – backed by abundant liquidity and central banks' cautious stance towards normalisation and contained inflationary pressure

Appetite for risky assets has increased as a stronger economic outlook is clearly offsetting the risk of higher yields. A weaker US dollar gives further support to EM

Overall, 2017 was a fruitful year for Global Investors Funds (GIF)

Estimated GIF Flows to EM: common versus idiosyncratic factors

(% AUM)



- EM inflows recovered sharply after the uncertainty triggered by the 2016 US presidential election
- Carry-trade strategies helped sustain EM inflows during most of the year
- During the 2nd half of 2017, EM inflows surprised on the upside due to stronger global growth and rising oil prices
- Appetite for EM assets started to wear off at the end of the year, but only slightly

Source: BBVA Research, EPFR

BBVA | Research

Investor sentiment

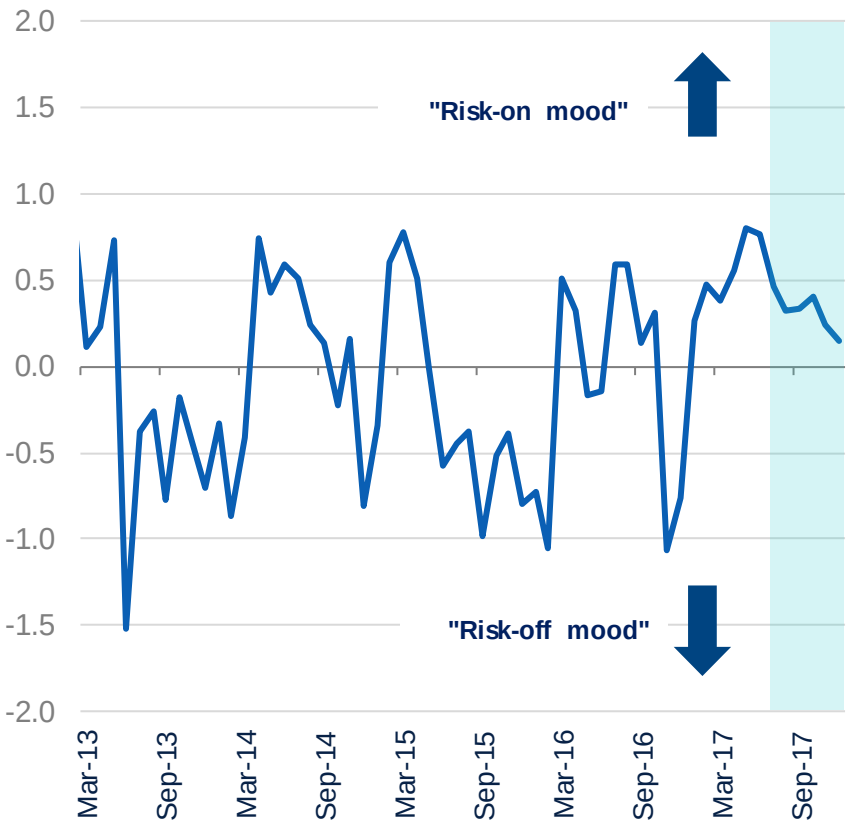
We develop a set of indicators, which combine asset prices and GIF flows data from EPFR, to identify:

- episodes of risk-on mood and
- episodes of risk-off mood, of which there are three types - pure risk aversion, redemption and safe-haven flight

Furthermore, we assess investor appetite for funds in emerging markets vs. developed markets or equity vs. bonds

The year ended with investors having substantial appetite for risk, despite ongoing "satiation" since June

Investment mood index
(Factor 1 in factor analysis, see annex)

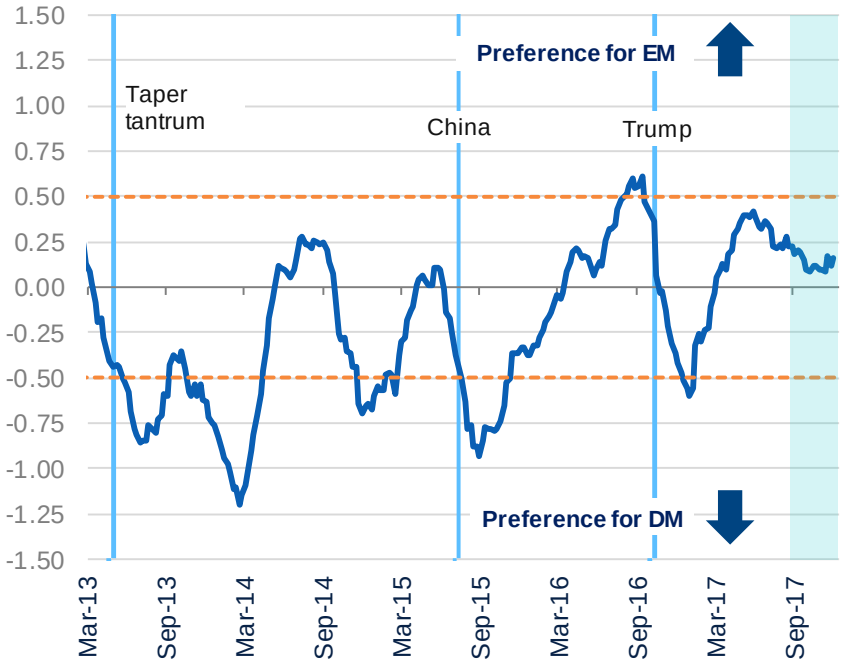


- The year ended with investors having a healthy appetite for risk, more optimistic than early in the year, although less euphoric than over the summer

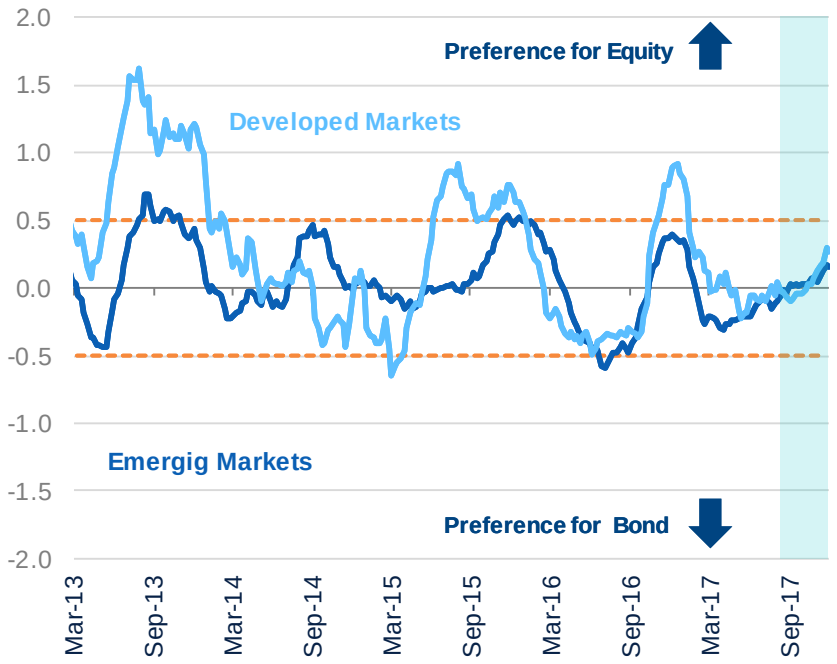
Source: BBVA Research, EPFR

The year ended with a fading preference for bonds while the rebalancing from EM towards DM eased off

Investor appetite for DM vs EM
(indicator expressed in standard deviation from historical mean)



Investor appetite for bonds vs equity
(indicator expressed in standard deviation from historical mean)

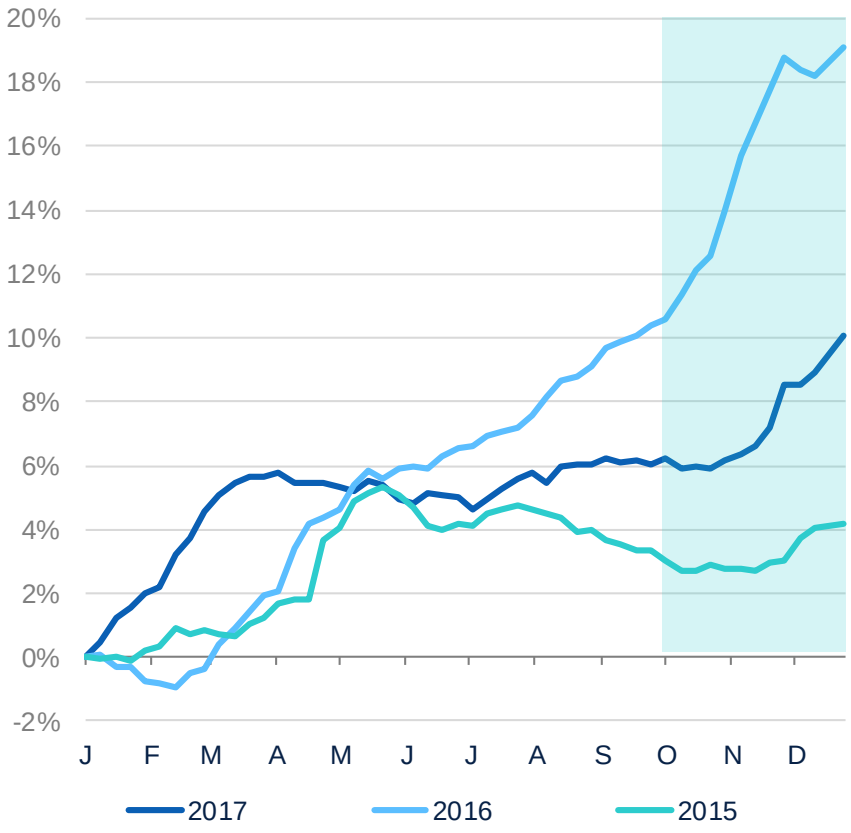


Source: BBVA Research, EPFR

Regional rebalancing has been hindered by a weaker US dollar and higher oil prices

Concerns about inflation are mounting despite stability in sovereign yields

Flows to Inflation protected bonds



- Demand for inflation-protected bonds increased during 4Q17, in parallel with market-based inflation expectations and measures in both the US and the eurozone
- The upturn in oil prices, tighter labour markets and the closing output gap in major developed economies (particularly in the US, where the tax-bill gave a short-term push to the economy) could be behind such a trend
- The last time that demand for this kind of assets rose was in 4Q16, on reflationary expectations after the US Presidential election

Source: BBVA Research, EPFR

BBVA | Research

What's next?

Our baseline macro economic outlook

Global economic outlook

- **We have revised our world growth expectations upwards by 0.3% to 3.8% for 2018**
- In the US, the improved outlook stemming from global and domestic drivers adds to the short-term boost from tax reform. 2018 growth has been revised upwards to 2.6%
- In China, we expect a more gradual slowdown, with 2018 GDP growth at 6.3%
- In the EZ, we revised growth projections upward by 0.4% to 2.2% in 2018

Major central banks' monetary policy

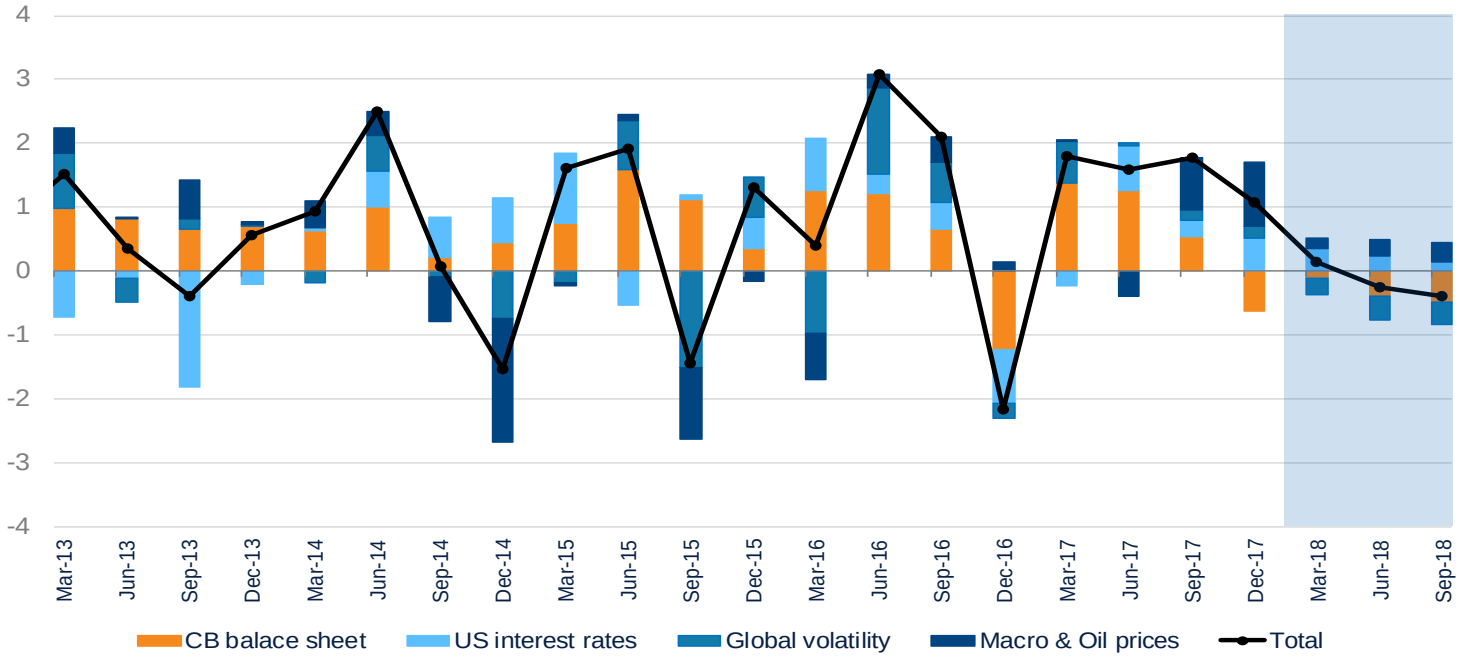
- **Major central banks are moving towards a gradual normalisation**
- The Fed is expected to raise rates three more times in 2018 (instead of two) and twice in 2019
- The ECB is reducing asset purchases since January. QE is expected to finish by year end and benchmark rates to increase by June 2019
- The BoJ is reducing its asset purchases

Global financial conditions

- Long-term interest rates, both in the US and Europe, are expected to increase gradually
- Financial volatility shall remain contained, yet it will likely rise from recent record-low levels
- Oil prices has been revised upwards in the short term, bolstered by robust demand and inventory correction. In the medium term, fundamentals will make it difficult to keep prices above US$60/barrel

Our baseline scenario for GIF to EM: a gradual reduction as global factors become less supportive

Estimated GIF to EM
(common factor, % AUM)

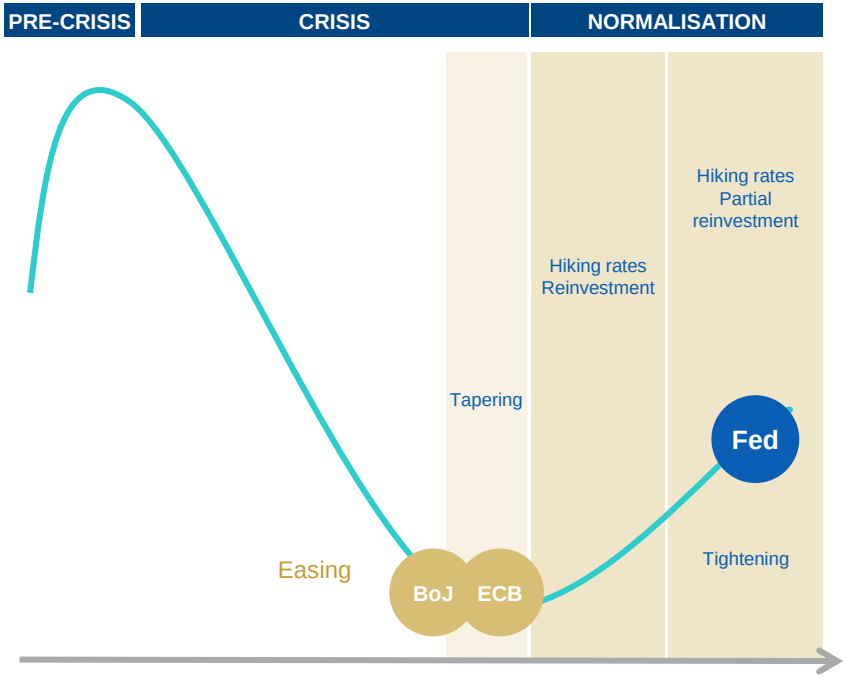


Source: BBVA Research, EPFR

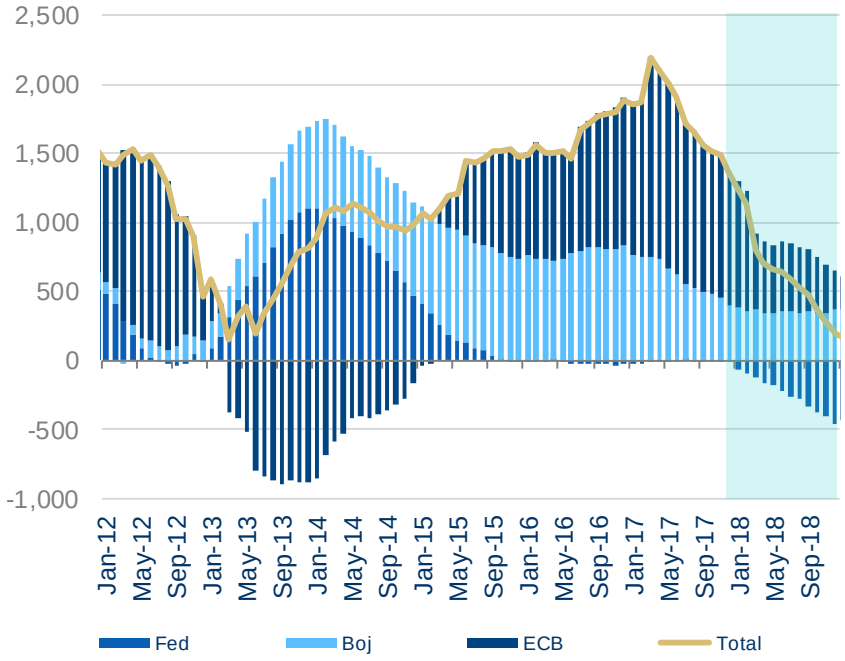
The threat to EM GIF from the gradual withdrawal of global liquidity may be completely countered by a further strengthening of the macroeconomic outlook, rises in commodity prices and persistently subdued interest rates

Normalisation of monetary policy in major developed countries and the gradual withdrawal of global liquidity

Monetary policy normalisation



Central Bank Assets, 12 month change



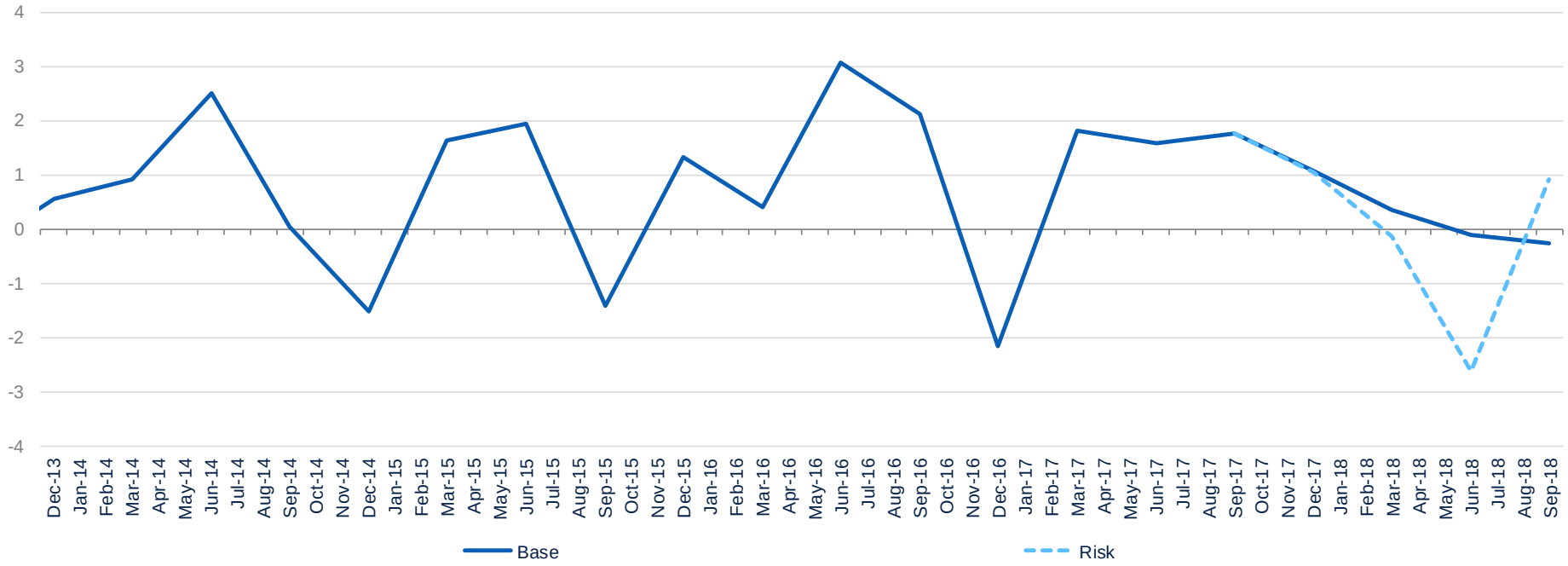
Source: BBVA Research, Bloomberg

The Fed´s balance sheet reduction, the ECB's QE downsizing and the BOJ's ¨on-hold¨ stance will temper EM inflows, which will fall only gradually as global rates stay supportive. Gradualism and an effective forward guidance have been the keys to success

EM remains highly vulnerable to financial shocks: what if a sudden reversal of US bond yields and VIX occurs?

Estimated GIF to EM: baseline and alternative simulation

(common factor, % AUM)



Source: BBVA Research, EPFR

Our analytical tools allow us to simulate alternative (risk) scenarios. For instance, a sell off in US bonds (+0.75% in US slope 2-10Y), which could be triggered by an unexpected uptick in inflation, combined with a spike in volatility (VIX from current 10pp to 15pp) would lead to a 3% reduction in EM GIF inflows

BBVA | Research

Annex

Glossary

- *GIF*: **Global Investors Funds**: Is the amount of funds gathered by the EPFR database in the "Country flows" allocation, in millions of US Dollars. This database includes the flows in Country-denominated funds and the proportional amount in global or supranational labelled funds

- *AUM*: Assets under management in the EPFR database

- *DM*: Developed markets included in our sample are Austria, Australia, Belgium, Canada, Denmark, Finland, France, Germany, Greece, Honk Kong, Ireland, Italy, Japan, Netherlands, Norway, Portugal, Singapore, Spain, Sweden, Switzerland, United Kingdom and US

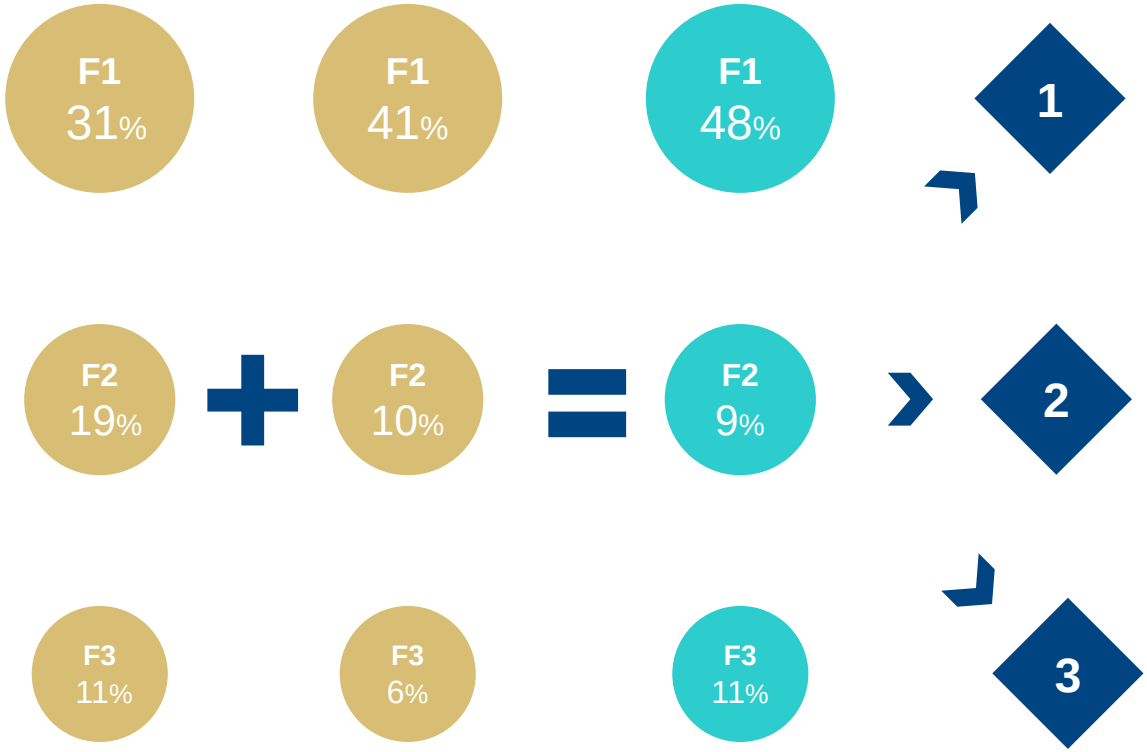
- *EM*: Emerging markets included in our sample are Argentina, Brazil, Chile, China, Colombia, Czech Republic, Hungary, India, Indonesia, Korea, Mexico, Peru, Philippines, Poland, Russia, Slovenia, South Africa, Thailand, Turkey, Venezuela

BBVA Research

Methodological annex

November 2017

Factor analysis of EPFR flows, decomposition on global and idiosyncratic factors



GIF flows could be explained by 3 identified factors and idiosyncratic differences

1

Global: Captures common movements across all countries (same direction), i.e. due to changes in market risk appetite

2

Asset reallocation (bonds and equity) Variation explained by the reallocation between assets within a geography. The effect on each country will vary according to the composition of its stock between equity and bonds. Positive factor for Equity preference over Bonds

3

Regional reallocation (EM vs, DM) Explains the variation caused by the appetite towards one area versus the other. Inverse effect between DM and EM

Macro-Financial Determinants of EPFR Flows

01 Methodology: GLS panel data

02 Sample: 42 countries, quarterly data from October 2005 to June 2017

03 Dependent Variables: Equity (EQ), Bonds (BN) and Total flows to each country.

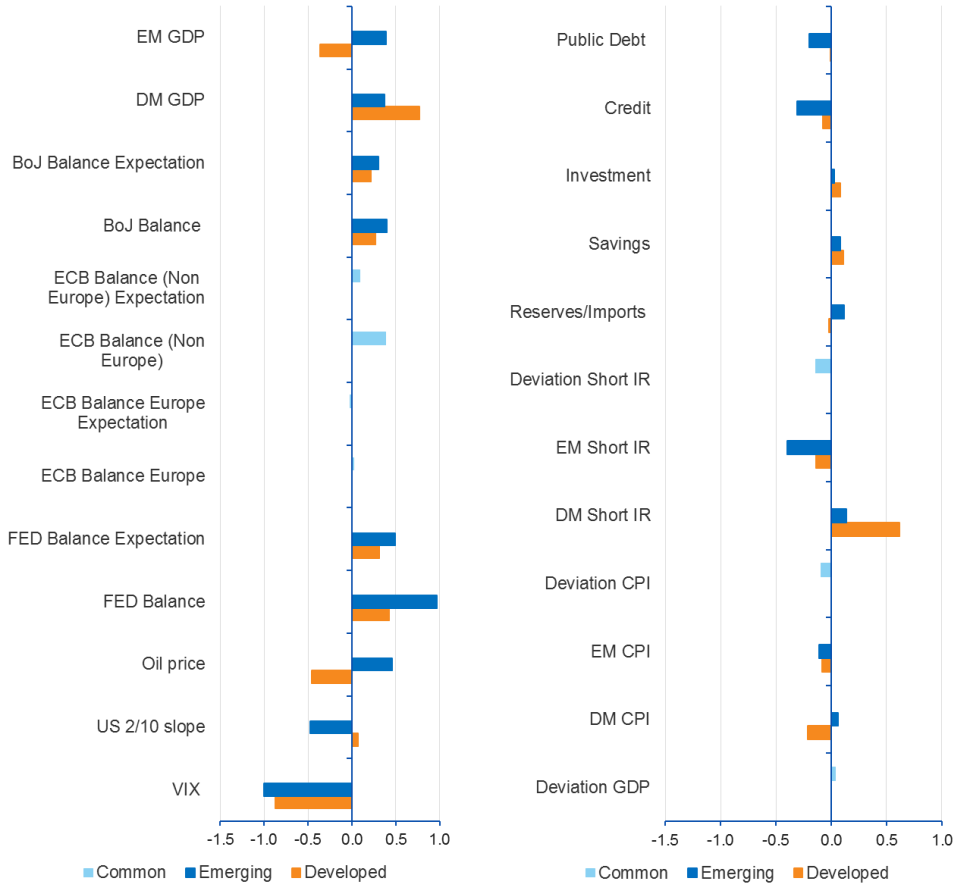
04 We have allowed each explanatory variable to have a different effect on Developed vs. Emerging Markets

05 Explanatory variables (first differences):

- **VIX**
- **USA 10Y-2Y Curve**
- **GDP Growth (EM, DM, Idios.)**
- **Inflation (EM, DM, Idios.)**
- **Short-term interest rate (EM, DM, Idios.)**
- **West Texas**
- **FED, ECB & BoJ Balance Sheet**
- **Expectation of changes in FED, ECB & BoJ Balance Sheet**

- **Public Debt-to-GDP**
- **Credit-to-GDP gap***
- **Investment-to-GDP**
- **Savings-to-GDP**
- **Reserves-to-Imports**

Macro-Financial Determinants of EPFR Flows. Panel Regression Results (Coefficients)



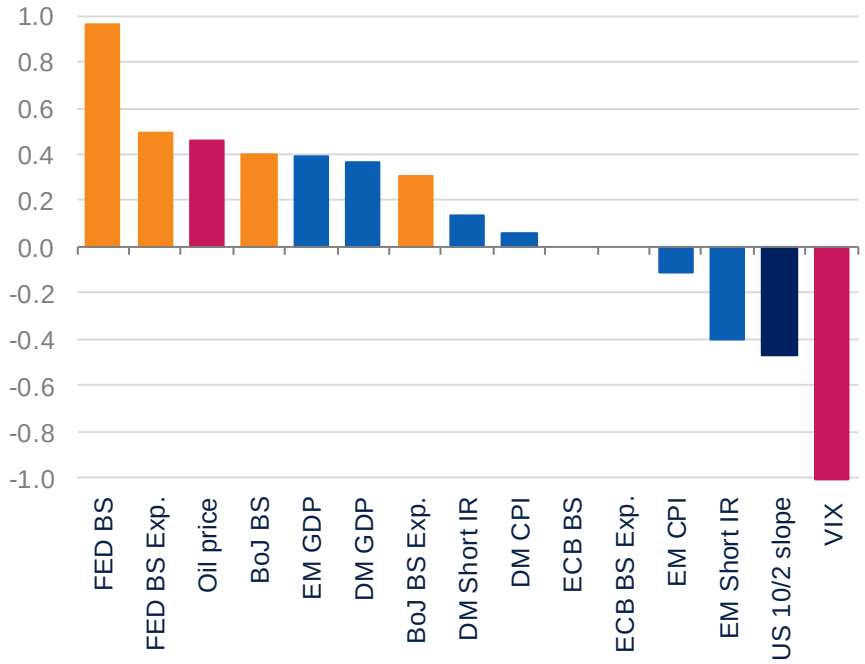
$R^2 = 0.54$

- Global variables are by far the most important determinants of total, equity & bonds flows.
- Idiosyncratic variables play a limited role
- Markets seem to strongly differentiate between Emerging and Developed countries, but differentiation between countries seems quite limited

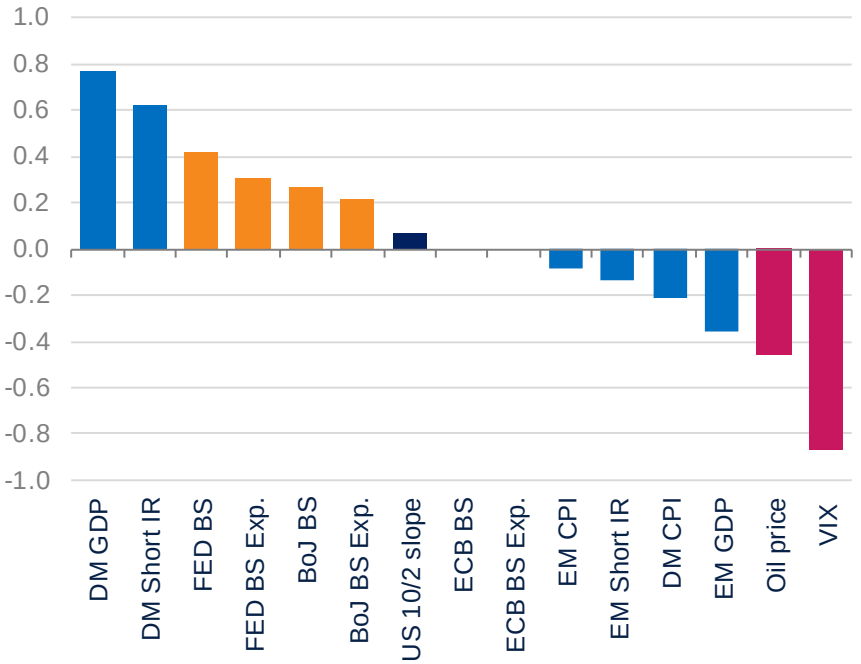
(*) Coefficients of standardized variables.

Global macro drivers have been essential determinants of GIF flows, while idiosyncratic drivers have played a more limited role

Sensitivity of EM GIF flows
(Coefficient of standardised variables in a panel regression)



Sensitivity of DM GIF flows
(Coefficient of standardised variables in a panel regression)



Source: BBVA Research, EPFR

Investors seem to strongly differentiate between emerging and developed countries, although differentiation across countries seems quite limited

Safe-haven indicator

The starting point to develop the indicator is to identify periods of risk aversion in financial markets. We determine these periods based on relevant movements on selected financial variables. That is, we define a period t of risk aversion as follows:

$$t\ is\ a\ risk\ aversion\ period\ \Leftrightarrow (\Delta T10 < 0\ or\ \Delta GER10 < 0\ \&\ \Delta VIX > 0\ \&\ \Delta EquityEM < 0)$$

Where:

- ∆T10 refers to the weekly change of the 10Y Treasury YTM
- ∆GER10 refers to the weekly change of the 10Y German government bond YTM
- ∆VIX refers to the weekly change of the VIX index
- ∆EquityEM refers to the weekly change of the MSCI Emerging Markets Index

In short, a risk aversion period is such that we witness lower long-term rates in developed market's government bonds, higher volatility in developed markets' equity and losses in emerging markets (EM) equity.

Once we have defined the set of risk aversion episodes, we categorize Safe Haven periods as a subset. To do so we follow two steps:

- First, we use the EPFR data to determine the conditional distribution of bond flows from institutional investors to Safe Haven countries (USA, Germany and Japan) and the conditional distribution of equity flows to Emerging Market countries (EM) from retail investors, both based on the four-week moving average change of assets under management (AUM). We are interested in the distributions in periods of risk aversion given their different behavior in comparison when considering the whole sample. In addition, we separate the distributions by type of investor given that we found a significant difference in their behavior under conditions of uncertainty (see figures 1, 2 and 3,4). That is, we found that institutional investors tend to fly to government bonds, while retail investors tend to reduce significantly their exposure to EM equity. These patterns could be associated with the different investment objectives and investment horizons of these types of investors

- Second, based on the analysis of the distributions by type of investor in risk aversion episodes we define the safe haven episodes as those periods t' such that

$$t'\ is\ a\ safe\ haven\ period\ \Leftrightarrow (Bond\ flows\ to\ haven\ countries\ from\ Institutional\ Investors > p50)\ \&\ (Equity\ flows\ to\ EM\ from\ Retail\ Investors < p50)\ |\ t'\varepsilon\ risk\ aversion\ episode)$$

That is, given that we are in a risk aversion episode, this can be considered in the subset of Safe Haven episodes if and only if the flows from Institutional Investors to safe haven bonds during the period increases in more than the median of the distribution; and if bonds from retail investors to emerging market equity decrease during the period in more than the median of the distribution. All measured by the four-week moving average change of assets under management

A second subset of risk aversion episodes is given by the redemption category. This tries to capture all risk aversion episodes in which investors sell most financial assets looking not just for save haven but for liquidity. In short, we define redemption episodes as follows:

$$t''is\ a\ redemption \Leftrightarrow Bond\ flows < 0\ \&\ Equity\ flows < 0\ \&\ Money\ market\ flows > 0\ |t''\ \varepsilon\ risk\ aversion\ episode$$

That is, given that we are in a risk aversion episode, this can be considered in the subset of redemption episodes if and only if two conditions hold:
1) The flows to bonds and equity during the period decrease;
2) The flows to money markets increase;

All measured by the monthly average of assets under management

Regional re-allocation

This exercise pursuit a simple indicator to measure the investor's preference for a certain region along the time. It is based on EPFR data* The indicator has been built with the EPFR data (since 2005) in USD but the portfolio flows have been relativized by assets under management (of each period) to make their comparable.

The indicator allows capturing the short term dynamics and to quantify and compare the effects in portfolio flows of the realization of some risk events in a very simple way. It let us identify easily the regions that suffered the most and allows measuring the relative impact.

This is a relative indicator as it compares the flows to different regions to create relative measure.

The previous step is to create a indicator for EM and to DM. Those indices are obtained by smoothing (moving average 3M) the normalized flows to each region (weighted by asset under management of each country or area) in order to create a more stable indicator for each region given we aim to capture the trend more that the weekly spikes. As the flows have been standardized, those indices should be understood as standard deviation from their historical mean (since 2005). These partial indicators allow to breakdown areas or countries contribution to the indicator.

The difference between developed markets and emerging market indices shows the relative appetite of each region, and a deviation of 0.5 from the mean means a marked preference for one region over the other.

- Weekly change in total portfolio flows by Country (% of assets under management)

$$x_i = \frac{Weekly\ total\ flows\ (USD)}{Total\ assets\ under\ management\ (USD)}$$

- Standardization

$$Z_i = \frac{x_i - \bar{x}}{\sigma}$$

- Moving average of 3 months

$$\frac{1}{n}\sum_{i=0}^{n} Z_i$$

n: 12 weeks

- Weighted the moving average by its relative weight in EPFR database

$$\bar{x}_{DM} = \frac{\sum_{i=1}^{n}(x_{DMi} * w_{DMi})}{\sum_{i=1}^{n} w_{DMi}} \qquad \bar{x}_{EM} = \frac{\sum_{i=1}^{n}(x_{EMi} * w_{EMi})}{\sum_{i=1}^{n} w_{EMi}}$$

W: is the weight of each country or area in the assets under management in each area (DM or EM)
X: is the 3months moving average of the standardized flow to a country or region
i: is the countries or area in the regional (DM or EM) index

- Relative preference:

$$Y = \bar{x}_{EM} - \bar{x}_{DM}$$

Weight of each country in the region

Region	Country	Weight	
DM	United States	73%	100%
	Eurozone	13%	
	Japan	6%	
	United Kingdom	5%	
	Swizerland	3%	
EM	Latin America	31%	100%
	Asia (ex China & Japan)	51%	
	Emerging Europe	18%	

Type of asset re-allocation

This exercise pursuit a simple indicator to measure the investor's preference for a certain type of assets (equity or bonds) along the time. It is based on EPFR data* The indicator has been built with the EPFR data (since 2005) in USD but the portfolio flows have been relativized by assets under management (of each period) to make their comparable.

The indicator allows capturing the short term dynamics and to quantify and compare the effects in portfolio flows of the realization of some risk events in a very simple way. It let us identify easily the type of assets that suffered the most and allows measuring the relative impact.

This is a relative indicator as it compares the flows to different type of assets a create relative measure.

The previous step is to create a indicator for Bonds or Equity. Those indices are obtained by **smoothing** (moving average 3M) the normalized flows to each type of asset (weighted by asset under management of each country or area) in order to create a more stable indicator for each region given we aim to capture the trend more that the weekly spikes. As the flows have been standardized, those indices should be understood as standard deviation from their historical mean (since 2005).

The difference between bonds and equity shows the relative appetite of each type of asset, and a deviation of 0.5 from the mean means a marked preference for one type of assets over the other.

- Weekly change in Bonds and Equity portfolio flows by Country (% of assets under management)

$$x_i = \frac{Weekly\ total\ flows\ (USD)}{Total\ assets\ under\ management\ (USD)}$$

- Standardization

$$Z_i = \frac{x_i - \bar{x}}{\sigma}$$

- Moving average of 3 months

$$\frac{1}{n}\sum_{i=0}^{n} Z_i$$

n: 12 weeks

- Weighted the moving average by its relative weight in EPFR database (example for DM)

$$\bar{x}_{DM\ bond} = \frac{\sum_{i=1}^{n}(x_{DMi} * w_{DMi})}{\sum_{i=1}^{n} w_{DMi}} \qquad \bar{x}_{DM\ equity} = \frac{\sum_{i=1}^{n}(x_{EMi} * w_{EMi})}{\sum_{i=1}^{n} w_{EMi}}$$

W: is the weight of each country or area in the assets under management in each area (DM or EM)
X: is the 3months moving average of the standardized flow to a country or region
i: is the countries or area in the regional (DM or EM) index

- Relative preference:

$$Y(DM) = \bar{x}_{DMequity} - \bar{x}_{DM\ bond}$$

Weight of each country in the region

Region	Country	Weight	
DM	United States	73%	100%
	Eurozone	13%	
	Japan	6%	
	United Kingdom	5%	
	Swizerland	3%	
EM	Latin America	31%	100%
	Asia (ex China & Japan)	51%	
	Emerging Europe	18%	

DISCLAIMER

This document has been prepared by BBVA Research Department. It is provided for information purposes only and expresses data, opinions or estimations regarding the date of issue of the report, prepared by or obtained from BBVA, or based on sources we consider to be reliable, and which have not been independently verified by BBVA. Therefore. BBVA offers no warranty, either express or implicit,. regarding its accuracy, integrity or correctness.

Estimations this document may contain have been undertaken according to generally accepted methodologies and should be considered as forecasts or projections. Results obtained in the past, either positive or negative, are no guarantee of future performance.

This document and its contents are subject to changes without prior notice depending on variables such as the economic context or market fluctuations. BBVA is not responsible for updating these contents or for giving notice of such changes.

BBVA accepts no liability for any loss, direct or indirect, that may result from the use of this document or its contents.

This document and its contents do not constitute an offer, invitation or solicitation to purchase, divest or enter into any interest in financial assets or instruments. Neither this document nor its contents shall form the basis of any contract, commitment or decision of any kind.

In regard to investment in financial assets related to economic variables this document may cover, readers should be aware that under no circumstances should they base their investment decisions on the information contained in this document. Those persons or entities offering investment products to these potential investors are legally required to provide the information needed for them to take an appropriate investment decision.

The content of this document is protected by intellectual property laws. Its reproduction, transformation, distribution, public communication, making available, extraction reuse, forwarding or use of any nature by any means or process is forbidden, except in cases where it is legally permitted or expressly authorised by BBVA.

BBVA Research

Global Funds Outlook
4Q17

Still sunny in Emerging Markets. Clouds in the horizon?

January 2018