GENERALI ASSET MANAGEMENT

Core Matters

Tracking Global Liquidity and Flows: Insights for risky assets

Guillaume Tresca, Paolo Zanghieri

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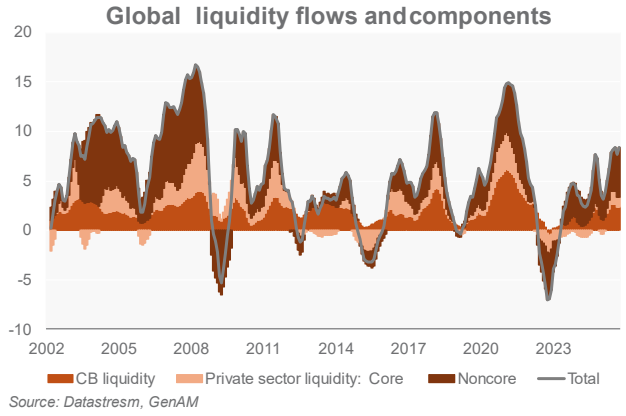
Our Core Matters series provides thematic research on macro, investment, and insurance topics

- We develop flow-based measures that help in forecasting risk assets returns and provide an early warning of financial turmoil. This approach complements the traditional one based on macroeconomic variables.
- We focus on funding liquidity, i.e. the ability to borrow easily on capital markets. Using a detailed breakdown of financial intermediaries' balance sheets in the US, euro area, China and Japan, we build an index of global liquidity based on financial flows which considers explicitly the role of non-bank financial intermediaries ("shadow banking").
- We find that global liquidity measured in this way has some leading properties on risk asset valuation and explain a non-negligible part of the recent credit spreads compression.



Source: Datastresm, GenAM

- We also develop a set of high frequency trackers of portfolio inflows into equity and bonds markets, using detailed balance of payment data. We focus on EMs and derive a monthly tracker of EM portfolio inflows that inform on the possible buildup of risks. Moreover, we employ country data to build a positioning indicator measuring the relative strength of equity inflows.
- We found that flows tend to follow returns, especially in equity. Turning points in global liquidity tend to anticipate those in equity returns.

CONTENT

1. Introduction

"Liquidity" as an additional tool for financial forecasting

Top-down analysis of financial markets usually proceeds by looking and forecasting standard macroeconomic aggregates, inflation and policy rates. Little role is played by financial intermediaries' balance sheet analysis outside crisis period. Normally only the liquidity supplied by central and commercial banks is considered. At the same time, while positioning is an important concept, even more so in volatile markets like EMs, its measurement often relies on partial and not particularly timely data. In this work we present some flow-based tools that will enrich investment decisions.

First, we provide a comprehensive measure on global liquidity, expanding the analysis beyond traditional central bank measures to include private sector and, crucially, shadow banking liabilities. Shadow banks—financial intermediaries operating outside the regulated banking sector—have become central to liquidity creation, driving both the expansion and contraction of global financial cycles. We show how liquidity intended in this way can help price risk assets and have some predictive power on valuations.

Second, we focus on EMs and develop high frequency measures of equity and bond portfolio flows This should help investors monitor liquidity conditions and anticipate shifts in EM inflows, which are vital for assessing market risk and opportunity.

Third, we investigate the link between liquidity and EM portfolio flows but also focus on the relationships between excess liquidity and asset return to use portfolio flow and liquidity as a predicator for future returns.

2. Global liquidity measures

We derive our measures of liquidity by combining the traditional definition of liquidity created by central and commercial banks (i.e. standard money aggregates like M2) and the non-banking financial sector, measured by looking at the ability of financial intermediaries to expand the size of their balance sheet.

2.1 Defining liquidity

Our focus is on funding liquidity—the ability to raise cash through borrowing, whether secured or unsecured. When funding liquidity is high, institutions can borrow with minimal impact on costs, supporting smoother financial operations.

Private sector is cyclical and can amplify macroeconomic fluctuations

Liquidity in the private sector is inherently cyclical and endogenous. It both shapes and is shaped by financial stability risks. As risk appetite grows, funding liquidity tends to expand, reinforcing optimism. Conversely, when risk aversion sets in, liquidity tightens, often triggering asset sales and price declines. These dynamics can fuel global liquidity cycles, amplifying both surges and shortages.

Global liquidity may include cross-border flows, typically intermediated by global banks and non-bank financial institutions. Our approach focuses on the liability side of financial intermediaries' balance sheets, offering a more comprehensive view than traditional money stock measures like M2.

This approach reflects lessons from the Global Financial Crisis (GFC), which exposed the limitations of conventional aggregates. M2, for instance, lacks stable empirical links to macroeconomic variables and fails to capture the full spectrum of instruments provided by the financial sectors, especially in globally integrated markets. It also overlooks the distinction between stable deposit funding and more volatile wholesale funding—critical during periods of stress.

By focusing on the financial sector's liabilities, we seek to better capture how institutions expand or contract their balance sheets, adjust leverage, and respond to shifts in collateral valuations. This approach also encompasses "shadow banking" and other forms of wholesale intermediation that traditional measures miss. Our measure considers a much wider range of variables and its size is larger than conventional measures like the index developed by the BIS, which focus more narrowly on bank credit and bond financing.

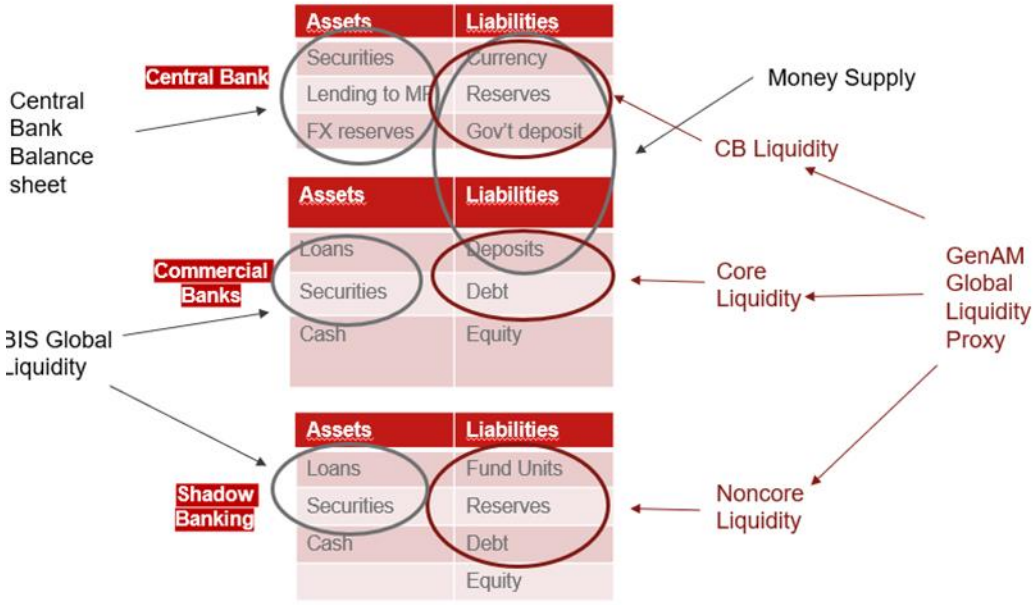
Due to data constraints, our analysis is limited to the United States, Euro Area, Japan and China.

Following the approach introduced by the IMF to monitor liquidity-related risk (Shin et al 2012) we distinguish into:

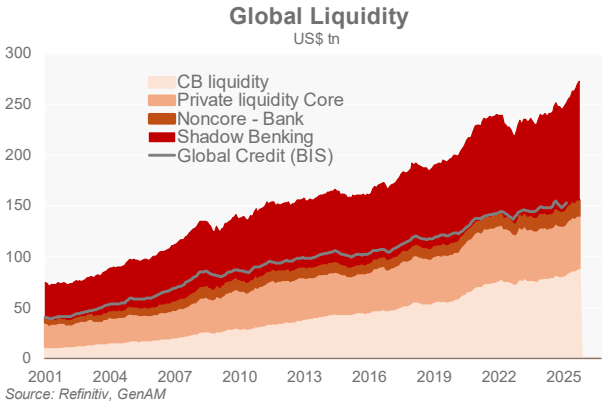
- Central Bank liabilities: the standard M0 money stock
- Core private sector liabilities: Deposits in commercial banks and depositary institutions. It is supplied by households and nonfinancial corporation, "consumed" by banks for lending and acquisition of financial assets

- Noncore Liabilities: other liabilities (excluding shares) of banks and the shadow banking sector, including life and nonlife insurers, pension funds, mutual funds, broker dealers etc.

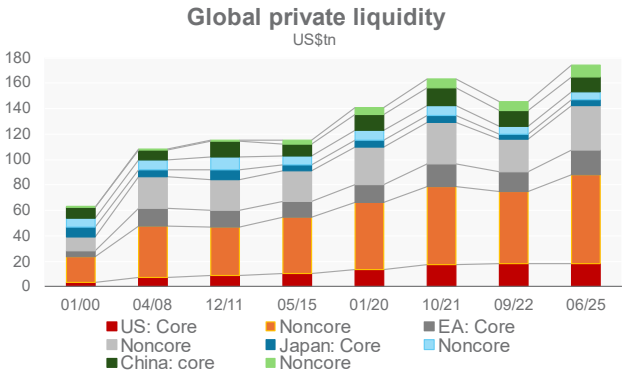
Different definitions of liquidity



The distinction matters at several levels. First, it reflects the secular shift from deposit-based to collateral-based funding and shadow banking. Secondly from a risk management point of view, it should help reveal funding risks: Noncore liabilities are more volatile and sensitive to financial cycles. It can aid in spotting procyclicality and crisis amplification: Noncore liquidity can fuel risk asset booms and deepen busts; risk exposure often peaks when perceived risk is low.



Source: Refinitiv, GenAM



Source: FRB, ECB, BoJ, PBoC, BIS, Datastream, GenAM

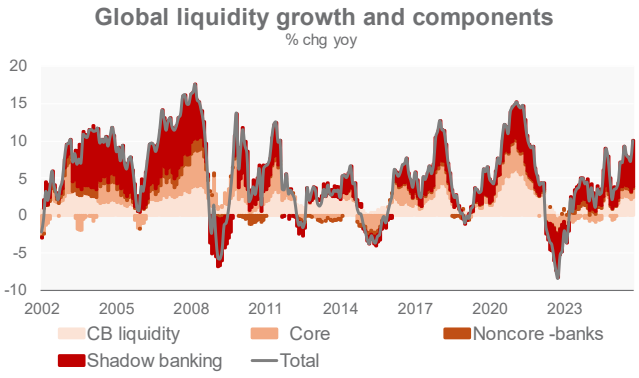
Secondly for investors, the two-way relationship between asset prices and private sector liquidity may render problematic the utilization of this measure as a pure forecasting tool. But we show that our funding liquidity measures have some leading properties on

risk asset prices and can be used effectively for explaining asset prices in fair value models. Our liquidity measures are meant as a gauge of market conditions/potential risk to be used in tandem with standard macroeconomic and financial variables for predicting asset returns.

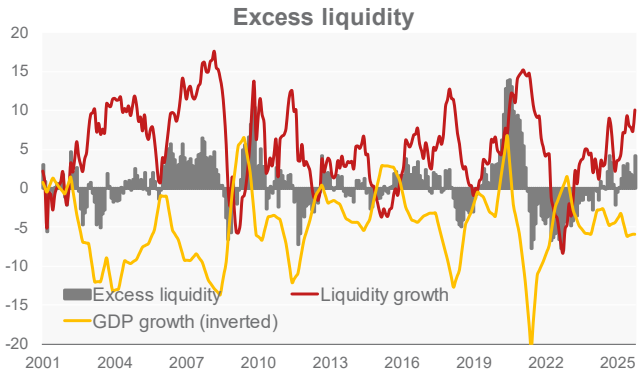
2.2 Liquidity indices

Different sources of liquidity have different impacts on risk asset prices

The large number of balance sheet items allows for the construction of a very wide range of indicators and create measures of liquidity at the local and global level. The first measure is simply the annual growth rate of the stock of global liquidity (obtained aggregating the series for US, euro area, Japan and China, all denominated in USD), which we plot below together with the split of the different components. The chart below (left) shows the high procyclicality of shadow bank liquidity, especially in the run up to the GFC and following the large drop in funding costs brought about the large central bank easing during COVID. Currently shadow banking drives the acceleration in liquidity, which may raise concerns about stability given, for example, the stretched valuation of some risk assets. Another simple measure is the excess liquidity, obtained by subtracting nominal GDP growth from the growth rate of the liquidity stock (chart on the right).

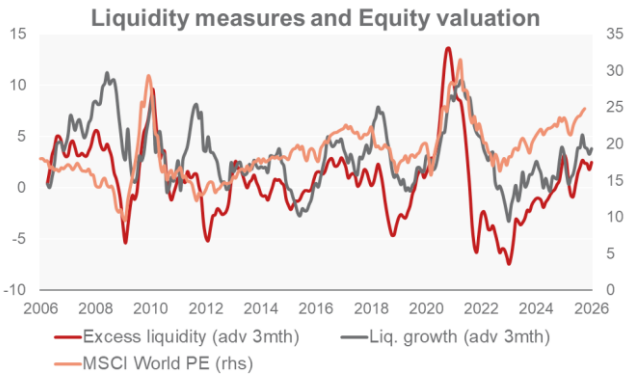


Source: Refinitiv, GenAM

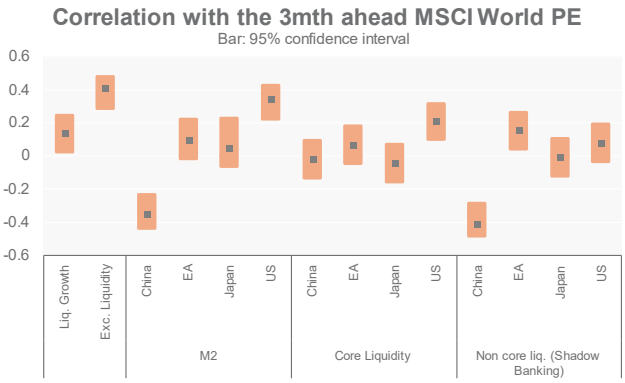


Source: Refinitiv, GenAM

These simple aggregate measures, however, do not exploit the fact that intermediaries vary in terms of type of customers, risk appetite, investment horizon or regulation. Therefore, changes in their borrowing capability are likely to affect asset prices in different ways. For this reason, simply adding up balance sheet items may blur the impact of liquidity created by specific intermediaries on, e.g. risk asset prices. The granularity of the dataset allows to identify which central bank or private sector liabilities are more correlated with future changes in asset prices. The chart below on the right shows the correlation between our two aggregate measures of liquidity, the private sector subcomponents, standard liquidity (M2) and three months ahead global equity valuation. The correlation with the aggregate measures is quite strong and statistically significant. The subcomponents' view shows the crucial role played by US central bank and commercial bank liquidity and highlights the importance of Euro area shadow banking. Interestingly, Chinese liquidity growth appears rather countercyclical.



Source: Refinitiv, GenAM



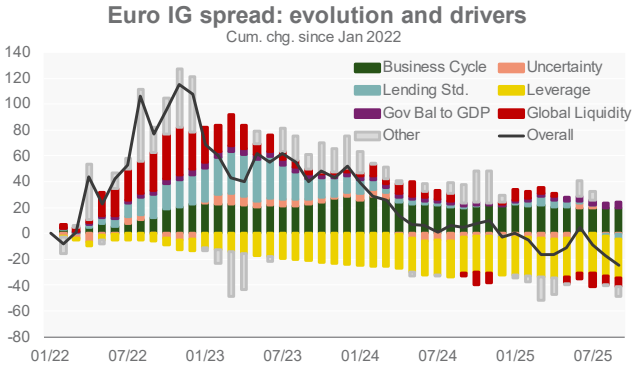
Source: Refinitiv, GenAM

A more formal analysis, based on Granger causality on a three-month horizon confirm the results: results are shown in Appendix I.

Our liquidity measures can also be used as a factor or explanatory variables in fair value model. Below we show the results of some regression to estimate the fair value of the Euro area Investment grade Option Adjusted spread. We use as explanatory variable a combination of forward-looking indicators of economic activity, a measure of uncertainty based on surveys, the measure of bank lending standards to non-financial corporations and euro area private and government debt to GDP. We add to these "fundamental" drivers a measure of liquidity: we present the results of using the BIS global liquidity index (the yoy growth in bank lending and bond issuance) and our two measures.

Our measures, based on a wider range of intermediaries than those considered by BIS performs better both in terms of fit of the model and statistical significance. The explanatory variables are transformed into z-scores so they have the same scale and therefore the betas can be compared within and across models: our liquidity proxies have a weight like that of a key "traditional" driver of credit spreads such as private leverage. The estimated coefficients allow to compare the weight of each driver in the evolution of spreads. The chart reports the results of the decomposition based on the model with global liquidity growth. The sharp shrinking of intermediaries' balance sheet at the beginning of 2022 played an important role in driving up spreads and sluggish liquidity growth until mid-2024 helped keep spreads elevated. The recent acceleration in global liquidity has played a non-negligible role in spread compression.

Models for Euro area IG OAS				
All variables are expressed as z-scores				
Constant	120.93**	120.92**	120.81**	120.78**
Macro Factor	-9.15**	-12.15**	-9.74**	-18.63**
Uncertainty Factor	10.92**	8.12**	8.44**	10.9**
Lending standards	14.27**	12.41**	9.92**	8.97**
Private debt to GDP	8.87**	11.75**	11.41**	13.86**
Gov't debt to GDP	15.40**	10.21**	9.23**	15.89**
BIS Liq. Index		-9.54*		
Global Liq. Growth			-13.99**	
Excess Liquidity				-13.01**
R- Squared	0.49	0.550	0.640	0.580
F-Stat	23.87	24.40	36.73	28.13



Source: Refiniitv, GenAM

3. Portfolio flows and global liquidity

In the following section, we focus on how liquidity is in part used and we can derive indicators by examining Balance of Payments portfolio inflows more closely. We present a new high-frequency portfolio flows proxy, a forecast of global portfolio flows to EM countries but also country indicators to assess the strength of portfolio flows at the EM country level.

3.1 In-house monthly portfolio flow indicators

Global liquidity matters for portfolio flows. Global liquidity acts as a macro driver of cross-border capital, and therefore of portfolio flows. Indeed, high global liquidity encourages risk-taking and the reallocation of capital across markets. It fosters leverage and carries trades, thereby amplifying portfolio flows into foreign risk assets (see, for example Portfolio Flows, Global Risk Aversion and Asset Prices in Emerging Markets and Global Liquidity and Asset Prices: Measurement, Implications, and Spillovers). Conversely, adverse liquidity shocks often trigger deleveraging and sudden stops in flows. Expansions in global liquidity (such as QE) typically precede surges in EM inflows. Short-run dynamics of EM portfolio flows are mostly driven by global 'push' factors, including liquidity conditions and risk sentiment. Therefore, tracking global liquidity is relevant for monitoring portfolio flows.

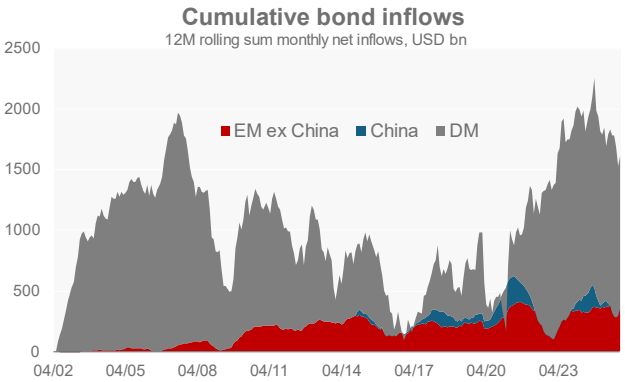
There is a need for high-frequency proxies for portfolio flows. Portfolio inflows and outflows are key indicators that inform us about both the appetite and positioning of foreign investors for an asset class. It helps the investment decision. They are also a relevant indicator of future market risk, as inflows that are too large and rapid into a country can lead to the risk of destabilising a market through sudden outflows. This is particularly the case for EMs, where financing the current account deficit relies heavily on foreign portfolio inflows.

Current flow data are not exhaustive

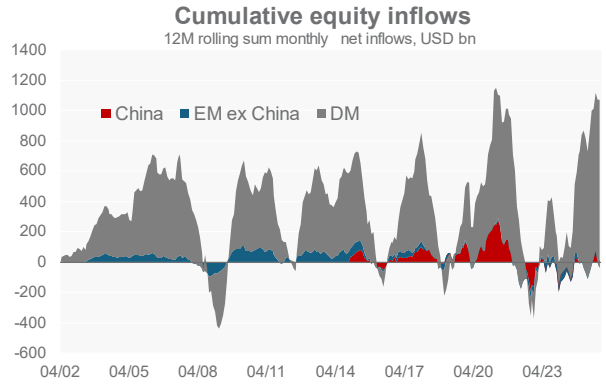
Unfortunately, balance of payments data is usually released quarterly with a significant lag in both DM and EM countries. Portfolio flow proxies are therefore needed as an early warning signal, particularly in EM countries. For example, the pandemic triggered one of the sharpest reversals in EM portfolio flows on record. These proxies help

measure risk and the severity of a shock. In DM countries, they also help understand dynamics such as Japanese demand for European bonds or US Treasury bonds.

Although a wide range of high-frequency proxies exists, they have their own limitations, particularly regarding their limited coverage. The most well-known proxy is EPFR data, which only tracks fund flows into a specific asset class and region. It provides insights into the behaviour of the ultimate investors of investment funds. However, institutional investors are underrepresented. EPFR data only captures a small portion of flows, as it does not include bank flows or hedge fund flows, among others. Furthermore, EPFR inflows do not necessarily lead to a recorded foreign inflow into a country; for example, a EPFR bond inflow could represent a bond purchased by one local investor from another. For instance, China-domiciled funds counted in EPFR flows mostly receive flows from local Chinese investors. Given their large size, it distorts the view provided by the EPFR data.



Source: Bloomberg, GenAM calculations



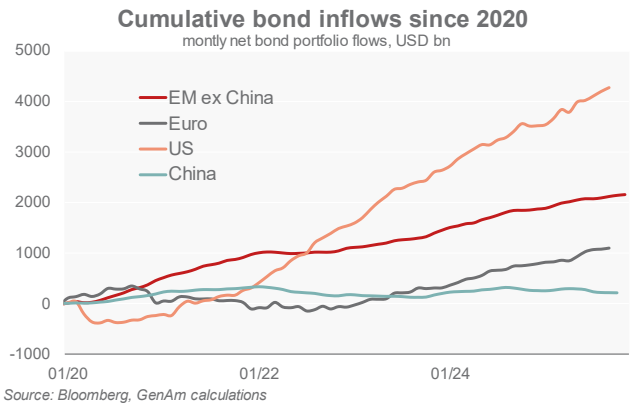
Source: Bloomberg, GenAM calculations

> We created an indicator that give portfolio flow picture with a short-term lag for DM and EM countries

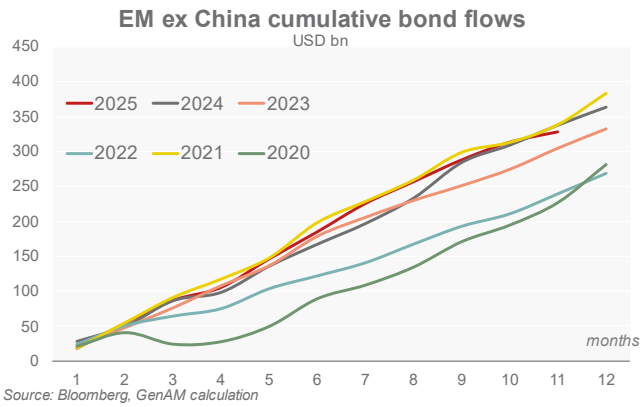
In-house high frequency portfolio indicators. We develop in-house high-frequency proxies for both fixed income and equity markets, for DM and EM portfolio inflows. These proxies aim to provide an accurate reflection of foreign appetite for EM and DM assets. For both equities and bonds, we use monthly balance of payments data when available, as well as data from local exchanges and central banks on a daily, weekly or monthly basis. These indicators cover 40 countries for bond flows (16 EM and 24 DM) and 43 countries for equity flows (19 EM and 24 DM) that release their data with a maximum lag of one month.

We can create specific indicators for EMs, DMs, China, the US and Eurozone countries. We found that, for bond markets:

- EM have experienced gradual inflows over the past few years, with the significant exception of China. This trend has further improved since mid-2024. This positive view contrasts with the lack of inflows observed until 2025 into EM dedicated funds according to the EPFR data. Indeed, our dataset can capture large US crossover inflows into large BBB countries.
- In the US, inflows have accelerated since 2021 as foreign investors have been chasing higher yields. (see chart below)
- In China, inflows are lacklustre given the declining yields and the limited openness of the capital account balance.



Source: Bloomberg, GenAm calculations



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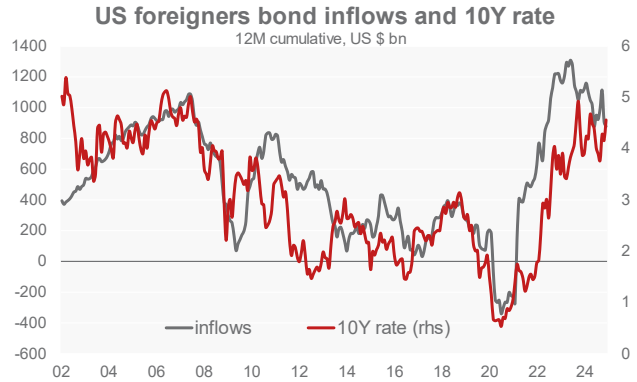
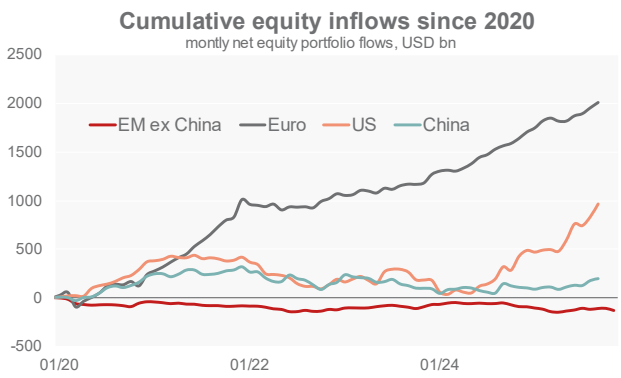


Source: Bloomberg, GenAM

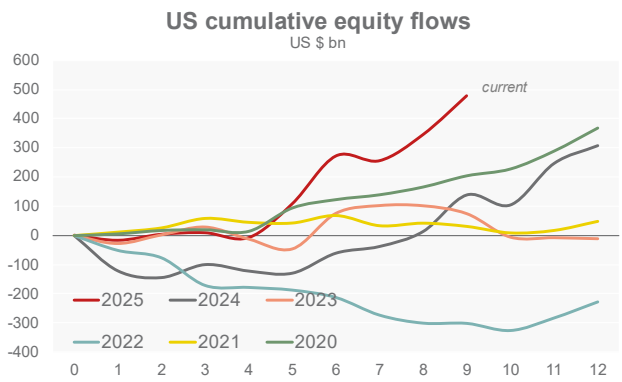
At the equity level:

- In EM, flows have been recovering in the second half of 2025. That said, they remain below the 10Y median level.
- In DM, Europe equity flows have been steadily growing since 2023. In the US, the impact of the April Liberation Day is clearly visible, but an acceleration is notable since then.

On a relative basis, equity flows to the US appear small. It is one of the limitations of the BoP approach. Indeed, these flows represent the registered purchase of US equity by a foreigner from a US resident. If a foreigner buys US equity from another foreigner, this will not be counted. Likewise, inflows into a US ETF domiciled outside the US will not be counted. Consequently, even if the BoP approach for EM countries is highly relevant (give the strong role played by foreign investors), it is less so for DM countries as it misses a part of the flows.



Source: Bloomberg, GenAM caluculations



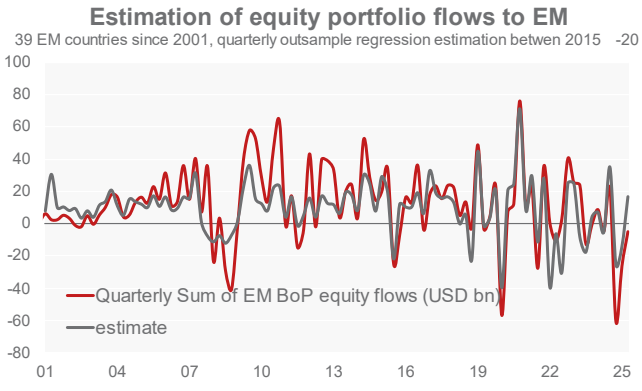
Source: Bloomberg, GenAM

3.2 A global EM portfolio proxy

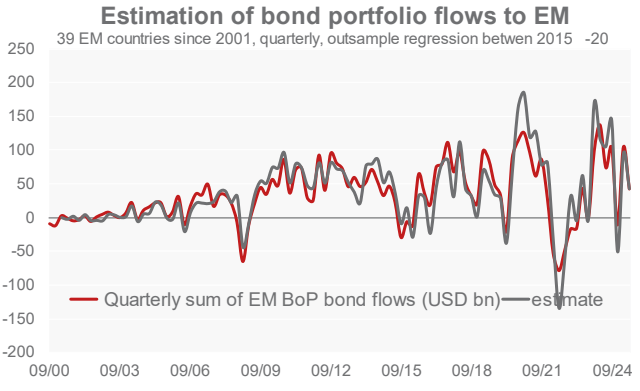
Our inhouse EM portfolio flow indicator explains well global EM flow

Based on our in-house monthly indicator of EM portfolio flows that is available with a short-term lag, we have constructed a global EM portfolio flow tracker that covers portfolio flows for all EM countries. It is more accurate, but it is released with a longer time lag as it is based. n the balance of payment of EM countries.

Balance of payment data is the most effective measure of portfolio flows into a country as by definition it tracks all the portfolio inflows and outflows. However, they are usually released only on a quarterly basis with one or two quarters' lag. Here, we consider a sample of the 39 largest EM countries using the official IMF balance of payments database, specifically the Portfolio Investment Debt Securities Liabilities component. For both the equity and bond components, we regress the quarterly sum of the BoP portfolio liabilities on the three-month rolling sum of our monthly indicator of EM portfolio flows presented in the previous section. Depending on the regression window, the results are excellent, with a R-squared ranging from 0.80 to 0.90.

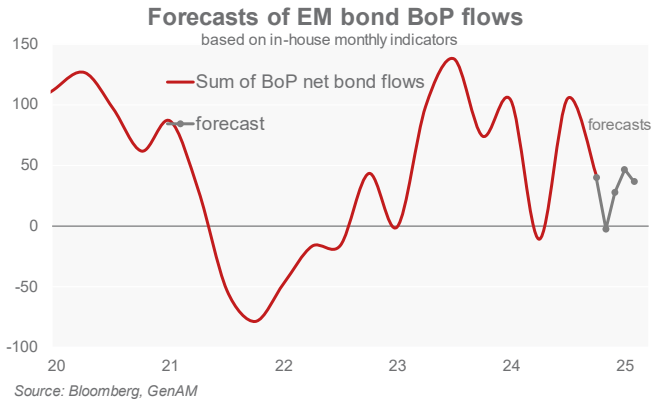


Source: Bloomberg, GenAM calculation



Source: Bloomberg, GenAM

The good regression results shows that our monthly portfolio indicator contains a significant part of the global portfolio flow information. Then, based on the regression coefficients and by using our monthly indicator we can estimate a few months ahead of the official release the sum of the BoP of the 39 largest EM countries.



Source: Bloomberg, GenAM

3.3 EM country positioning flow indicator

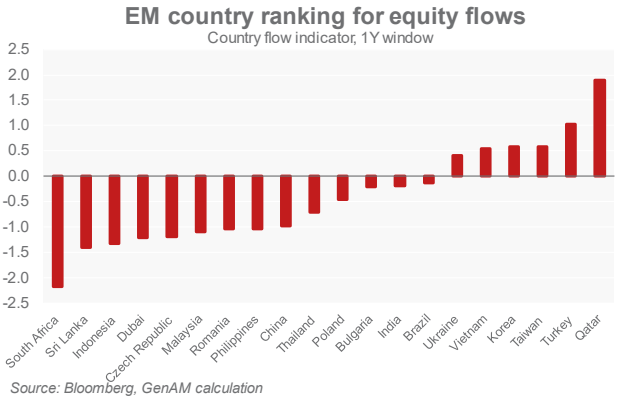
A new EM country flow indicator to assess the relative strength of flows

In addition to the liquidity indicator described above, we have developed a set of monthly indicators to assess the relative strength of flows into a specific EM country. This is defined as the difference between the inflows in a country, converted into a z-score (deviation from historical man divided by std) and the z-score of the sum of the inflows into all other EMs.

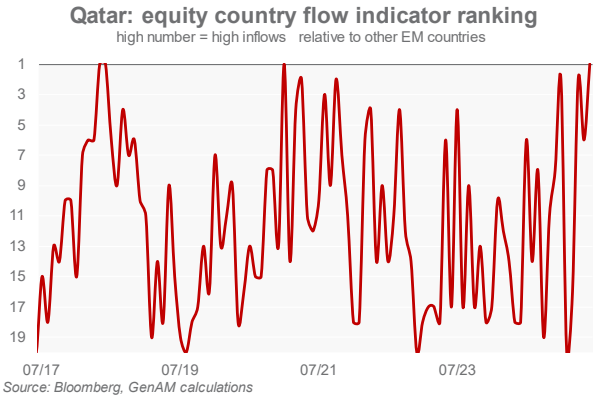
$$Indicator_{it} = Zscore_{it} - Zscore\ all\ EM_{it}$$

Where $Zscore_i$ is the monthly Z-score of a specific country i, $Zscore\ all\ EM_i$ the Z-score of all EM countries excluding the specific country i.

We then obtain the country's rank compared to other countries. This indicator allows to classify countries on a relative basis. For instance, the latest available data shows that, relative to other EM countries and historically, Qatar benefited from large equity inflows, while south Africa is heavily penalised.



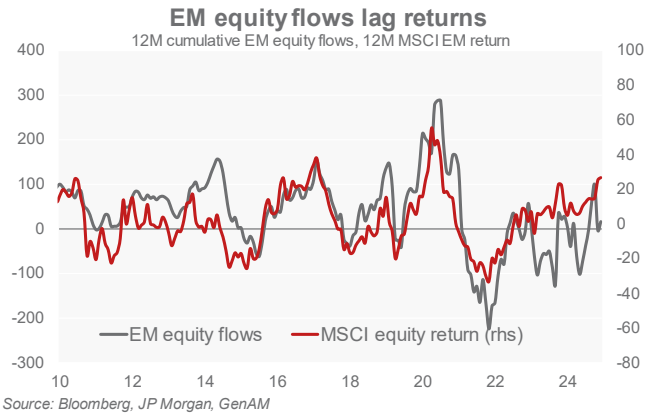
Source: Bloomberg, GenAM calculation



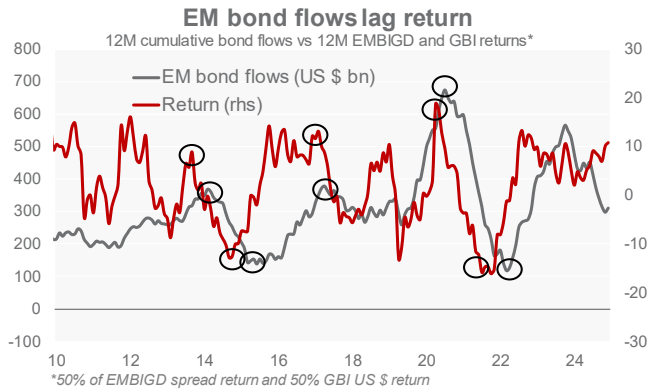
Source: Bloomberg, GenAM calculations

3.4 EM flows follow returns

EM flows tend to follow returns. Bond flows are lagging returns, by 2-4 months. The relationship is weaker between 2015 and 2020(see bond chart below). One explanation could be the period of very low DM rates that led to structural inflows into EM whatever the return of the EM bond asset class, led by search for yield. Globally, EM bond yields also react to global interest rates but also to idiosyncratic factors that trump portfolio flows from foreigners.



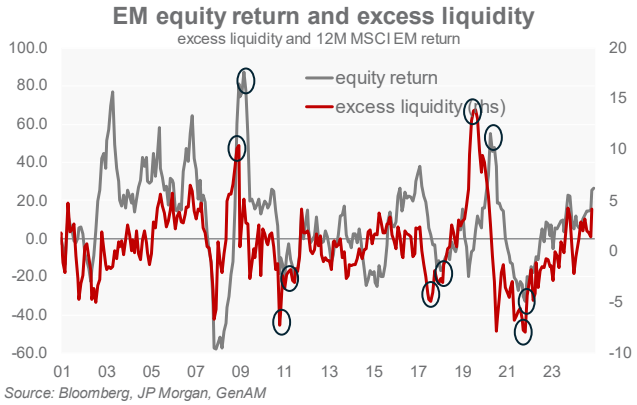
Source: Bloomberg, JP Morgan, GenAM



Source: Bloomberg, JP, GenAM

For equity flows, the relation is more straightforward as equity return precedes by 1-2 months EM equity flows (chart above and here). That said, it has recently turned more coincident.

EM returns and spread follow excess liquidity. We extend the analysis to the excess liquidity index described in the first section of the paper. Like for flows, the result is clearer for EM equity return than for bond return. Even if a strong causality is hard to find, excessive liquidity turning points precede the peak and the lows in the return cycles (see chart below).



Source: Bloomberg, JP Morgan, GenAM

5.Conclusion

We provided some examples on how flow analysis can be used alongside standard macroeconomic variables in pricing assets and monitor risks. Our liquidity index based on a detailed breakdown of financial intermediaries' liability side can be used in forecasting or for fair value models. Moreover, the monthly frequency of the series and relative timeliness (at worst two-month lag) make the liquidity indicator a useful tool to monitor growing risk related to excess leverage, for example in a context of stretched asset valuation.

For EMs, we created a set of various portfolio flow metrics. Our inhouse portfolio indicator can track in advance most of all portfolio flows into EMs and to forecast them. Thus, it helps to identify the risk related to the balance of payment financing but also to highlight countries which benefit from a positive investor dynamic. Those metrics enrich investment decisions. Unfortunately, EM flows tend to lag returns and so they are not enough in predicting future EM returns. However, excess liquidity and EM asset returns are well correlated and so a view on future liquidity can help to assess the future EM equity return.

Appendix – Sectoral liquidity and Asset valuation

Granger Causality tests for the PE of the MSCI world index		
3 month horizon. Bold: non causality rejected at 5% confidence		
	F-Stat.	Prob.
Global liq. Growth does not cause PE	3.008	**0.008**
PE does not cause Global liq. Growth	0.937	0.469
Excess liq. does not cause PE	4.135	**0.001**
PE does not cause Excess Liq.	0.684	0.663
M2 growth, China does not cause PE	2.784	**0.013**
PE does not cause M2 growth, China	1.864	0.088
M2 growth, Euro Area does not cause PE	1.876	**0.086**
PE does not cause M2 growth, Euro Area	0.943	0.465
M2 growth, Japan does not cause PE	2.125	0.052
PE does not cause M2 growth, Japan	0.557	0.765
M2 growth, US does not cause PE	4.365	**0.000**
PE does not cause M2 growth, US	1.757	0.109
Core liab.growth, China does not cause PE	3.362	**0.003**
PE does not cause Core liab.growth, China	0.533	0.783
Core liab.growth, Euro Area does not cause PE	2.007	0.066
PE does not cause Core liab.growth, Euro Area	0.977	0.441
Core liab.growth, Japan does not cause PE	2.177	**0.046**
PE does not cause Core liab.growth, Japan	0.524	0.790
Core liab.growth, US does not cause PE	3.100	**0.006**
PE does not cause Core liab.growth, US	1.189	0.313
Noncore liab.growth, China does not cause PE	1.485	0.184
PE does not cause Noncore liab.growth, China	0.354	0.907
Noncore liab.growth, Euro Area does not cause PE	2.333	**0.033**
PE does not cause Noncore liab.growth, Euro Area	1.419	0.208
Noncore liab.growth, Japan does not cause PE	2.221	**0.042**
PE does not cause Noncore liab.growth, Japan	0.464	0.835
Noncore liab.growth, US does not cause PE	5.958	0.000
PE does not cause Noncore liab.growth, US	2.299	0.036

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Head of Research	**Vincent Chaigneau**
Head of Macro & Market Research	**Dr. Thomas Hempell, CFA**
Team	**Elisabeth Assmuth |** Research Operations **Elisa Belgacem |** Head of Cross-Asset Quant & Dev, Senior Credit Strategist **Radomír Jáč |** GI CEE Chief Economist **Jakub Krátký |** GI CEE Financial Analyst **Michele Morganti |** Head of Insurance & AM Research, Senior Equity Strategist **Vladimir Oleinikov, CFA |** Senior Quantitative Analyst **Dr. Thorsten Runde |** Senior Quantitative Analyst **Dr. Christoph Siepmann |** Senior Economist **Dr. Florian Späte, CIIA |** Senior Bond Strategist **Guillaume Tresca |** Senior EM Strategist **Dr. Martin Wolburg, CIIA |** Senior Economist **Paolo Zanghieri, PhD |** Senior Economist
Head of Insurance and AM Research	**Michele Morganti**
Team	**Carlotta de Maria |** Insurance Research Analyst **Mattia Mammarella |** Research Analyst **Antonio Salera, PhD |** Economist, Pension Expert **Federica Tartara, CFA |** Senior Economist
Head of Cross-Asset Quant&Development	**Elisa Belgacem**
Team	**Alexandre Boistard |** Quantitative Research Analyst **Marc Jeulin |** Quantitative Research Analyst **Mattia Mammarella |** Research Analyst
Head of Credit Research	**Vivek Tawadey**