

## WHO OWNS THE ASSETS?

A Closer Look at Bank Loans,  
High Yield Bonds and Emerging Markets Debt

SEPTEMBER 2014

Mutual funds have a long history of providing investors with professionally managed diversified portfolios, reasonable valuation transparency, and the ability to reliably obtain liquidity. The growth of mutual funds and exchange traded funds (ETFs) in the US reflects the popularity of these investment vehicles for millions of investors from individual savers to retirement plans to institutional asset owners. Today, US-registered open-end mutual funds have grown to encompass over \$12 trillion in assets and US-listed ETFs have grown to nearly \$2 trillion in assets.<sup>1</sup> Furthermore, a robust mutual fund industry has developed in many markets around the world, including retail UCITS funds in Europe and Asia.<sup>2</sup>

Over the last several decades, US open-end mutual funds and ETFs<sup>3</sup> have weathered a number of significant market events, including the:

- ▶ 1987 stock market crash,
- ▶ tightening of monetary policy in 1994,
- ▶ internet stock bubble bursting in 2000,
- ▶ market timing/late day trading scandals in 2003,
- ▶ financial crisis in 2008, and
- ▶ market “taper tantrum” in 2013.

Additionally, mutual funds have successfully navigated idiosyncratic events at various asset management firms such as reputational issues, performance challenges, and/or key personnel changes. Appendix A includes six examples of US open-end mutual funds that experienced significant outflows on an absolute basis and/or as a percentage of fund assets during various time periods. Importantly, we are unaware of any evidence that any of these funds have been the source of systemic risk. In both market-wide and firm-specific situations, equity and bond mutual funds have remained open to investors both for subscriptions and for redemptions.

*“Fund managers have several tools to manage liquidity risk.”*

Over the past year, however, several policy makers and academics have expressed concerns about the potential for mutual funds to either create or transmit systemic risk, particularly given potential outflows that some have suggested could be triggered by the anticipated rising rate environment. We cite a number of examples in Exhibit 1, where policy makers have pointed to the recent growth of funds whose underlying assets are considered “less liquid” and raise the question regarding how these funds would handle future large redemptions. Their common implicit hypothesis is that holding less liquid assets in daily redemption funds creates a first-mover advantage for investors exiting these funds during periods of market distress. They assert that these redemptions from daily liquidity funds could create an accelerant for a broader market run or at least amplify volatility and price movements. While our analysis of historical data over several market cycles (see Exhibit 2) and our experience in the markets suggests that such a scenario has not arisen in the past, the cumulative impact of new regulations such as increased capital requirements for banks and limits on proprietary trading have had a considerable adverse impact on market liquidity,<sup>4</sup> making these concerns worthy of further analysis. Note that in a companion piece to this paper,<sup>5</sup> we specifically

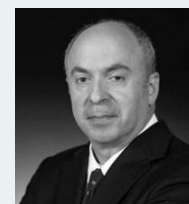
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identify the opportunity to reduce potential first-mover advantages in funds by enhancing the means by which exiting shareholders are required to more fully bear the transaction and market impact costs of their departure. Improving such mechanisms would be a positive step regardless of prior views regarding the potential illiquidity of the assets of any particular mutual funds.

Within this discussion, it is important to highlight the fact that amongst the responsibilities of a professional fund manager is constructing portfolios that are designed to respond efficiently to potential redemptions. Mutual funds need to be able to deliver liquidity consistent with their prospectus and the guidelines of the Investment Company Act of 1940 (the '40 Act) and UCITS. Unlike bank deposits, such liquidity does not necessarily entail any price guarantees. Since the underlying assets of most funds exhibit price volatility, the value received by mutual fund investors when they place a redemption is subject to market risk and, depending on the fund's structure, market liquidity risk—namely the risk that the value able to be realized from the market on a redemption may vary significantly, both absolutely and relative to the intrinsic value of the fund's assets. This discipline is often referred to as liquidity risk management – a key component of any discussion regarding liquidity risk in mutual funds and

one that has received less attention in the course of this debate.

This *ViewPoint* takes a closer look at some of the asset classes most commonly identified as potential areas of systemic risk: (i) bank loans; (ii) high yield bonds; and (iii) emerging markets debt (EMD). Much of this material is provided to help educate readers about the nature of these asset classes and to put the mutual fund holdings of these assets into perspective. We also provide a framework for understanding the likelihood of systemic problems occurring from these mutual fund holdings. In addition, we examine liquidity risk management practices of US open-end funds as well as UCITS and other funds across jurisdictions with assets concentrated in these categories. We conclude with several recommendations that are intended to improve the stability of the financial ecosystem for all market participants.

But, first and foremost, we believe that policy makers should separate concerns about potential investment losses in an asset class (which of course may happen), from the concern that mutual funds specifically might create or transmit systemic risk. As we will discuss in this *ViewPoint*, from a mutual fund perspective, we think that material systemic risk concerns are not warranted for a number of reasons as highlighted in the observations below.

## KEY OBSERVATIONS

1. These asset classes are a small component of the global debt market, and more than 60% of each asset class is held by institutional investors, with less than one-third held by dedicated retail mutual funds (as of December 2013).
2. Aggregate net outflows for these funds have been at manageable levels over a 10 to 15 year period; our read of the data is that there have not been any significant “runs” in these categories of mutual funds or among individual funds in these categories during past market downturns.
3. Restrictions afforded by certain regulatory regimes for mutual funds, such as the '40 Act for US-registered mutual funds, precludes significant leverage from being used by mutual funds in these categories.
4. Existing fund structures and industry liquidity management practices, including holding cash and liquid securities and maintaining backup sources of liquidity, can help to ensure that liquidity is sufficient to meet redemptions in times of market stress. Liquidity buffers, including cash, held by these funds, have historically been sufficient to meet peak redemptions, even during crisis periods.
5. There are a number of liquidity risk management practices, including those prescribed by AIFMD and UCITS regulatory guidelines, which can be employed by fund managers to ensure that liquidity coverage is sufficient in normal and stressed markets.

**Exhibit 1: REFERENCES TO CONCERNS REGARDING ILLIQUID ASSETS AND FUNDS**

SOURCE	QUOTE
<p><b>“Market Tantrums and Monetary Policy”</b>  <b>Michael Feroli, Anil K Kashyap, Kermit Schoenholtz, and Hyun Song Shin</b>                      February, 2014</p>	<p>“The effects examined in our paper would be even more potent if redemptions by claimholders on investment vehicles generate run-like incentives. Chen, Goldstein and Jiang (2010) provide evidence that redemptions from mutual funds holding illiquid assets create incentives like those facing depositors in a bank run, as in Diamond and Dybvig (1983).”</p>
<p><b>“The Age of Asset Management”</b>  <b>Speech by Andrew G. Haldane</b>                      Bank of England – April, 2014</p>	<p>“Accompanying that, there has been strong growth in funds active in specialist, often illiquid, markets – for example, high yield bond funds and emerging market funds. Since 2008, these funds have grown at an annual rate of around 40% per year, outpacing growth in the global mutual fund industry by a factor of four. Also rising rapidly have been flows into US mutual loan funds”</p>
<p><b>Global Financial Stability Report: Moving from Liquidity- to Growth-Driven Markets</b>                      IMF – April, 2014</p>	<p>“The concern is that if investors seek to withdraw massively from mutual funds and ETFs focused on relatively illiquid high-yield bonds or leveraged loans, the pressure could lead to fire sales in credit markets.”</p>
<p><b>84th Annual Report</b>                      BIS – 29 June 2014</p>	<p>“As risk spreads narrow, increasingly more leveraged positions are required to squeeze out returns. And even if no leverage is involved, investors will be lured into increasingly risky and possibly illiquid assets.”</p>

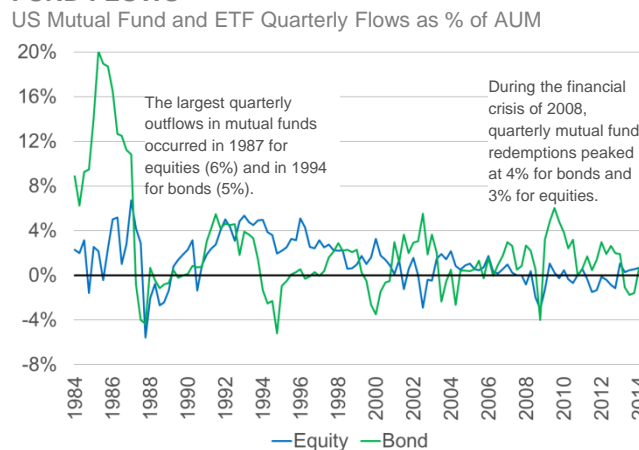
**Historical Data and Resiliency of Mutual Fund AUM**

A review of historical data and examples of various market events conducted by JP Morgan<sup>6</sup> demonstrates the long-term aggregate resiliency of mutual fund AUM. Exhibit 2 shows quarterly net flows as a percentage of assets under management (AUM) for US-domiciled bond and equity mutual funds and ETFs over a thirty year period (from 1984 to 2014). A review of this data during the 2008 financial crisis demonstrates that mutual funds in aggregate did not experience extraordinary levels of redemptions by historical standards. Certainly, there were large outflows from mutual funds during the 2008 financial crisis – but these outflows were not extreme compared to previous market events. For example, equity mutual funds experienced bigger outflows as a percentage of AUM in 1987 than they did in either the fourth quarter of 2008 or the first quarter of 2009. Likewise, bond funds experienced larger outflows as a percentage of AUM during the monetary policy tightening cycles of 1987 and 1994. In all, the mutual fund industry as a whole experienced more extreme outflow episodes in 1987 (for equity funds) and 1994 (for bond funds) than in 2008. The highest quarterly net outflow as a percentage of AUM for bond funds in 1994 did not exceed 6%. Some commenters<sup>7</sup> have specifically cited bond fund outflows in the second half of 2013 as evidence of systemic riskiness; however, outflows during this period look rather modest, with peak quarterly outflows coming in at less than 2%.

BlackRock also reviewed historical net monthly flows in aggregate for the bank loan, high yield and emerging markets debt fund categories.<sup>8</sup> As discussed later in this *ViewPoint*, historical data and our experience as an asset manager

indicates that cash balances, liquid bonds and liquidity facilities held by mutual funds in these asset classes have historically been sufficient to meet redemptions, even during crisis periods. Throughout this paper, we utilize data on aggregate net flows in mutual funds and data on cash balances held in aggregate by those funds to illustrate a number of insights about redemption behavior and liquidity management during several market cycles, including the 2008 financial crisis. We also reviewed net monthly flows at the individual fund level over the last ten years for bank loan, high yield and EMD mutual funds.<sup>9</sup> While in some instances, individual funds had higher peak net monthly outflows over the period than the aggregate fund categories, neither the data nor our experience as an asset manager revealed any evidence of runs in individual funds or groups of funds.

**Exhibit 2: QUARTERLY EQUITY AND BOND MUTUAL FUND FLOWS**



Source: ICI, Bloomberg, JP Morgan. As of March 2014.

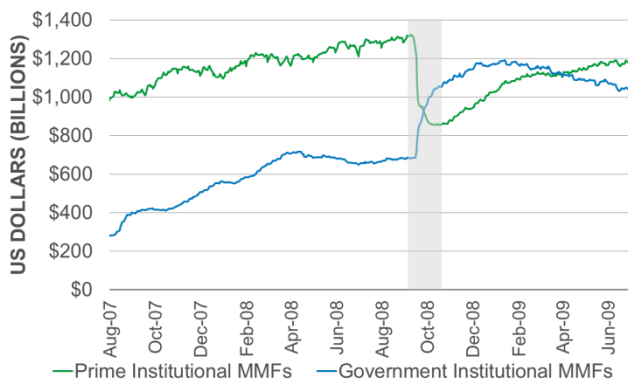
US mutual fund assets have doubled from approximately \$6 trillion in the fourth quarter of 2008 to over \$12 trillion as of December 2013.<sup>10</sup> There are a number of factors that explain the relatively low levels of aggregate redemptions of mutual funds during the 2008 financial crisis. In part, this was due to the long-term nature of many mutual fund investors; in particular, many of the assets held in US open-end mutual funds are retirement assets and are, therefore, invested for a long term horizon. For example, as of March 31, 2014, 43% of mutual fund assets were in retirement funds (e.g., 401k plans and Individual Retirement Accounts) as compared to 40% in 2007.<sup>11</sup> Retirement assets are designed to be invested for a long time horizon and are not frequently rebalanced, meaning that outflows generally do not occur as a result of cyclical market adjustments. Further, 401k and Individual Retirement Account (IRA) assets are prohibited from being used as margin, which precludes leveraging these assets.

Mutual fund managers also take into consideration the need to meet redemptions in the course of portfolio management. Depending on the type of fund, most mutual funds maintain cash buffers and/or hold liquid securities (including government bonds) to facilitate normal redemptions. Historically, mutual fund liquidity buffers have proven sufficient to offset redemption cycles. According to JP Morgan, current cash cushions across the industry average 4% for equity, 9% for bond and 12% for hybrid or balanced mutual funds, which invest globally in a combination of equities, bonds and cash and cash equivalents. Finally, mutual funds may be able to use repurchase agreements or draw down bank credit lines to meet higher redemption requests.

In the case of the 2008 financial crisis, the data illustrate that, while equity and fixed income mutual funds experienced manageable levels of redemptions, other types of funds, including money market funds (MMFs)<sup>12</sup> and leveraged vehicles, such as hedge funds, experienced pronounced redemptions. In the case of money market funds, it is generally recognized that the “breaking of the buck” by the Reserve Fund set off a run against other “Prime Institutional” money market funds. The run was exacerbated by a lack of transparency into the specific assets in the funds, the credit quality of those assets, and the drop in asset prices of many asset-backed and commercial paper (CP) issuers in the wake of Lehman’s failure.<sup>13</sup> In contrast, given the fact that, by design, equity and bonds funds have net asset values (NAVs) that fluctuate, this dynamic does not exist.

In contrast, as shown in Exhibit 4, hedge funds experienced significant outflows in the fourth quarter of 2008 (approximately 11%) and cumulative outflows of 23% from the second half of 2008 through the second half of 2009.<sup>14</sup> These outflows reflected, amongst other things, the liquidity challenges facing the investors in these funds. Many institutional investors had in prior years shifted their overall portfolio allocations to less liquid assets, including private equity and real estate. In the wake of the 2008 crisis, these asset owners suddenly found themselves facing a liquidity squeeze. Given the contractual liquidity of many hedge funds relative to other private investments, many of these institutional investors chose to redeem their hedge fund investments as a way to raise cash. In essence, liquid asset hedge funds became “ATM machines” for many cash-strapped institutional investors.<sup>15</sup>

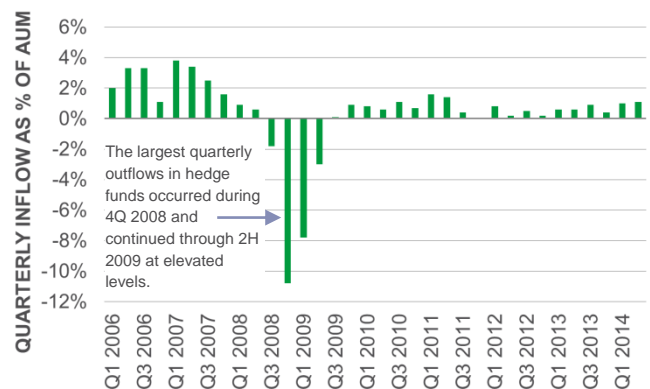
**Exhibit 3: DAILY AUM OF MONEY MARKET FUNDS DURING THE FINANCIAL CRISIS**



Source: iMoneyNet. 1 July 2007 to 30 June 2009.

\*Government Institutional MMFs include Government/Agency and Treasury MMFs.

**Exhibit 4: HEDGE FUND FLOWS – 2006 TO Q1 2014**



Source: HFR, JP Morgan. As of 1Q 2014.

## Market Size and Ownership of Assets

As discussed in BlackRock's *ViewPoint* "Who Owns the Assets? Developing a Better Understanding of the Flow of Assets and the Implications for Financial Regulation", published in May, 2014, asset owners control the strategic asset allocation decisions to enter or exit an asset class, whereas asset managers control the tactical asset allocation decision within the client-specified mandate.<sup>16</sup> Asset owners include pension plans, insurance companies, foundations, endowments, official institutions, banks, family offices and individuals, each with different investment objectives and constraints. Given the interest in flows related to specific asset classes, developing an understanding of who owns these asset classes today is critical to understanding potential future market behavior.

The asset classes most cited by regulators as potential areas of concern are: i) bank loans, ii) high yield, and iii) emerging markets debt (EMD). Exhibit 5 shows that, according to the BIS, total global debt outstanding was \$92.6 trillion as of December, 2013, with high yield representing \$1.8 trillion, bank loans representing \$1.5 trillion and EMD representing \$12.9 trillion. Of the \$92.6 trillion, \$81.6 trillion represents "investable" assets and for the asset classes of focus in this *ViewPoint*, the proportion of investable assets is much smaller. Assets that are "not investable" are either held directly by asset owners or cannot be bought or sold outside of local markets, which means US mutual funds cannot hold these assets. For example, only about half of the \$1.5 trillion in the bank loans total is "investable" with the remainder comprised of "term loan A", "revolvers" and middle market loans held by banks on their balance sheets. While EMD outstanding totals \$12.9 trillion, more than 80% is subject to certain regulatory, operational or liquidity issues that preclude these bonds from being widely owned by global market participants and thus are not considered as part of the investable opportunity set. For purposes of this *ViewPoint*, we will focus only on bank loans and EMD that are tradable in the global markets.

As will be discussed in greater detail for each asset class in the subsequent sections, dedicated mutual funds hold less than one-third of these asset classes, with the remainder being held directly by asset owners. Importantly, a significant portion of these asset classes is held by pension plans and insurance companies. This is important because pension plans generally follow an asset allocation program that is re-assessed and adjusted once every few years. Most pension plans are not inclined to make major asset allocation shifts without undertaking an asset allocation study, and these types of investors often play a countercyclical role in the

markets by rebalancing their portfolios to stay within established policy limits on various asset classes.<sup>17</sup> Likewise, insurers are invested primarily in the fixed income sector. They build and maintain diversified portfolios across fixed income sectors to match their liabilities (and insurers are often taxable investors), thus their portfolio assets tend to be "sticky" in nature. The substantial direct holdings by pension plans and insurance companies in these asset classes are critical to understanding the market dynamics for funds investing in these asset classes.

### Exhibit 5: GLOBAL FIXED INCOME DEBT OUTSTANDING

Global Debt Market By Asset Type	Total Outstanding (\$ Billions)	% Of Adjusted Global Debt
<b>US Non Sovereign Debt</b>	<b>21,896</b>	<b>27%</b>
<i>Non-Financial Corporations</i>	7,097	9%
<i>Financial Corporations</i>	14,799	18%
<b>US Sovereign Debt</b>	<b>14,819</b>	<b>18%</b>
<b>Non-US Developed Corporate Debt</b>	<b>19,106</b>	<b>23%</b>
<i>Non-Financial Corporations</i>	3,388	4%
<i>Financial Corporations</i>	15,718	19%
<b>Non-US Developed Sovereign Debt</b>	<b>22,377</b>	<b>27%</b>
<b>EM Debt <sup>1</sup></b>	<b>12,932</b>	<b>3%</b>
<i>EM International Debt</i>	1,695	
<i>EM Domestic Debt</i>	11,237	
<b>High Yield <sup>2</sup></b>	<b>1,800</b>	<b>2%</b>
<b>Bank Loans <sup>3, 4</sup></b>	<b>1,500</b>	<b>1%</b>
<b>Global Debt Total</b>	<b>92,629</b>	
<b>Adjusted Global Debt Total</b>	<b>81,580</b>	<b>100%</b>

Notes: Categories are not mutually exclusive. Corporate Debt includes High Yield. Source: BIS Global Debt Securities Statistics, Credit Suisse. As of December 2013. BIS Global Debt Securities Statistics data is available at <http://www.bis.org/statistics/secstats.htm>.

1. Of the \$12.9T in EM Debt, only approximately \$2.7T is tradable by global investors and reflected in Adjusted Global Debt.
2. High Yield data estimated by JP Morgan.
3. Of the \$1.5T in Bank Loans, only approx. 50% is tradable by global investors and reflected in Adjusted Global Debt.
4. Global bank loan data estimated by JP Morgan.

# Bank Loans and Bank Loan Funds



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Managing Director,  
Head of  
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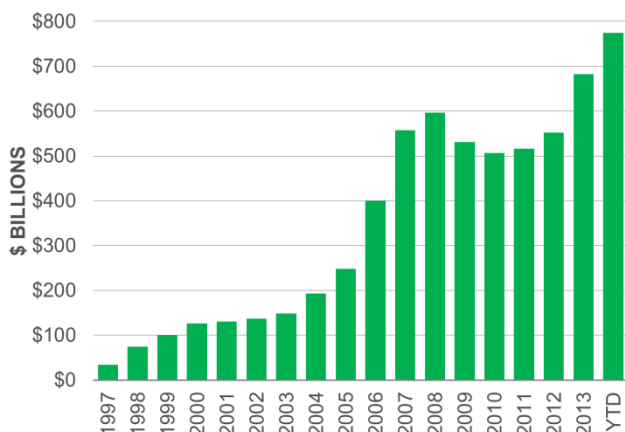
**Leland Hart**  
Managing Director,  
Head of Bank  
Loan Team

As the name implies, “bank loans” are loans originated by banks and then partially syndicated to other investors, including non-bank investors. The bank loan market totaled approximately \$1.5 trillion as of December 31, 2013 with approximately half held

by banks and the rest held by non-bank investors, including pension plans and insurance companies, collateralized loan obligations (CLOs), and funds. Exhibit 6 highlights growth in the investable US bank loan market. Originally, bank loans were originated by banks with the intention of holding these assets on their own balance sheets. Over the past 15 years, however, these loans have increasingly been sold or syndicated to non-bank investors, expanding the investor base for this asset class.

## Exhibit 6: GROWTH IN BANK LOAN FUNDS

Loan Market Par Value (USD \$Bn)

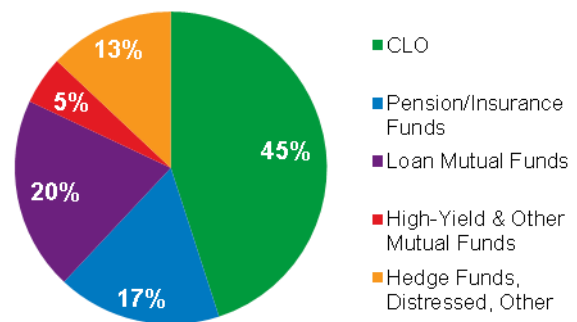


Source: S&P Capital IQ LCD. As of 31 July 2014.

As shown in Exhibit 7, bank loans are held by a broad range of investors including pension plans and insurance companies, and a wide range of funds that are in turn held by a diverse set of investors. As of December 2013, approximately 45% of the bank loans held by non-banks have been sold to collateralized loan obligations (CLOs). CLOs are special purpose vehicles (SPVs) that hold and manage bank loans where the SPV is funded by rated deal tranches of varying seniority (e.g., AAA, AA, BBB, mezzanine and equity). Approximately 20% of the investable bank loan market universe is held in dedicated bank loan mutual funds, and another 5% is estimated to be held as an allocation in

## Exhibit 7: HOLDERS OF US BANK LOANS

Investable Universe as of 12-31-2013



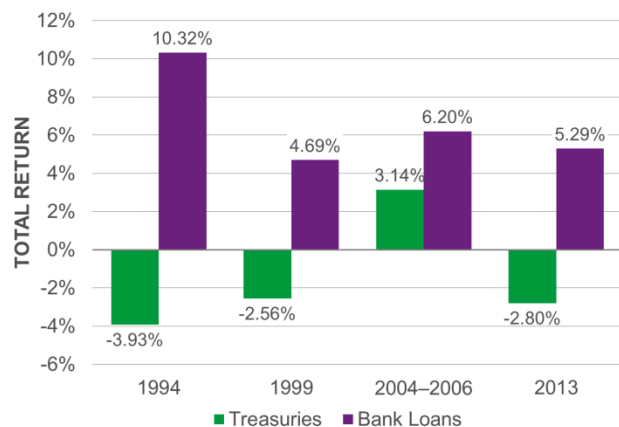
Source: JP Morgan. Excludes term A, revolver and middle market loans held by banks. As of 31 December 2013.

other mutual funds. ETFs represent less than 1% of the institutional bank loan market. Bank loan mutual funds are principally US '40 Act funds as UCITS has historically not permitted bank loans. Note that investable US bank loans represents less than 1% of the \$81.6 trillion in total global tradable debt.

## Characteristics of Bank Loans

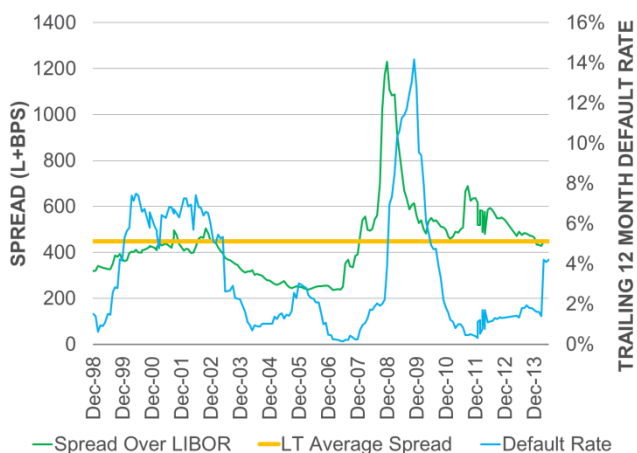
Bank loans as an asset class have some interesting properties relative to a majority of fixed income assets. Bank loans are floating rate instruments (usually spread off LIBOR and generally with floors) that receive increased payments as interest rates rise. Exhibit 8 shows the favorable performance experienced by bank loans versus US Treasuries in rising rate environments over the past 20 years. Even with 3-month LIBOR under 0.50%, bank loans have an average coupon yield of 5.0%. These factors coupled with a negative historical correlation to US Treasuries have made bank loans an attractive portfolio allocation in today's market.

## Exhibit 8: BANK LOAN VERSUS US TREASURY RETURNS IN RISING RATE ENVIRONMENTS



Source: S&P Leveraged Loan Index.

**Exhibit 9: BANK LOAN SPREADS VERSUS DEFAULTS**



Source: S&P Capital IQ LCD; JP Morgan.

Bank loans are senior secured debt and are “first in line” from a seniority perspective which provides some protection for investors in the event of a default. Default rates for bank loans generally lag adverse spread moves as shown by the relationship between spread and default behavior during the 2008 financial crisis (see Exhibit 9). Both default rates and spreads increased dramatically during the 2008 financial crisis. Bank loan spreads started widening by the end of the second quarter of 2007 (at approximately 250 basis points over LIBOR), peaked at 1,200 basis points in December 2008, and dropped to 560 basis points by the end of 2009. Default rates rose, on the other hand, from 0% at the end of 2007, to a peak of 14% toward the end of 2009, and then dropped to less than 2% by the end of 2010. Additionally, due to their secured claim, recovery rates for bank loans (see Exhibit 10) are relatively high compared to recoveries on high yield bonds. This default and recovery profile coupled with their floating rate structures often makes bank loans attractive on a risk-adjusted performance basis. Likewise, bank loan funds are attractive to large and small investors seeking a diversified portfolio of holdings. Based on our experience, many of these investors have a “buy and hold” strategy, resulting in relatively “sticky” assets.

**Performance and Flows Under Stress**

Bank loan mutual funds weathered the 2008 financial crisis. There were marked declines in bank loan prices during the crisis as risky assets were re-priced but prices stabilized relatively quickly. As shown in Exhibit 11, bank loans rated BB dropped from a price of 90 before the Lehman collapse to a low of 70 by year-end 2008, before recovering by mid-2009. For lower rated CCC bank loans, the price decline was more significant (from 70 to 40) and it took until the third quarter of 2009 for them to recover to pre-crisis levels. Bank loan funds exhibited some pronounced aggregate redemptions which challenged the market. Bank loan funds experienced their

**Exhibit 10: RECOVERY RATES FOR LEVERAGED LOANS**

Asset Type	1987-2013	2013	4Q2008-1Q2011	1990-1991	2001-2002
Loans	80.3%	73.3%	77.2%	86.2%	77.9%
Senior Unsecured Bonds*	48.1%	4.5%	42.6%	63.4%	39.9%
Subordinated Debt**	28.2%	0.0%	27.6%	22.4%	19.3%

Source: Moody's. As of Q4 2013.

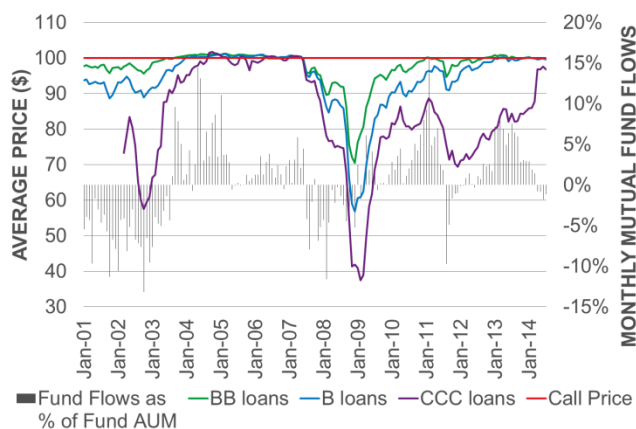
\*2013's senior unsecured bond recovery rate is based on five observations.

\*\*Includes Senior Subordinated, Subordinated, and Junior subordinated bonds. 2013's subordinated bond recovery rate is based on one observation.

highest relative monthly outflows in February of 2008 (12% of AUM) and reverted back to positive flows by mid-2009. On the back of fiscal and US monetary policy events in the summer of 2011, monthly outflows of nearly 10% of AUM occurred during August of 2011, although they reverted rather quickly.

**Exhibit 11: BANK LOAN PRICES AND FUND FLOWS**

December, 2001 through July, 2014



Date	Bank Loan Net Fund Flows	Bank Loan Fund AUM
Feb-08	-\$2.3 bn	\$19.6 bn
Aug-11	-\$5.5 bn	\$56.2 bn

Source: S&P Capital IQ LCD.

The primary stresses experienced in the bank loan market in 2008-2009 came from forced sales by leveraged buyers. Many banks, hedge funds, and market value CLOs were forced to sell their bank loans during the crisis creating a one-way market and forcing prices down. At the time, the majority of bank loans were held by levered entities (i.e., banks) that were forced to de-lever their balance sheets.<sup>18</sup> Furthermore, market value CLOs and their derivative equivalents (total return swaps (TRS) written by banks) had embedded minimum loan-to-value (LTV) or market value clauses which were triggered

when loan prices fell to prescribed levels relative to the amount of outstanding senior debt. When loan prices declined during the fourth quarter of 2008, forced liquidations were triggered in market value structures (TRS, market value CLOs and CDOs) to pay off senior lenders in the structures. In effect, the bank loan market was permeated with pre-programmed market value sensitive automatons that had no discretion, requiring forced sales or equity infusions if the market value of their portfolio of bank loans fell below pre-defined levels. That structural element of the bank loan market created a “run” on the market. Subsequent to the crisis, a new generation of CLOs was issued and market value clauses have largely been eliminated.

### Regulatory Developments in Bank Loans

On March 22, 2013, the Federal Reserve Board, the Federal Deposit Insurance Corporation (FDIC), and the Office of the Comptroller of the Currency (OCC) jointly implemented new guidelines for leveraged lending,<sup>19</sup> including new risk management, valuation, stress testing and underwriting standards. BlackRock is a proponent of these new standards, as more robust underwriting standards and effective risk management could positively impact the credit quality of bank loans going forward.

We additionally support regulatory initiatives to operationally transform bank loan assets into “security-like” instruments. One of the key changes required to implement this would be a reduction in the settlement window to 3 days making settlement of these loans consistent with bonds and other securities. This provision would significantly improve the structural liquidity characteristics of bank loans (as opposed to their market liquidity). For several years, investors have proposed changes in the structure of bank loans including standardization of deal structures and the elimination of manual elements of the operational environment. We encourage bank regulators to consider codifying these changes.

### Managing Bank Loan Funds

Bank loans differ from bonds in several important ways, and these differences need to be taken into consideration in managing bank loan funds. First, investors own contracts rather than registered securities. Second, bank loan assets cannot be shorted like bonds. Third, the settlement process for bank loans is not as efficient as the settlement process for fixed income securities. As a result, the settlement periods for bank loans are longer than the settlement periods for fixed income securities such as high yield bonds, which typically settle in three days. This delayed settlement period may cause a potential liquidity mismatch for mutual funds offering daily liquidity, requiring fund managers to ensure that a fund has sufficient liquidity over settlement windows to meet potential redemptions. As a result, liquidity risk management is a very important aspect of managing bank loan funds.

Managers of bank loan mutual funds have several tools available to manage fund liquidity risk. Maintaining a slice of the portfolio in liquid assets, including cash and liquid bonds, acts as the first layer of liquidity for a fund facing redemptions. Second, by investing in more liquid bank loans and larger bank loan deals, the portfolio manager has additional flexibility to raise cash within the portfolio as settlement generally will be faster. Third, bank loan mutual funds have the ability to borrow (up to 33% of NAV under the '40 Act).<sup>20</sup> Typically, bank loan funds (or their fund complexes) establish a dedicated bank loan facility from a diversified group of banks (see sidebar on page 9). By limiting the use of permissible leverage during normal times, portfolio managers can retain maximum flexibility to draw down their loan facilities to meet redemptions during periods of market stress, if necessary. Exhibit 12 lists the largest bank loan US open-end mutual funds.

### Exhibit 12: LARGEST BANK LOAN US MUTUAL FUNDS

Fund Name	AUM (\$ Billions)
Oppenheimer Senior Floating Rate Fund	20.7
Fidelity Adv Floating High Income Fund	15.9
Eaton Vance Floating Rate Fund	13.1
Lord Abbett Floating Rate Fund	8.4
RidgeWorth Seix Floating Rate High Income Fund	8.2
Eaton Vance Floating Rate Adv Fund	7.1
Hartford Floating Rate Fund	6.8
Franklin Floating Rate Daily Fund	5.5
GS High Yield Floating Rate Fund	4.4
JP Morgan Floating Rate Income Fund	4.1
<b>Total Top 10</b>	<b>94.2</b>

Source: Strategic Insight. Simfund. As of July 2014.

Bank loan ETFs introduce several issues that are not present for bank loan mutual funds. Given the features associated with bank loans (physical contracts and relatively long settlement periods), these loans cannot be used for in-kind redemptions with an Authorized Participant (AP). In-kind redemptions are important to the ETF structure as they enable the ETF sponsor to deliver baskets of like securities rather than delivering cash, which preserves the arbitrage mechanism of ETFs.<sup>21</sup> Further, ETFs are designed to closely track reference indices, provide daily liquidity and transparency to investors. Given the need to hold cash balances to address delayed settlement on bank loans coupled with the inability to create and redeem ETFs “in kind”, the tracking error associated with bank loan ETFs could be material. Since most investors expect ETFs to closely track an index, this could result in investor experience being vastly different than expectations. Based on our concern regarding the current fundamental mismatch between the structural features of bank loans and ETFs and investor expectations, BlackRock has elected not to introduce bank loan ETFs.



While it is appropriate to look closely at bank loans, our review identifies several reasons to be less concerned about future systemic risk emanating from bank loan open-end mutual funds. First, the bank loan market has changed significantly since 2008. The preponderance of CLO-type vehicles with “market value triggers” left this market particularly vulnerable; these vehicles are no longer a major factor in the bank loan market. The increased awareness of

this market and the financial characteristics of bank loans have made these loans an attractive asset class for a broadening group of investors, including pension plans, insurers, and individual investors. Many institutional investors hold bank loans directly. Specifically, for those investing via mutual funds, several layers of liquidity are incorporated into these funds as part of their liquidity risk management practices.

## SOURCES OF BORROWING FOR FUNDS

There are several options that may be available to funds to obtain short-term funding to help meet redemptions. These options include a dedicated credit facility for a single fund, shared credit facilities that can be accessed by several funds, and repurchase agreements. Funds are, however, limited in their use of these options due to asset coverage and/or asset segregation requirements under the '40 Act, which means that a fund cannot incur significant amounts of leverage in utilizing these options.

Maintaining bank credit facilities for back-up liquidity purposes from a diversified group of banks is common for mutual funds. Credit facilities can either be “dedicated” to a fund or “shared” across different groups of funds. In some cases, dedicated credit lines are established and supplemented with shared lines across additional funds. Credit facilities are available to most mutual funds including those with strategies such as bank loan, high yield, EMD and other funds. Importantly, generally, the credit agreement that establishes the credit facility is between the fund and the lead arranger/administrative bank, and the syndicate banks, and therefore is an obligation of the fund, not the asset manager. An example of terms in a credit facility credit agreement for mutual funds include a commitment fee on unutilized commitment amounts and a rate based on LIBOR or the Fed Funds rate plus a spread on borrowed amounts. Borrowed funds must typically be repaid within a short period of time.

Repurchase agreements (repo) can also be used for borrowing in some mutual funds and are used in some bond funds within leverage constraints set forth in the '40 Act, UCITS, and/or AIFMD regulations. Repo financing is a collateralized loan governed under a master repurchase agreement. Repo involves delivering securities held in funds in exchange for cash, with an obligation to return the cash in exchange for the securities at maturity, and can be done on a term (e.g. three months), overnight or open-ended maturity basis. Repo is often used as a way to manage liquidity for bond funds, such as high yield funds. Open-ended maturities provide the best flexibility for portfolio managers to use repo lending as a way to raise temporary cash to meet redemptions as well as manage changes in portfolio positioning. This allows portfolio managers to raise cash temporarily for rebalancing rather than sell liquid securities that are part of core investment strategies. Repo is typically not permissible for bank loans given the delayed settlement period and resultant liquidity mismatch discussed previously in this paper. Repo markets exist in developed markets as well as a number of local emerging markets (e.g. Mexico, Turkey and Argentina). Given operational complexities related to settling transactions in local currencies, repo is rarely used for local EMD funds. Funds that predominately own assets on which repo is rarely (or never) available will have limited (or no) ability to enter into these transactions, and may be more likely to have a credit facility in place to help meet redemptions from time to time.

# High Yield Bonds and High Yield Bond Funds



**James Keenan**  
Managing Director,  
Head of  
Americas Credit



**David Delbos**  
Managing Director,  
Portfolio Manager,  
US High Yield  
Strategies

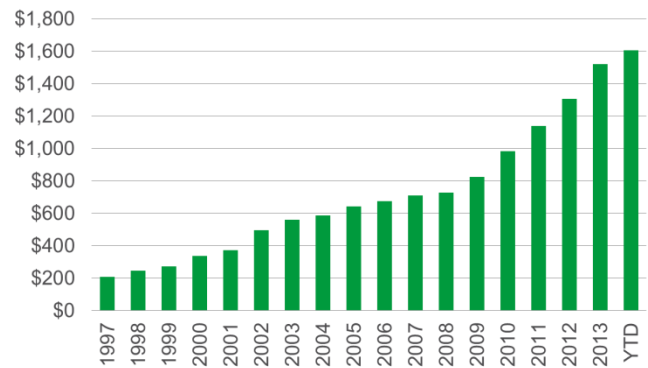
The US high yield bond market totaled approximately \$1.5 trillion as of year-end 2013 and represented approximately 2% of the global outstanding tradable debt universe (of \$81.6 trillion). Exhibit 13 shows that the amount of US high yield

bonds outstanding was growing at a moderate pace from 2002 when the market experienced a mini-credit crisis through 2009 when global markets experienced a more widespread financial crisis. Subsequently, there has been faster growth in the high yield market due to a number of factors, primarily driven by regulation and monetary policy, including:

- ▶ Regulatory-driven de-levering of banks and the resultant move of debt to public markets;
- ▶ The relatively low cost of borrowing offered to issuers due in part to unconventional monetary policy;
- ▶ Resulting demand from global investors seeking yield and income as an alternative to equities and other fixed income products. As noted in our *ViewPoint*<sup>22</sup> in May, insurance companies and pension plans have made substantial allocations to this asset class to meet their income requirements. Likewise, an increasing number of individuals have invested in this asset class, primarily via mutual funds in the US ('40 Act funds) and in the EU (UCITS).

**Exhibit 13: GROWTH IN US HIGH YIELD MARKET**

1996 through July 2014



Source: Bank of America/Merrill Lynch; S&P Capital IQ LCD. As of 31 July 2014.

## Characteristics of High Yield Bonds

High-yield bonds are senior unsecured debt rated below investment grade (i.e. below BBB by S&P and Baa by Moody's). As bonds go down the rating and quality spectrum (e.g. from BB to CCC), they generally have higher yields to compensate for increased credit risk. High yield bonds are typically fixed rate instruments that are less sensitive to moves in interest rates than their investment grade counterparts. As such, high yield bonds typically have a more attractive yield-to-duration ratio and tend to "trade shorter" than their stated durations since spreads tend to widen when interest rates fall and compress when interest rates rise. Rising rates tend to occur when the economy is strong; thus, overall credit risk generally declines in rising interest rate environments resulting in tighter credit spreads. High yield bonds typically have a negative correlation to US Treasuries (see Exhibit 14). Each of these factors makes high yield bonds relatively attractive in a rising rate environment.

**Exhibit 14: CORRELATION OF FIXED INCOME ASSET CLASSES**

	S&P 500 Index	10-Year US Treasury	US Investment Grade	US High Yield	Leveraged Loans	JPM Global EMBI	Municipal Bonds
S&P 500 Index	1.0						
10-Year US Treasury	-0.5	1.0					
US Investment Grade	0.6	-0.4	1.0				
US High Yield	0.7	-0.6	0.8	1.0			
Leveraged Loans	0.6	-0.3	0.7	0.7	1.0		
JP Morgan Global EMBI	0.7	-0.5	0.6	0.8	0.5	1.0	
Municipal Bonds	0.4	-0.5	0.3	0.5	0.2	0.5	1.0

Source: BlackRock, Computed using 5 years of weekly returns, equally weighted. Underlying indices are risk factors in BlackRock's risk model. Spread factors consider spreads to risk-free rates. As of 10 September 2014.

As the high yield market has grown, the asset class is being used by an increasingly diverse set of investors, and high yield bonds have become a component of a wide variety of funds. Following the 2008 financial crisis, commercial banks and investment banks have de-levered their balance sheets and reduced their holdings of high yield bonds. Exhibit 15 shows the estimated breakdown of holdings in US high yield bonds by type of investors, highlighting the fact that as of December 2013, approximately 97% of US high yield debt was held directly by institutional asset owners and mutual funds with only 3% held by hedge funds, banks, and other investors. This compares to pre-2008 financial crisis when 16% of high yield bonds were held by leveraged entities such as hedge funds, banks, and collateralized bond obligations (CBOs).<sup>23</sup>

#### Exhibit 15: HIGH YIELD INVESTORS OWNERS OF USD HIGH YIELD

	Percentage of AUM
US Insurance Companies	22.9%
US Pension Funds	22.0%
Non-US Institutional Investors	14.3%
High-Yield Mutual Funds	28.1%
Investment-Grade Funds	5.9%
Equity and Income Funds	3.5%
Hedge Funds, Banks, Other	3.3%

Source: JP Morgan estimated as of 31 December 2013.

High yield mutual funds are well established investment vehicles, and high yield ETFs are gaining wider market acceptance. Both vehicles are useful for income oriented investors who are looking for exposure to a diversified portfolio of high yield issuers. The ETFs are designed to closely track a high yield benchmark (e.g. Barclays' High Yield Index). The vast majority of high yield open-end mutual funds are managed relative to a high yield benchmark where investors are seeking returns above the benchmark through professional bond selection. Increasingly, investors have asset allocation strategies that include high yield bonds and try to identify managers who can outperform in varying market cycles vis-à-vis the benchmark with the understanding that high yield as an asset class may outperform or underperform relative to other asset classes depending on the market environment. Exhibit 16 reflects the increasing growth of these funds. Between 2009 and 2013, high yield mutual funds grew more than twofold from \$187 billion to \$433 billion. While high yield ETFs are a much smaller category, during the same period, ETFs grew more than five-fold, from \$8 billion to \$44 billion. The largest high yield mutual funds in the US are listed in Exhibit 17.

#### Exhibit 16: GROWTH OF HIGH YIELD MUTUAL FUNDS

	US Open-End Mutual Fund AUM (\$ Billions)	High Yield ETF AUM (\$ Billions)
2009	187	8
2010	253	15
2011	283	23
2012	391	38
2013	433	44

Source : BlackRock, Morningstar, Simfund, Bloomberg. As of December, 2013

#### Exhibit 17: LARGEST HIGH YIELD US MUTUAL FUNDS

Fund Name	AUM (\$ Billions)
American High Income Trust / Capital Group	20.7
Vanguard High Yield Corporate Fund	17.2
BlackRock High Yield Bond Fund	13.8
PIMCO High Yield Fund	11.6
Ivy High Income Fund / Waddell & Reed	10.9
Fidelity Capital & Income Fund	10.5
JP Morgan High Yield Fund	10.4
Fidelity Series High Income Fund	10.3
T. Rowe Price High Yield Fund	9.9
Lord Abbett Bond Debenture Fund	9.3
<b>Total Top 10</b>	<b>124.5</b>

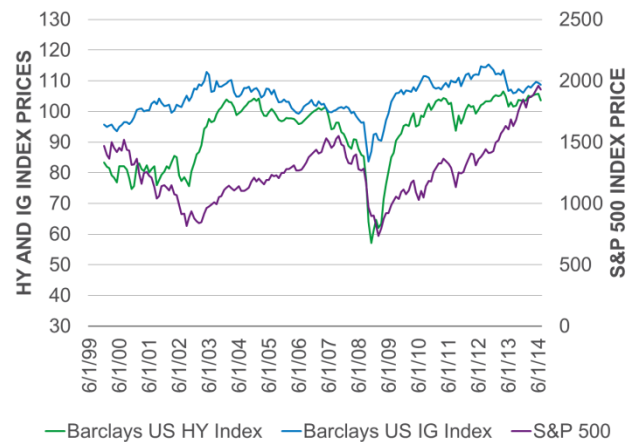
Source: Strategic Insight. Simfund. As of July 2014.

#### High Yield Behavior During Market Crises

Exhibit 18 compares high yield, equity and investment grade indices over two market cycles (including 2001-2002 and 2008). Investment grade debt prices were negatively impacted during the financial crisis of 2008 but were fairly resilient in terms of the magnitude of declines. High yield price declines were much larger and tracked equities reflecting the historically high correlation between the two asset classes. From June 30 to December 31, 2008, high yield and equity prices both dropped by approximately one third. High yield prices declined more sharply but rebounded much more quickly than equities. Over the broader historical period, high yield exhibited lower volatility than equities and higher risk-adjusted returns. And, in both market downturns, high yield markets re-priced quickly to reflect changing supply and demand factors within the asset class.

### Exhibit 18: HIGH YIELD, EQUITY AND INVESTMENT GRADE MARKETS

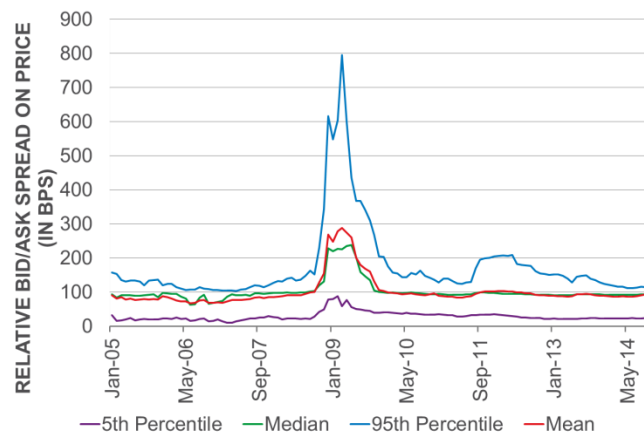
Index Prices from Dec-1999 to June-2014



Source: Barclays Capital; Bloomberg. As of 31 July 2014.

Exhibit 19 shows historical bid-offer spreads for US high yield bonds in the Barclays High Yield index with the mean, median, 5th percentile, and 95th percentile of bid-offer spreads. As is well known, during the financial crisis bid-offer spreads widened markedly to reflect higher costs of selling bonds during a period of rapidly rising credit concerns and funding problems at broker/dealers. As shown in Exhibit 19, this was particularly acute for the “least liquid” bonds in the

### Exhibit 19: HISTORICAL BID-ASK SPREADS FOR US HIGH YIELD BONDS

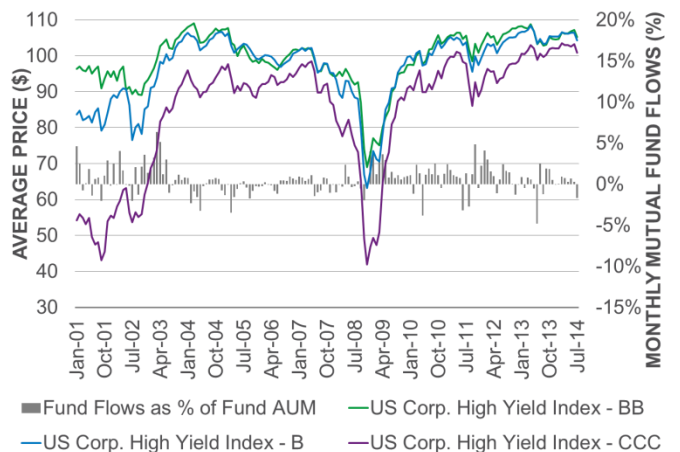


Source: Reuters. As of 10 September 2014.

index and more muted for the most liquid bonds. Further, despite the fact that overall transaction volumes have fallen in both absolute and relative terms in the past few years, bid-offer spreads for high yield bonds have reverted to their longer-term averages even in the face of decreased dealer inventories. Turnover (as measured by trading volume divided by market size) has also decreased from 1.4 in 2007 to 0.92 in 2013.<sup>24</sup> However, while markets may be somewhat thinner – as is the case across fixed income securities – high yield bonds have been transacting at reasonable costs. Obviously, if credit concerns accelerate in the future, it is likely that those spreads would widen to accommodate the increase in risk.

High yield bond fund net outflows occurred during a number of market crises over the last fifteen years. We note that during 2008, net outflows were lower than levels experienced during prior periods of stress such as 1998 and 2004. Exhibit 20 shows that while there have been market crises and “risk off” periods where high yield funds experienced outflows, monthly net outflows have never exceeded 5% of total high yield mutual fund AUM.

### Exhibit 20: MONTHLY NET FLOWS FOR HIGH YIELD BOND FUNDS



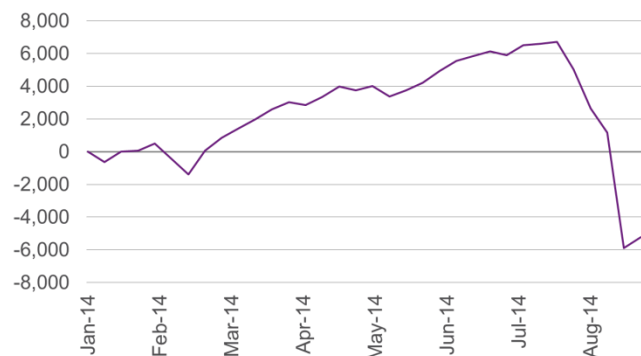
Source: Morningstar. As of July, 2014.

### High Yield Market Behavior in August 2014

During the week ended August 8, 2014, high yield mutual funds experienced net outflows of approximately \$7 billion. These outflows followed geopolitical risk events combined

with economic and monetary policy concerns. During this period, various investors including multi-strategy fixed income and crossover funds stepped in to buy high yield bonds. As noted in Exhibit 21, high yield mutual funds experienced significant outflows commencing in the middle of July 2014 and continuing into August, with a noticeable reversal of the flows for the weeks ended August 15, August 22, and August 29 as higher yields and spreads attracted investors back to high yield mutual funds.

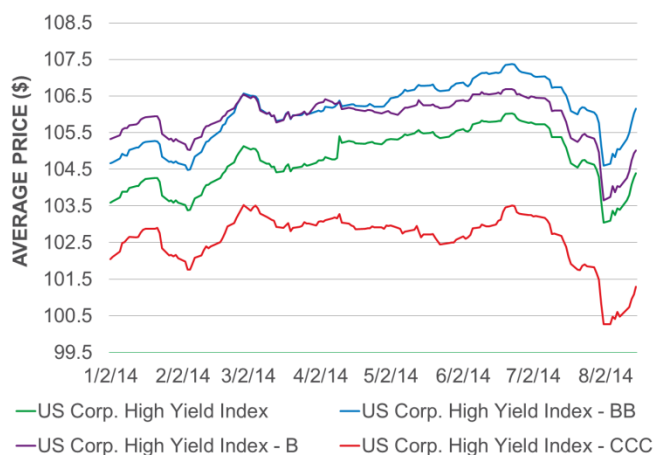
**Exhibit 21: 2014 WEEKLY CUMULATIVE HIGH YIELD MUTUAL FUND FLOWS**



Source: JP Morgan and Lipper FMI as of August 29, 2014.

Our interpretation of these most recent high yield outflows and accompanying price declines is that they are consistent with a well functioning capital market repricing in a “risk off” rotation. Exhibit 22 shows price declines for the US High Yield index and its BB, B and CCC components. Prices declined slightly more than 1% with prices recovering almost fully within two weeks. Mutual fund redemptions were largely addressed by orderly selling by fund managers of high yield and investment grade assets at clearing prices. Where needed, fund managers relied on supplemental liquidity provided primarily by repurchase agreements as described in the next section.

**Exhibit 22: HIGH YIELD AVERAGE BOND PRICE (2014 YTD)**



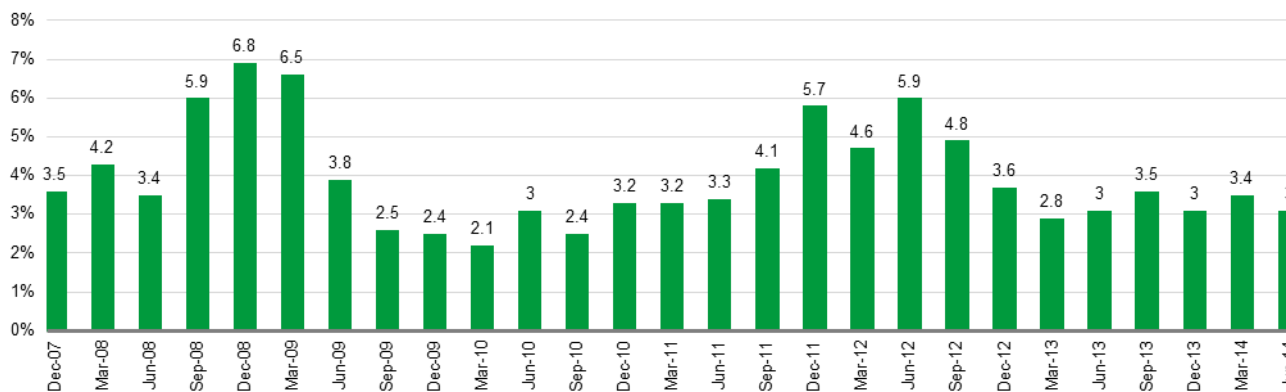
Source: Barclays Capital as of August 20, 2014

**Managing High Yield Funds**

As with bank loan mutual funds, high yield mutual funds are managed with multiple layers of liquidity, starting with the asset allocations within the portfolio. First, the majority of assets held in high yield mutual funds are comprised of bonds, which unlike bank loans, are securities that use a standard T+3 settlement period. Managers have the ability to choose same day settlement (SDS) for many of these bonds, although the SDS option is not used frequently. In addition, these funds typically hold some investment grade bonds and limit their concentration risk to individual issuers, often using internal criteria that are more restrictive than those required by the '40 Act. Finally, mutual fund portfolio managers typically hold an allocation to cash. Exhibit 23 shows the percentage of cash balances across high yield mutual funds from December 2007 through June 2014 with an average of 4% over that period and a high of 6.8% at the end of 2008. The most important observation from this data is that the

**Exhibit 23: CASH BALANCES FOR HIGH YIELD MUTUAL FUNDS**

December, 2007 through June, 2014



Source: JP Morgan Securities. As of June 2014.

levels of cash are actively managed to accommodate actual and anticipated redemptions. The combination of bonds which settle on T+3, investment grade holdings, and cash buffers provides significant liquidity within the portfolio to address most redemption activity.

Besides cash and liquid securities, there are additional tools available to meet higher redemption scenarios. Since high yield bonds are securities, they can be lent via repurchase agreements, providing an additional source of liquidity assuming that leverage limits have not been reached. Finally, many large mutual fund complexes have established loan facilities that can be drawn down to address short-term liquidity needs (see sidebar on page 9). Mutual fund portfolio managers typically do not employ material leverage in the ordinary course of managing high yield funds, leaving capacity to borrow via repurchase agreements or loan facilities in the event of significant redemptions.

Similar to bank loan funds, managing liquidity is an important part of the investment and risk management process for high yield funds. To effectively manage liquidity, managers should evaluate liquid assets relative to fund thresholds, liquidity coverage ratios, and historical redemption behavior. Liquidity coverage ratios are defined as liquid assets available to meet potential redemptions and are measured over forward time horizons for a fund. Under the '40 Act, liquid assets are defined as assets that can be sold in the ordinary course of business within 7 days at least at the price that the asset is valued in the fund. High yield fund managers should calculate these ratios under both normal and stressed market conditions<sup>25</sup> to ensure sufficient liquidity is available in the fund.

Stress tests should involve shocking market risk factors (such as interest rates and spreads) and calculating the impact on asset values as well as collateral values that might fluctuate as markets move. This review of liquidity coverage ratios is part of the Alternative Investment Fund Manager's Directive (AIFMD) and UCITS regulations and is followed more broadly by many asset managers as a best practice for liquidity risk management. To the extent data is available, historical redemption behavior should be evaluated using disaggregated data for large investors and specific funds so that potential redemptions of funds incorporate actual investor behavior.<sup>26</sup>

Given the growth of the high yield market, gaining a better understanding of this asset class is important. Our review of the high yield market illustrates reasons to be less concerned about systemic risk emanating from high yield mutual funds. First, high yield bonds are widely held by insurance companies, pension plans, non-US investors and other funds, many of whom are able to add to their direct holdings when valuations become more attractive. Second, while the price of high yield bonds can fluctuate – as is the case for all fixed income securities – there is sufficient trading volume. Third, high yield fund managers have a broad range of tools available to them for liquidity risk management, including the incorporation of multiple layers of liquidity into the construction of their portfolios and the ability to borrow.

# Emerging Markets Debt (EMD) and EMD Funds



**Jeff Shen**  
*Managing Director,  
 Head of Emerging  
 Markets*

As shown in Exhibit 24, EMD is a large and growing market totaling \$12.9 trillion and comprising 14% of global outstanding debt as of December 31, 2013. EMD includes \$1.7 trillion of external debt issued in developed market currencies (principally USD) and \$11.2 trillion debt denominated in local currency. Of the local debt, \$5.8 trillion is government issued and the remaining \$5.4 trillion is comprised of financial and non-financial corporate debt.

EMD outstanding more than tripled from December 2004 to December 2014 reflecting deeper banking and capital markets, facilitated by improvements to the macroeconomic policies of emerging markets countries. These policy enhancements were introduced, in part, as a response to numerous EM crises during the 1980s and 1990s (particularly 1994-1995 and 1998) and included development of more independent central banks, inflation targeting, and reforms to foster the development of local investors and markets. Additionally, many EM countries adopted more flexible currency arrangements and lengthened the term structures of local interest rates to provide financial flexibility for local market participants, including the ability to issue and hold longer duration bonds. Collectively, EM policy improvements have made emerging economies more resilient to external shocks and more attractive to investors. Further, the development of new local debt indices<sup>27</sup> and the inclusion of some EM countries in global fixed income indices<sup>28</sup> has increased the visibility of EMD and broadened significantly the investor base.

While the EMD market is substantial in size, 80% of this debt is only traded by domestic investors due to regulatory and operational issues. The majority (~50%) of this “captive” debt is issued in Asia, mainly China and India where widespread foreign investment in local markets is highly regulated and restricted. Thus, the remaining approximately 20% (or \$2.7 trillion) of EMD “investable” for foreign investors represents only 3% of global tradable debt. This universe includes external sovereign and corporate debt of \$1.7 trillion, local sovereign debt of \$800 billion, and only a modest amount of local corporate debt (\$200 billion). The investable EMD universe is primarily reflected in debt issues represented in global EM indices, most notably the EMBI Global Diversified (external government debt), CEMBI Broad (external corporate debt) and GBI-EM Global (local government debt) and EM Local Currency Non-Sovereign (local corporate debt) indices.

## Domestic Debt Markets

As shown in Exhibit 24, growth in domestic sovereign and corporate debt has far surpassed the growth in external EM debt and comprised 87% of total outstanding EMD at the end of 2013. This principally reflects growth in local debt issuance that has resulted from debt management policies implemented by emerging market countries to strengthen the structure of public debt. Importantly, the shift to long term domestic debt as the primary source of EM sovereign funding has created a self-reinforcing mechanism in which credit quality of sovereigns improves due to the stronger structure of public debt cross-over, contributing further to market development. Currently, approximately two-thirds of emerging markets countries are rated investment grade (including some of the largest issuers of debt, such as China, Russia, Brazil, Turkey, Mexico, and the Philippines). Exhibit 25 shows index statistics and average S&P and Moody’s ratings for EMD in global external debt, local sovereign debt and corporate debt indices. This enhancement in credit quality has attracted new investors to the asset class.

**Exhibit 24: EMERGING MARKETS DEBT GROWTH (2004 THROUGH 2013)**

Debt by Category	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
<i>International debt securities</i>	<b>678</b>	<b>695</b>	<b>796</b>	<b>910</b>	<b>894</b>	<b>1,006</b>	<b>1,132</b>	<b>1,265</b>	<b>1,488</b>	<b>1,695</b>
Banks	68	87	115	154	152	162	178	205	268	319
Other financial corporates	46	49	78	92	93	97	109	120	140	162
Non-financial corporates	126	137	160	195	195	238	287	341	403	481
General government	437	422	443	468	455	511	559	599	677	733
<i>Domestic debt securities</i>	<b>2,749</b>	<b>3,729</b>	<b>4,516</b>	<b>5,670</b>	<b>5,918</b>	<b>7,366</b>	<b>8,773</b>	<b>9,814</b>	<b>10,906</b>	<b>11,237</b>
Financial corporates	748	1,207	1,623	2,030	2,364	2,653	3,038	3,173	3,390	3,434
Non-financial corporates	364	477	556	647	723	1,083	1,414	1,626	1,968	2,045
General government	1,638	2,045	2,337	2,993	2,830	3,629	4,321	5,015	5,547	5,758
<b>Outstanding EM debt</b>	<b>3,427</b>	<b>4,423</b>	<b>5,311</b>	<b>6,580</b>	<b>6,812</b>	<b>8,372</b>	<b>9,906</b>	<b>11,079</b>	<b>12,393</b>	<b>12,932</b>

Source: BIS. As of 31 December 2013.

## Exhibit 25: JP MORGAN EMD INDEX STATISTICS AND AVERAGE RATINGS

Rating Decomposition as of July 31, 2014

Credit Quality	EMBI Global Div.		CEMBI Broad Div.		GBI-EM Global Div.	
	Market Cap (\$ mil)	%	Market Cap (\$ mil)	%	Market Cap (\$ mil)	%
<b>IG</b>	237,006	65	262,514	68	9,830	93
<b>HY</b>	127,936	35	124,151	32	706	7

Average Rating History

Trade Date	EMBI Global Div.		CEMBI Broad Div.		GBI-EM Global Div.	
	Avg Moody's Rtg	Avg. S&P Rtg	Avg Moody's Rtg	Avg. S&P Rtg	Avg Moody's Rtg	Avg. S&P Rtg
<b>2000</b>	Ba2	BB				
<b>2001</b>	Ba2	BB	Baa1	BBB		
<b>2002</b>	Ba1	BB	Baa1	BBB		
<b>2003</b>	Ba1	BB	A3	BBB		
<b>2004</b>	Ba2	BB	A3	BBB		
<b>2005</b>	Ba1	BB+	Baa1	BBB+	Baa1	BBB+
<b>2006</b>	Ba1	BB+	A3	BBB+	Baa1	A-
<b>2007</b>	Ba1	BB+	A3	BBB+	Baa1	A-
<b>2008</b>	Ba1	BB+	Baa1	BBB	Baa2	A-
<b>2009</b>	Ba1	BB+	Baa1	BBB	Baa2	BBB+
<b>2010</b>	Baa3	BBB-	Baa2	BBB	Baa2	BBB+
<b>2011</b>	Baa3	BBB-	Baa2	BBB	Baa2	BBB+
<b>2012</b>	Baa3	BB+	Baa2	BBB	Baa2	BBB+
<b>2013</b>	Baa3	BBB-	Baa2	BBB	Baa2	BBB+
<b>Current</b>	Baa3	BB+	Baa2	BBB	Baa1	BBB+

Source: JP Morgan. As of August 2014.

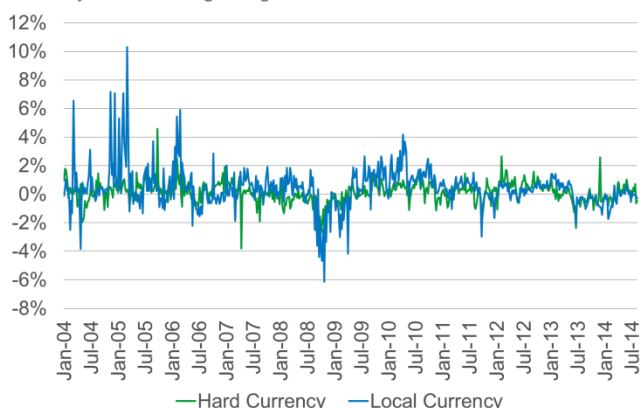
While domestic markets investors own the majority of EMD (87%), foreign participation in these markets has also increased (from \$894 billion in 2008 to \$1.7 trillion in 2013). While there are pros and cons to foreign investment in EM,<sup>29</sup> we believe that a more diverse investor-base could have a stabilizing impact on markets and that this benefit outweighs concerns about the potential short-term volatility of flows. Further, while the market and literature is still assessing whether there is an optimal level of foreign participation, we believe that such levels would likely be country specific.

### EMD in Recent Historical Stress Periods

EMD as an asset class has performed well over the past decade, although there have been a number of idiosyncratic and global events, including recent developments in Ukraine/Crimea and related Russian sanctions as well as broader events, such as the 2008 financial crisis, China growth concerns and Fed tapering impacts on emerging markets. EMD market resilience to recent stress events is illustrated using external and local debt index examples as their respective performance is driven by varying market risk factors (e.g., developed markets interest rates and sovereign spreads for external debt versus local interest rates and FX

### Exhibit 26: EMD WEEKLY FLOWS

January, 2004 through August 13, 2014



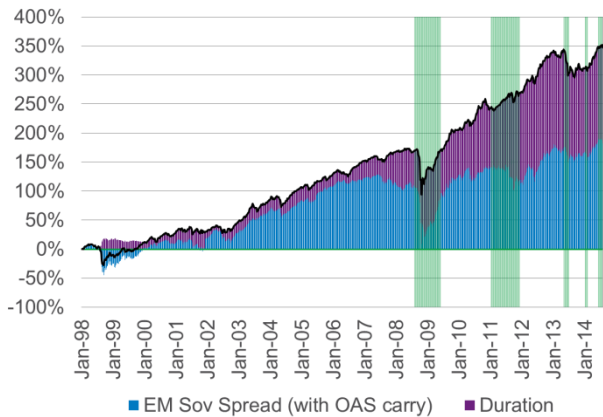
Source: JP Morgan. As of 13 August 2014.

rates for local debt). Exhibit 26 depicts EMD weekly flows for external and local debt funds from January 2004 through August 13, 2014. While data is not available prior to 2004, weekly outflows for EMD mutual funds during the 2008 Financial Crisis peaked at 6% and at 3% during the 2011-2012 EU Peripherals Crisis.



Recent periods of high volatility for EMD have been manageable. As shown in Exhibit 27 of the JPM EMBI Global Diversified Index, external debt experienced a 30% drawdown during the second half of 2008. Index performance declines during the second half of 2008 were mainly due to widening of spreads that was partly offset by lower developed markets interest rates. Index levels were restored to pre-crisis levels by July of 2009. Effects during the Fed Taper and other stress scenarios were muted and short in duration.

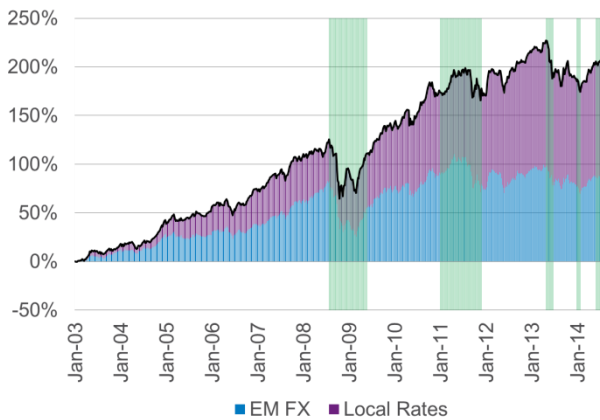
**Exhibit 27: EMERGING MARKET EXTERNAL DEBT**



Source: JP Morgan and Bloomberg. As of 1 August 2014.

For local debt, returns are a function of local interest rates and currency risk. As shown for the JPM GBI-EM Index, during the second half of 2008, local debt experienced a maximum drawdown of approximately 20% largely due to FX depreciation versus the USD. Performance during other stress scenarios was directionally similar to external debt, but comparatively muted.

**Exhibit 28: EMERGING MARKET LOCAL DEBT**



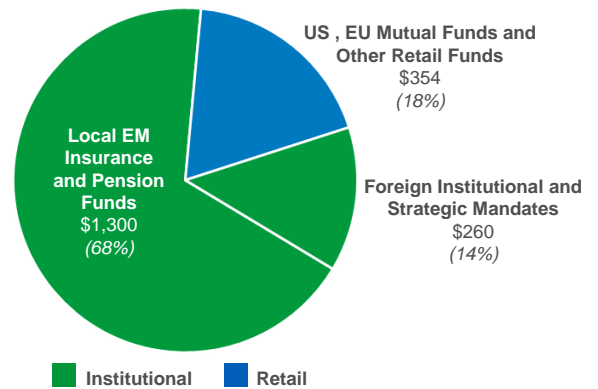
Source: JP Morgan and Bloomberg. As of 1 August 2014.

### Emerging Market Debt Portfolios

The “investable” EMD universe of \$2.7 trillion is held by dedicated EM portfolio investors as well as by crossover and global funds, hedge funds, sovereign wealth funds, central banks and other investors. While mutual funds and ETFs are sometimes highlighted as large holders of EMD, these assets are broadly held. As shown in Exhibit 29, dedicated EMD portfolios total approximately \$2 trillion and are principally owned directly by institutional investors, including local market insurance companies and pension funds and strategic institutional investors.<sup>30</sup> Only \$354 billion of dedicated EM portfolios was held by retail mutual funds. EMD ETFs are approximately \$25 billion reflecting a small component of investable EMD assets. Exhibit 30 includes a list of the largest EMD US mutual funds.

**Exhibit 29: DEDICATED EM PORTFOLIOS BY INVESTOR TYPE**

**Dedicated EM Portfolios are 82% Held by Institutional Investors**



Source: “Emerging Markets Outlook and Strategy for 2014,” JP Morgan, November 25, 2013. JP Morgan estimates, official sources, EPFR, Bloomberg.

**Exhibit 30: LARGEST EMD US MUTUAL FUNDS**

Fund Name	AUM (\$ Billions)
PIMCO Emerging Local Bond Fund	11.4
MFS Emerging Markets Debt Fund	6.2
PIMCO Emerging Markets Bond Fund	5.6
TCW Emerging Markets Income Fund	5.4
Fidelity New Markets Income	5.0
T. Rowe Price Emerging Market Bond Fund	4.8
GMO Emerging Country Debt Fund	3.5
Fidelity Adv Emerging Markets Income Fund	2.6
Stone Harbor Local Markets Fund	2.4
Stone Harbor Emerging Markets Fund	2.2
<b>Total Top 10</b>	<b>49.1</b>

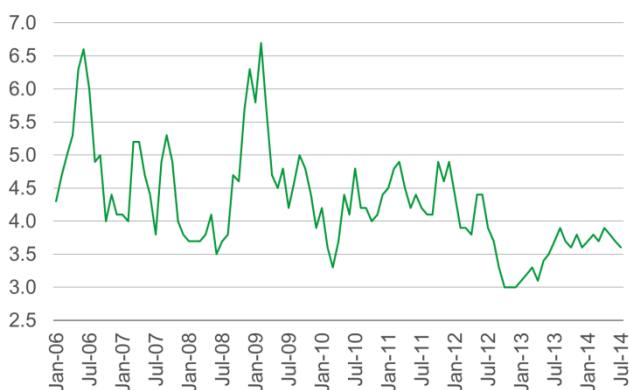
Source: Strategic Insight. Simfund. As of July 2014.

Dedicated EM portfolios tend to hold a majority of their assets in investment grade EMD (reflecting index composition with approximately two-thirds investment grade issues in hard currency debt and 90% investment grade issues in local debt) as well as cash and developed markets government bonds. Depending on the type of debt (external sovereign, external corporate or local sovereign), funds are benchmarked to the appropriate market indices with the JPMorgan emerging markets indices (EMBI, CEMBI and GBI-EM) being the most common.

### Managing Emerging Markets Debt Funds

The EMD asset class is different than bank loans or high yield, however, as with these other funds, liquidity risk management is an important element of managing EMD funds. Given the differences in the underlying assets, EMD funds take a different approach to building their portfolios and to managing liquidity. Portfolios are constructed with a majority of investment grade emerging markets bonds as well as allocations to cash and developed market bonds. Local EMD funds generally embed some inherent diversification given they typically hold bonds across 12 to 20 countries. Further, as EM local yield curves now extend to 30+ year maturities, this provides the ability to diversify across individual debt holdings. Fund managers typically seek to minimize concentration risk by sizing positions appropriately and avoiding large exposures to single names and illiquid positions. Exhibit 31 depicts cash balances for EMD fund portfolios from January 2006 through July 2014 which ranged from 3.0% to 6.8% depending on the market environment. As was the case with high yield bond funds, cash balances were actively managed.

**Exhibit 31: CASH BALANCES FOR EMERGING MARKET DEBT PORTFOLIOS**



Source: JP Morgan. As of July 2014.

As with bank loans and high yield funds, EMD mutual funds are permitted to borrow, subject to the limits in the '40 Act or UCITS. Despite investment grade ratings for the majority of EMD, traditional repurchase agreements are not employed since operational issues associated with lending securities have not been addressed in local markets. As an alternative, funds can rely on a credit line for back-up liquidity. Portfolio managers typically do not employ material leverage in the ordinary course of managing EMD funds, leaving capacity to borrow in the event of significant redemptions.

Similar to bank loans and high yield funds, liquidity risk management should include ongoing measurement and monitoring of liquidity risk, including asset liquidity risk (i.e., days required to liquidate assets) and investor liquidity (i.e., expected redemption behavior). Estimates of days required to liquidate assets reflect transaction costs (i.e., bid-offer spreads in varying market environments) as well as measures of capacity (i.e., ability to sell positions) in normal and stressed markets. Careful measurement of days required to liquidate assets helps determine whether sufficient liquidity coverage is in place over forward maturity dates. Liquidity coverage ratios should be calculated based on "stress scenarios" for both assets and redemptions. Stress scenarios for assets should capture expected adverse market environments and potential corresponding moves in market risk factors. On the liability side, stress tests should capture "worst case" redemption behavior for actual or similar funds based on historical redemption data.

As a growing asset class and a growing fund sector, EMD markets and EMD funds warrant additional analysis. Our research indicates that EMD growth is substantially less than commonly represented as the investable universe is much smaller than the total EMD outstanding. In addition, changes in this market have broadened the investor base to include many direct institutional investors, including pension plans, insurance companies, and official institutions. At the fund level, managers have a range of tools available to manage liquidity risk. Based on our analysis, managers are building portfolios that include a substantial allocation to cash and developed markets government bonds while also maintaining loan facilities as a back-up source of liquidity. The combination of market factors and fund management makes EMD funds unlikely to create systemic risk.

# Conclusions

While policy makers and academics have raised concerns about the potential risks associated with bank loan, high yield and EMD funds, our review has found that historically, these funds have handled redemptions without creating any material systemic issues, including during periods of market stress and relatively high redemptions. In aggregate, these asset classes make up only a small fraction of investable global fixed income assets, and dedicated mutual funds hold an even smaller fraction – less than one-third of the investable assets in any one of these asset classes. As these funds are all fluctuating NAV funds, there is no similarity to the issues seen in \$1.00 NAV money market funds during the 2008 financial crisis. Importantly, liquidity risk management is a critical component in managing these funds, and mutual fund portfolio managers employ a range of tools to manage the liquidity in these funds.

In a separate *ViewPoint* entitled “Fund Structures as Systemic Risk Mitigants”, we have made specific recommendations regarding ways to potentially make all categories of mutual funds more resilient to the changing market liquidity of their underlying assets. These recommendations include addressing structural elements of funds, risk management practices, and disclosure to investors and regulators. We reiterate here the importance of looking at these elements of funds broadly to establish global principles that can be tailored to specific regulatory regimes. Based on our review of bank loan, high yield, and EMD funds, we make several additional observations and recommend that regulators consider ways of codifying best practices for these types of funds:

## 1. Risk associated with bank loan, high yield and EMD funds needs to be evaluated in the context of actual historical redemption behavior, the presence of liquidity buffers and the size of mutual funds relative to the overall size of the markets for these assets.

- ▶ Historical data and our experience as an asset manager indicates that cash balances, liquid bonds and liquidity facilities held by mutual funds in these asset classes have historically been sufficient to meet redemptions, even during crisis periods.
- ▶ A high proportion of the investments in US mutual funds are retirement assets (43%) that are invested for the long-term.

- ▶ The aggregate AUM of high yield, bank loan and EMD mutual funds represents less than 2% in aggregate of the global fixed income market.
- ▶ Aggregate fund holdings are dwarfed by direct holdings of these asset classes by institutional asset owners.
- ▶ Policy makers need to separate concerns about potential investment losses in an asset class from risk that a fund might create or transmit systemic risk.

## 2. Securities regulators and the global mutual fund industry should develop globally consistent best practices for fund structures, liquidity risk management, and investor disclosure.

- ▶ Our *ViewPoint* entitled “Fund Structures and Systemic Risk Mitigants” provides a detailed comparison of structural features across different types of funds as well as a discussion of liquidity risk management.
- ▶ We recommend considering the structural features of funds in the context of funds generally as well as considering tailoring features for funds with less liquid assets.
- ▶ Fund managers should be encouraged to implement disciplined liquidity risk management tailored to their funds under management. These measures may include establishing liquidity coverage ratios, cash buffers, and lines of credit, as well as establishing restrictions on the use of leverage in ordinary circumstances and limits on less liquid holdings. Liquidity should be measured under normal and stressed market conditions.
- ▶ We also recommend that fund managers improve their research into the redemption characteristics of the investors in their funds and seek to explicitly incorporate this into their liquidity management practices. A logical starting point is the actual historical behavior; however, theoretically, “worst-case” behavior could exceed historical experience. As a result, research should also include behavior under assumed stressed market conditions.
- ▶ Existing regulatory guidelines for liquidity risk management under UCITS and AIFMD are designed to help mitigate risk in collective investment vehicles and should be evaluated for use in other jurisdictions.
- ▶ Many of the liquidity risk management practices described in this paper should be encouraged and managers should at least be required to regularly share their liquidity risk management practices with fund boards.
- ▶ Investor disclosure and transparency should also be tailored to the special features of these assets and these funds.

### 3. **Bank loan funds should be managed to address the unique issues associated with the underlying assets**

- ▶ Bank loans are contracts (versus registered securities) with non-standardized terms which result in delayed settlement periods which create a funding mismatch for daily liquidity mutual funds.
- ▶ These funds usually maintain cash balances and hold some very liquid securities to meet normal redemptions.
- ▶ Bank loan mutual funds generally do not employ permanent leverage, leaving borrowing capacity to meet redemptions if necessary. These funds should also have appropriately-sized established dedicated lines of credit that can be drawn to meet a short-term surge in redemptions.
- ▶ The long settlement period and inability to redeem in-kind make bank loans poorly suited to a traditionally understood ETF structure.
- ▶ Regulatory initiatives to make bank loans more “security-like” by reducing the settlement period should be encouraged and accelerated as this would improve the liquidity of bank loans.

### 4. **High yield bond funds have weathered multiple market environments, and these funds are managed with multiple sources of liquidity.**

- ▶ High yield bond funds are able to sell assets as necessary to raise cash for redemptions, albeit at market clearing prices which can be volatile, as is the case with equities.
- ▶ High yield bond funds generally hold higher cash balances than equity funds as well as maintain additional liquidity sources, including investment grade bonds, bank credit lines and repurchase agreements.
- ▶ High yield funds typically do not hold illiquid assets, and the funds place limits on concentrations to individual names which benefits the overall liquidity profile for these funds.
- ▶ High yield bond funds generally do not employ material leverage, thereby leaving unused borrowing capacity available to meet redemptions if necessary. These funds can access temporary leverage (such as repo transactions and shared fund credit facilities) to meet a short-term surge in redemptions.

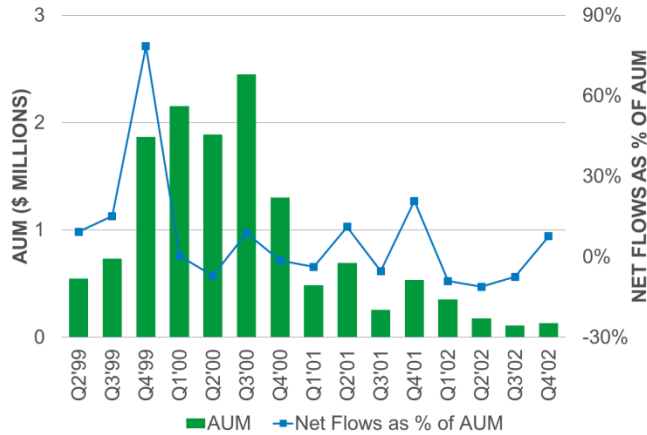
### 5. **The market for EMD has evolved significantly, and these funds should incorporate liquidity in the portfolio.**

- ▶ The “investable” EMD market is a small component of the global tradable debt universe (3%). The percentage of EMD held in retail funds, including mutual funds and ETFs is less than 20% of dedicated EMD account AUM and less than one-half a percentage of the fixed income market.
- ▶ EMD funds are mainly comprised of investment grade emerging markets debt. Funds also frequently hold a portion of their assets in developed market government bonds providing further liquidity.
- ▶ EMD funds generally establish limits on less liquid issuers which benefits the liquidity profiles for these funds.
- ▶ EMD funds generally maintain allocations to cash for liquidity and rebalancing purposes. This is especially important given that the majority of the bonds in these portfolios cannot be used in repurchase transactions.
- ▶ EMD funds generally do not employ leverage leaving borrowing capacity to meet redemptions if necessary. These funds can access temporary leverage (such as shared fund credit facilities) to meet a short-term surge in redemptions.

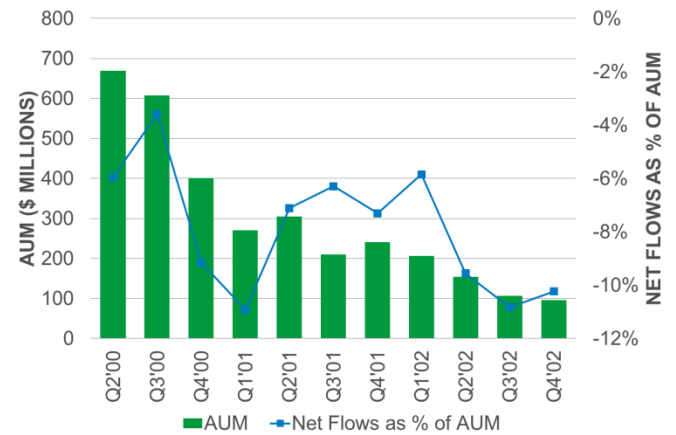
# APPENDICES

## Appendix A: EXAMPLES OF LARGE OUTFLOWS FROM MUTUAL FUNDS

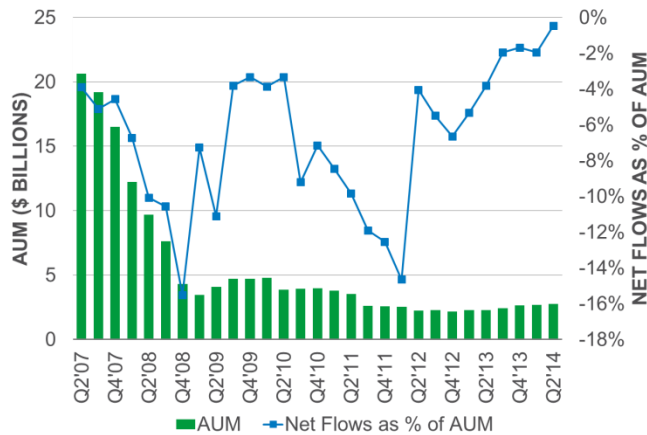
### Technology Stock Fund



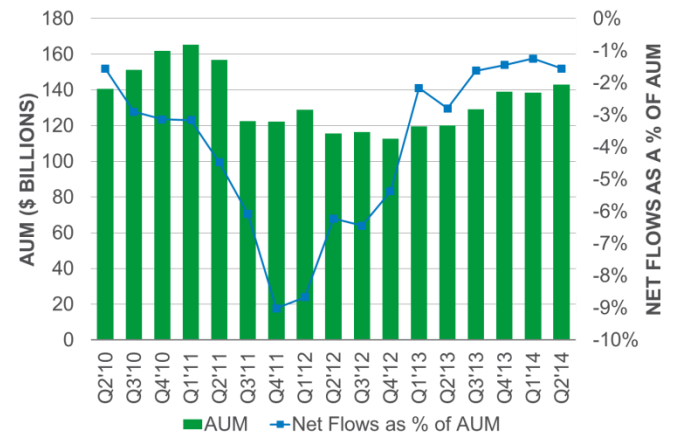
### Micro Cap Stock Fund



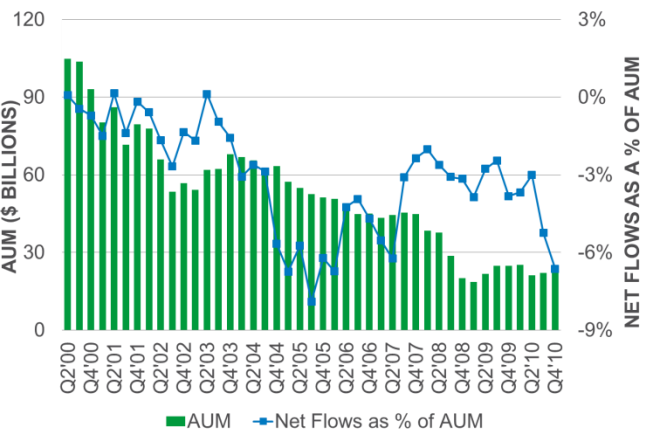
### Large Cap US Value Stock Fund



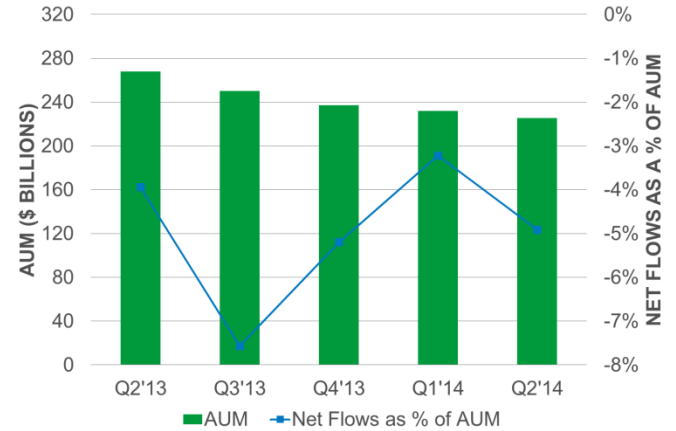
### Large Cap US Growth Stock Fund



### Large Cap US Stock Fund



### Broad Fixed Income Fund



Data sourced from Strategic Insight. Simfund.

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## Notes

1. Source: ICI. As of December 2013. Excludes money market fund assets under management.
2. See BlackRock's September 2014 *ViewPoint* entitled "Fund Structures as Systemic Risk Mitigants" Available at <http://www.blackrock.com/corporate/en-us/literature/whitepaper/viewpoint-fund-structures-as-systemic-risk-mitigants-september-2014.pdf>
3. Many of our exhibits in this *ViewPoint* show data for US open-end mutual funds and ETFs given the greater availability of historical data for these funds. Should similar data become available for other types of funds, this analysis could be replicated.
4. See for example , "The Liquidity Challenge: Exploring and Exploiting (Il)Liquidity", BlackRock, June 2014, available at <http://www.blackrock.com/corporate/en-us/literature/whitepaper/bii-the-liquidity-challenge-us-version.pdf>
5. See BlackRock's September 2014 *ViewPoint* entitled, "Fund Structures as Systemic Risk Mitigants". Available at <http://www.blackrock.com/corporate/en-us/literature/whitepaper/viewpoint-fund-structures-as-systemic-risk-mitigants-september-2014.pdf>
6. JP Morgan "Flows & Liquidity: Redemption Restrictions," Global Asset Allocation, July 25, 2014.
7. See for example Feroli, Michael, Anil K. Kashyap, Kermim Schoenholtz, and Hyun Song Shin, "Market Tantrums and Monetary Policy," February 2014.
8. Data sourced from JP Morgan, S&P Capital IQ LCD, and Morningstar.
9. Data sourced from Strategic Insight SimFund database as of 31 December 2013, based on Morningstar classifications.
10. Source: ICI. Does not include money market fund AUM.
11. Source: ICI
12. On July 23, 2014, the SEC adopted amendments to the rules that govern money market mutual funds, including structural and operational reforms to address risks of investor runs. This new guidance is not specifically addressed in this paper.
13. Redemptions from aggregate prime institutional MMFs were significantly offset by inflows into "Government Institutional" MMFs (exhibit 3).
14. JP Morgan, "Flows & Liquidity: Redemption Restrictions," Global Asset Allocation, July 25, 2014
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18. Source: BlackRock, JP Morgan.
19. "Interagency Guidance on Leveraged Lending" was released jointly by the Office of the Comptroller of the currency (OCC), Department of Treasury; Board of Governors of the Federal Reserve System (Board); and the Federal Deposit Insurance Corporation (FDIC) on March 21, 2013.
20. See *ViewPoint – Fund Structures as Systemic Risk Mitigants*, September 2014 for additional detail on the '40 Acts rules regarding the use of leverage in '40 Act funds. Available at <http://www.blackrock.com/corporate/en-us/literature/whitepaper/viewpoint-fund-structures-as-systemic-risk-mitigants-september-2014.pdf>
21. BlackRock *ViewPoint* "Exchange Traded Products: Overview, Benefits and Myths, June 28, 2013. Available at: <http://www.blackrock.com/corporate/en-us/literature/whitepaper/viewpoint-etps-overview-benefits-myths-062013.pdf>
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23. Source: JP Morgan.
24. Source: Barclays Capital. Turnover equals TRACE annual trading volume divided by TRACE market size.
25. While the transparency of the high yield market has greatly improved, estimating liquidity under hypothetical market stress requires careful consideration of assumptions as well as modeling a variety of potential outcomes.
26. Analyzing historical redemption behavior facilitates understanding of potential outflows; however, there is no guarantee that future redemption behavior will be entirely consistent with historical experience.
27. JP Morgan launched in 2005 the family of GBI EM local bond indices and BofA launched in 2013 the EM Local Currency Non-Sovereign Bond Index
28. For example the World Government Bond Index, sponsored by Citibank, now has 2.4% of local EMD and Barclays Global Aggregate Index contains more than 6% of EMD.
29. As the IMF suggests, it is important to monitor and understand the size of foreign participation and its characteristics for assessing the risks of capital flow reversals. See Chapter 2 "How do Changes in the Investor Base and Financial Deepening Affect Emerging Market Economies?" of the Global Financial Stability Report, IMF, April 2014. Available at: <http://www.imf.org/external/pubs/ft/gfsr/2014/01/pdf/c2.pdf>
30. "JP Morgan Emerging Markets Outlook and Strategy for 2014," Emerging Markets Research, November 25, 2013.

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