

Emerging market bond funds: flow-performance relationship and long-term institutional investors

Remarks on the policy panel

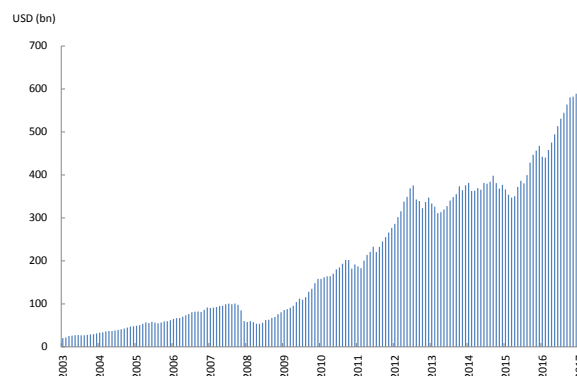
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1. Introduction

Mutual funds investing in emerging market economy (EME) bonds have increased almost seven-fold since the 2008 Great Financial Crisis (Graph 1). This development has raised two questions from a financial stability perspective. Firstly, how important is it to understand the fund-flow performance relationship in which overperforming funds encourage inflows and underperforming ones outflows? And secondly, can long-term institutional investors (LTII) such as pension funds and insurance funds be considered a stabilising force during market sell-offs?

Total net assets of EME bond funds

Graph 1



Source: EPFR Global.

2. Flow-performance relationship

It is well known that overperforming funds attract inflows and underperforming ones outflows. An important question that often goes unanswered, however, is whether this positive relationship is asymmetric. There are two possible answers to this question. First, the relationship is concave; ie there is more outflow in response to fund

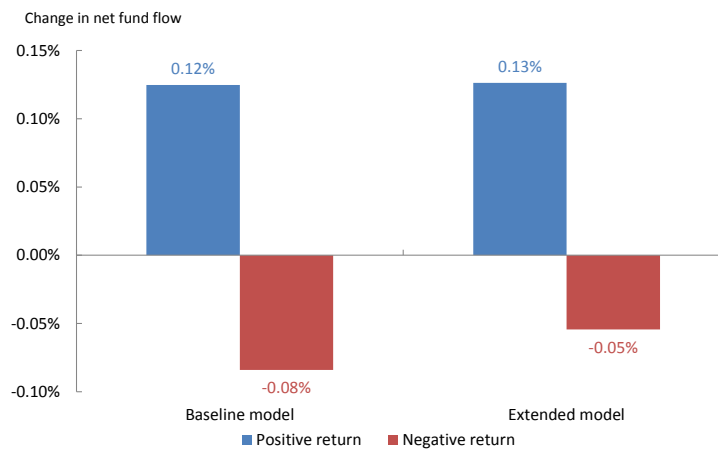
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underperformance than inflow during overperformance. Second, the relationship is convex; ie there is less outflow in response to fund underperformance than inflow during overperformance. This relationship is important to understand, as without this knowledge there is a tendency to underestimate or overestimate the potential capital flow reversal when market conditions change abruptly.

Recently published research by Leung and Kwong (2018)², who use a fixed effect panel data model with samples consisting of 1,784 EME bond funds domiciled around the world, suggest a convex flow-performance relationship for EME bond funds.³ Fund flow sensitivities with respect to positive and negative performance are shown in Graph 2, showing that there is less outflow in response to underperformance than inflow to overperformance. This relationship remains unchanged in the extended model where other control variables are added.

Sensitivities of net fund flow toward positive and negative returns

Graph 2



¹ The bars represent the corresponding changes in the net fund flow when the fund return increases (decreases) by one percentage point.

Broadly speaking, there are three possible scenarios that may influence the shape of the asymmetric flow-performance relationship in EME bond funds:

1. *The practices taken by asset management companies to pre-empt a fire sale risk.* As the assets held by EME bond funds are generally low in liquidity, managers of these funds have adopted practices to pre-empt fire sales. One of them is the precautionary holding of cash that could help avoid selling its underlying illiquid assets at deep discounts when there are large redemptions. A higher level of cash holding is expected to alleviate investors' concerns about fire sales. The higher cash holding ratio of EME bond funds seems to support this conjecture (Table 1). Another practice to mitigate the fire sale risk is the swing pricing mechanism, which is the adjustment of a fund's net asset value to pass on the dilution costs

² See D Leung and M Kwong, "The flow-performance relationship in emerging market bond funds", *HKIMR Working Paper*, January 2018, no 04/2018.

³ For each fund, data about its net fund flow, net asset value, fund return and other fund-specific details are retrieved from the Morningstar database at a monthly frequency. The data of market-level explanatory variables are obtained from Bloomberg. Subject to data availability, the sample period runs from January 2000 to December 2016.

of trading to investors associated with purchasing or redeeming the fund.⁴ The mechanism can internalise the transaction costs and liquidation costs incurred by investors who redeem their shares, and neutralise their first-mover advantage from redeeming earlier than others.

Cash holding positions of US and EME bond funds

Table 1

Cash holding position (2016)	EME bond funds	US bond funds
Mean (%)	13.86	9.52
Median (%)	6.88	5.46
SD (%)	10.89	7.91
Count	1251	1360

¹ Cash holding position is the proportion of fund assets held in cash in percent. Cash encompasses both actual cash and cash equivalents (fixed-income securities with a maturity of one year or less) held by the portfolio plus receivables minus payables.

² EME bond funds cover funds categorised as “emerging markets fixed income” according to Morningstar Global Category Classifications (MGCC). US bond funds cover funds under MGCC “US fixed income”.

Source: Morningstar

2. *Biased media coverage, notably mutual fund advertisements, towards outperforming funds.*⁵ As these advertisements serve as powerful drivers for inflow into the advertised funds, the attention of fund investors is driven towards the top-performing funds, whereas the worst-performing funds are often overlooked, leading to a convex relationship.
3. *Higher participation costs of EME bond funds.* A rational investor would invest in a fund only if its expected return exceeds participation costs. As the expected return of a fund is often based on its past performance, mutual funds with higher participation costs can attract inflow only when they have a track record of outperforming returns. On the other hand, higher participation costs reduce the incentive of existing investors to unwind their positions in reaction to underperformance.

3. Long-term institutional investors

The contributions of LTIIs to financial stability are debatable in literature. On the one hand, LTIIs could behave pro-cyclically (ie rebalancing their portfolios away from riskier assets and towards safer ones) in the face of financial market turbulence to meet regulatory requirements or short-term liquidity needs. Such a flight-to-quality strategy can overvalue short-term investment returns and undervalue long-term returns, which can cause or exacerbate financial instability. On the other hand, LTIIs could rebalance their portfolios away from safer assets and towards riskier ones to

⁴ Mutual funds domiciled in the United States have been allowed to adopt swing pricing only starting from 2018, which is beyond the sample period. For details, refer to <https://www.sec.gov/rules/final/2016/33-10234.pdf>.

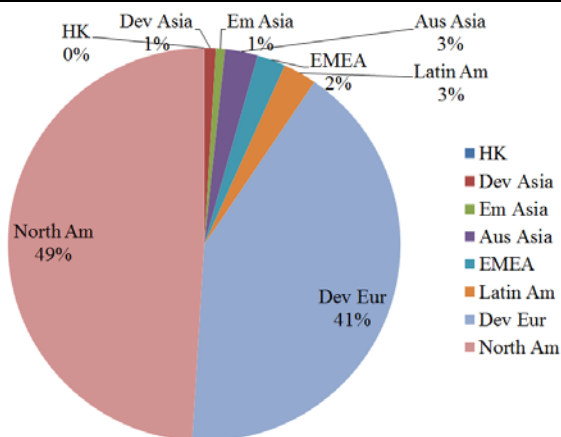
⁵ For the powerful influence of mutual fund advertisement on fund flow, see Jain and Wu (2000), “Truth in mutual fund advertising: evidence on future performance and fund flows”, *Journal of Finance*, vol 55, no 2, pp 937–58.

chase long-term investment returns during market downturns; such a value-trading strategy can temper movements in asset prices, contributing to a countercyclical impact to financial systems.

Because of insufficient EME bond allocation in insurance and pension funds as shown in Graph 3, Fong et al (2018)⁶ answer the question on whether LTII could be a stabilising force during market sell-offs by using 1,010 pension and insurance funds in advanced economies (AEs) and EMEs. The funds invested in the equity markets between the first quarter of 2001 and the first quarter of 2017. At the end of 2016, these LTII had two thirds of their assets invested in global equities (Graph 4), reflecting that equities were their primary investment assets.

Bond allocation in global insurance and pension funds in 2017

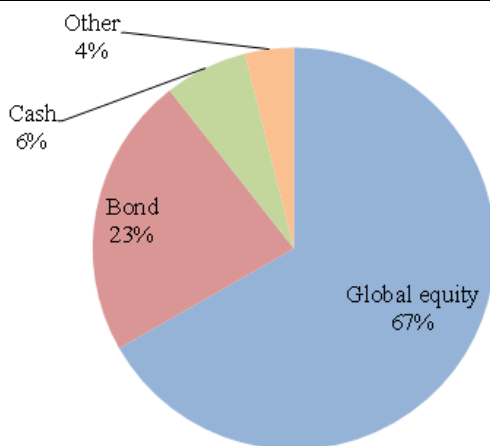
Graph 3



Sources: Morningstar and HKMA staff calculations.

LTII's exposure to global financial markets in 2016

Graph 4



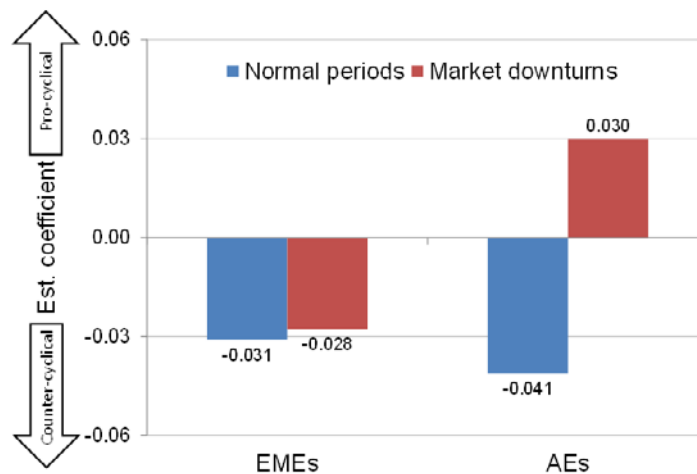
Sources: Morningstar and HKMA staff calculations.

⁶ See T Fong, A Sze and E Ho, "Do long-term institutional investors contribute to financial stability? – Evidence from equity investment in Hong Kong and international markets", *HKIMR Working Paper*, September 2018, no 22/2018.

As shown by the results in Graph 5, Fong et al (2018) find that LTIs contribute to a countercyclical effect to stock markets in EMEs in general.⁷ Such a value-trading strategy can temper drastic movements in asset prices and have a positive contribution to financial stability in these economies. By comparison, the LTIs will be pro-cyclical for equities in AEs in times of financial turbulence. Given that AEs were the epicentre of several major stock market crashes triggered by events including recessions in Europe and the United States in the early 2000s, the 2008 Great Financial Crisis, as well as the multi-year European debt crisis that has been taking place since 2009, the findings suggest the pro-cyclical effect depends on where the shock originates.

Responsiveness of the fund flows to past market returns in EMEs and AEs

Graph 5



¹ These EMEs and AEs cover seven regions including developed Asia, emerging Asia, Australasia, EMEA, developed Europe, Latin America and North America. Their stock market returns are measured by the corresponding MSCI regional indices. The coefficients of EMEs and AEs are the average values of the underlying regions.

Source: HKMA staff estimates.

4. Concluding remarks

EME bond funds display a convex flow-performance relationship. On the one hand, the potential concavity of these funds is mitigated by practices taken by fund management companies to dampen fund investors' incentives to redeem in reaction to underperformance. On the other hand, biased media coverage towards outperforming funds and the relatively high participation costs of EME bond funds increase the convexity of the relationship. While the findings might, to some extent,

⁷ Graph 4 summarises the regression coefficients of flows on past market returns for EMEs, which cover stock markets in emerging Asia, Latin America, emerging Europe, and the Middle East and Africa (EMEA), as well as on past returns for AEs, which cover stock markets in North America, developed Europe, developed Asia and Australasia. These coefficients are as a group average for ease of reference.

relieve concerns about the fragility of EME bond funds, it is crucial to note that such a convexity critically depends on government regulations, investor base, policies of fund management companies etc.

LTIIs contribute to a countercyclical effect to stock markets in EMEs in general. Such a value-trading strategy can temper drastic movements in asset prices and have a positive contribution to financial stability in these economies. To attain such a stabiliser, policy makers could provide tax and policy incentives conducive to a larger presence of LTIIs in both equity and bond markets.