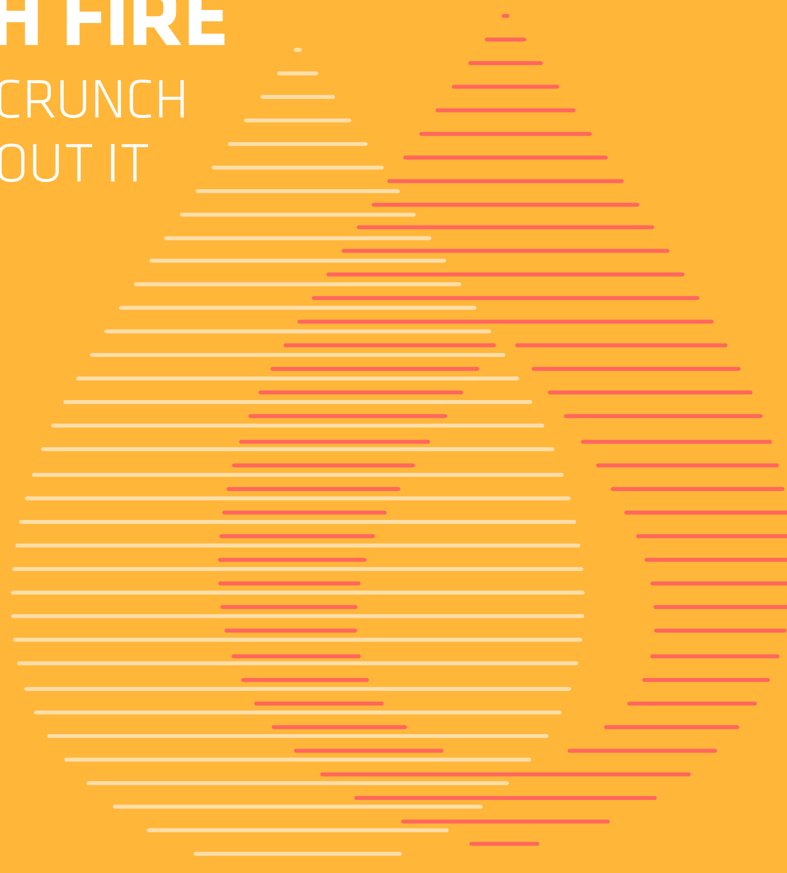
MARCH 2016

PLAYING WITH FIRE

THE BOND LIQUIDITY CRUNCH AND WHAT TO DO ABOUT IT



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IN THIS PAPER: Bond investors are used to managing interest-rate and credit risk. These days, they're spending a great deal of time worrying about liquidity risk. There's good reason for their concern. Global bond market liquidity is drying up at a time when many investors around the world may need it most. However, investors can turn less liquid conditions to their advantage. In this paper, we'll explain what's behind the liquidity drought and what investors can do to protect themselves and, potentially, profit.

THE LIQUIDITY CRUNCH AND WHAT TO DO ABOUT IT

Professional bond investors tend to be a gloomy bunch. Even at the best of times, they can rattle off at least half a dozen things to worry about. But if you ask what's keeping them awake at night now, you're likely to get just one answer: liquidity.

What's draining liquidity from the market? Most investors blame changes in global regulations. New rules designed to make banks safer have also made them less willing to take risks. As a result, they aren't big buyers and sellers of corporate bonds anymore. This has made it harder for investors to trade large blocks of bonds—and it's making them worried that they may have to take big losses if they need to sell assets in a hurry.

DISPLAY 1: TRADING NOT KEEPING PACE WITH MARKET GROWTH

Trading Volume, Market Size and Turnover

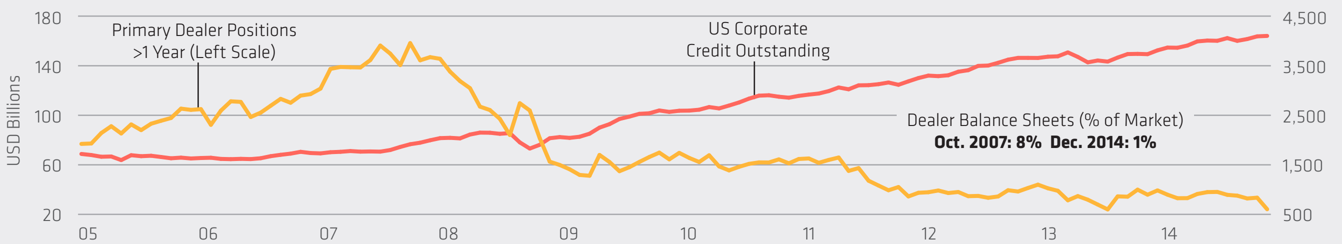
Historical analysis does not guarantee future results.

Through December 31, 2014

Source: Barclays and AB

DISPLAY 2: REGULATIONS HURTING THE ABILITY TO TRADE

Growth of Market vs. Dealer Balance Sheets



Historical analysis does not guarantee future results.

Through December 31, 2014

Source: Barclays, Bloomberg, Haver Analytics, Investment Company Institute, US Federal Reserve Board and AB

We agree that low liquidity is a risk—but by focusing on regulations, we think most investors are underestimating the gravity of that risk. While new regulations have contributed to the problem, there are several less obvious causes that have the potential to make the liquidity crunch worse.

Some stem from global central bank policies (*see "Central Bank Liquidity," page 3*): easy money has driven government bond yields to record lows and forced yield-hungry small investors to crowd into the same trades. Another driver is caution by large institutional investors, who are less and less willing to take the long view in bonds and ride out short-term market volatility.

While regulatory changes have reduced the supply of liquidity, these trends have drastically increased the potential demand for it. None on its own is likely to trigger a major market crisis. But taken together, they're creating a lot of dry tinder. And the next shock to hit markets—that prompts everyone to sell—might be the spark that sets everything ablaze. With volatility in fixed-income markets rising, investors can't afford to take this risk lightly.

Fortunately, there are ways to manage liquidity risk. Investors that do a good job of it may even find bargains in less liquid markets—especially if they have the luxury of large balance sheets and long investment horizons. In this paper, we will examine what investors can do to protect their portfolios. We'll also look at what they should expect of their asset managers. After all, managers who don't see the big picture when it comes to liquidity probably won't be able to keep their clients from getting snared in a liquidity trap.

But first, let's take a closer look at what we believe is draining liquidity from the system.

REGULATION: WALL STREET RETREATS

Anyone who buys and sells bonds for a living has noticed that it's harder than it used to be. That's not because the global bond market is shrinking. In fact, it's growing. Companies have been on a borrowing binge, thanks to record-low interest rates. And investors are still lining up to buy new corporate debt.

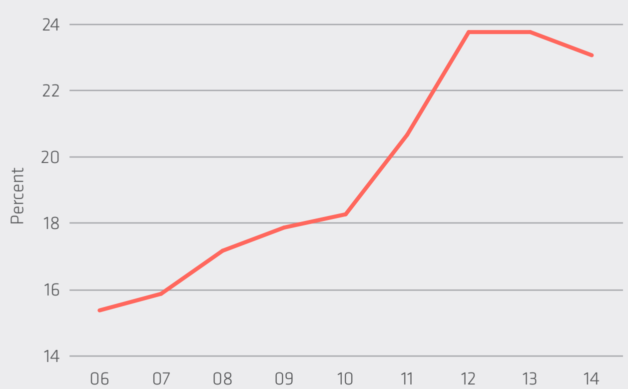
The problems start after new bonds are issued. Over the past few years, investors have found it tougher to trade large blocks of bonds without significantly affecting their prices. To put it another way, trading on the secondary market, where bonds change hands after they've been issued, hasn't kept pace with overall market growth (*Display 1, previous page*).

This is where those stricter banking regulations come in. In the past, banks held vast inventories of corporate bonds and traded them regularly, making a profit for themselves and making a market for other investors. This kept price fluctuations in check and was especially valuable in times of stress, as investors could count on the banks to play the part of willing buyer when everyone else wanted to sell.

> If everyone wants to exit at once, prices could fall very far, very fast.

DISPLAY 3: INDIVIDUAL INVESTORS HAVE INCREASED THEIR HIGH-YIELD EXPOSURE

AUM of US High-Yield Mutual Funds as a Percentage of Market Value



Historical analysis does not guarantee future results.
Through December 31, 2014
Source: J.P. Morgan, Lipper and AB

When the global financial crisis erupted in 2008, banks that had invested heavily in mortgage-backed securities and other leveraged assets needed government support to survive. These bailouts came with a price—new rules designed to discourage risk-taking and make banks more secure.

The data suggest that these new regulations have challenged banks' effectiveness when it comes to making markets. While the corporate bond market has roughly doubled in size since late 2007, banks have beaten a hasty retreat from the bond-trading business, cutting their inventories by some 75% (*Display 2, previous page*). As a result, bonds are vulnerable to wider and more violent price swings because the banks aren't around to keep those fluctuations in check.

The effect has been most pronounced on corporate bonds. With about 5,000 global credit issuers and a dizzying array of securities to contend with, matching buyers and sellers can be a challenge. To buy a particular corporate bond, somebody has to be willing to sell it. That's where banks typically came in.

Yet similar problems have developed in bigger and more liquid government bond markets. Turnover in the US Treasury market, for instance, has been in steep decline since the crisis. Over the past decade, the market has tripled in size to $12.5 trillion. But the average daily trading volume today has slipped to $515 billion, from $570 billion in 2007. That means it now takes 24 days for all outstanding bonds to trade. In 2007, it took just eight days.[1]

Regulation isn't the only culprit, of course. The Federal Reserve owns $2.5 trillion worth of Treasuries—most of them accumulated through bond-buying programs designed to suppress borrowing costs and boost growth.[2] China holds more than $1.2 trillion more, which it uses to manage its exchange rate.[3]

But to comply with new regulations, banks, too, must hoard a larger share of Treasuries as collateral against their exposure to credit default swaps and other derivatives. As a result, the supply of Treasuries readily available to market makers is about $1 trillion lower today than it was in 2007, according to J.P. Morgan. This reduces the amount available for daily trading.

That's worrisome, because less liquidity means more volatility. Since 2013, US, German and Japanese government bonds have all endured short episodes of unusually large price swings. Over a two-day stretch in October 2014, investors rushed into the perceived safety of 10-year US Treasury bonds. The yield collapsed by 31 basis points in just over an hour on October 15, and the price soared by almost 2%—a stark reminder that liquidity can be thin even in the most liquid markets.[4] Of course, the fact that prices rose by 2% made it more of a curiosity than a serious concern. But would investors be as complacent if prices fell by 2%?

CROWDING AND THE RISE OF INDEPENDENT INVESTORS

While banks have been retreating from the bond market, investors have been charging into it. This is a direct result of central banks' easy money policies: by driving interest rates to record lows, these policies pushed investors—even income-starved mom-and-pop investors—

1 Source: CME Group, J.P. Morgan, US Federal Reserve and AB, May 31, 2015
2 Source: US Federal Reserve, August 13, 2015
3 Source: US Treasury International Capital (TIC) System, May 31, 2015
4 Source: Bloomberg, October 15, 2014

CENTRAL BANK LIQUIDITY: A SHORT HISTORY

When liquidity evaporated in 2008, central banks worldwide stepped in to provide it by slashing interest rates and eventually buying huge amounts of government bonds. These were emergency policies, for use in an emergency. They were designed to flood the financial system with money, encourage risk-taking and get the economy moving again (*Display, top right*). Investors responded as policymakers hoped they would—by charging into riskier assets to earn a decent return.

Yet nearly a decade later, these unconventional policies are still in place. More importantly, they've become the most important driver of the financial market. In normal times, the decision to buy or sell a given asset tends to be driven by the growth or inflation outlook. As the economy slows, investors might trade one type of risk for another—say, by selling stocks and high-yield bonds, which tend to do poorly at such times, and buying Treasuries, which typically do well.

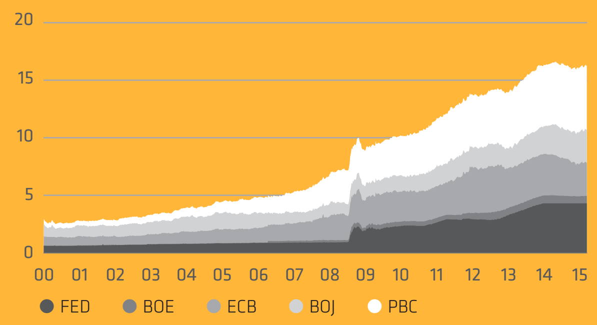
Since the crisis, though, nearly all asset classes have done well, irrespective of economic conditions. Growth in major economies, including Europe, Japan and, until recently, the US, has been paltry since 2008. Emerging-market growth, including that of China, has slowed sharply. Yet asset prices have risen. As the *Display (below right)* illustrates, since the financial crisis, excess returns have been more dependent on liquidity conditions than on the growth outlook.

If rallies are being driven by central bank liquidity rather than fundamentals, it follows that sell-offs should be, too. In fact, over the past two years, markets have undergone a series of sell-offs—one might call them miniature fire sales—in which bonds, stocks, commodities and other assets have all declined. None of these episodes have lasted as long or done as much damage as the sharply correlated declines in 2008—at least, not yet. Still, the pattern is disturbing.

Ironically, central bank policies that were applied with the best intentions and designed in part to boost liquidity are helping it to dry up. These easy money policies aren't over yet. But with the Federal Reserve likely to raise interest rates later this year, the beginning of the end is in sight.

CENTRAL BANKS TO THE RESCUE

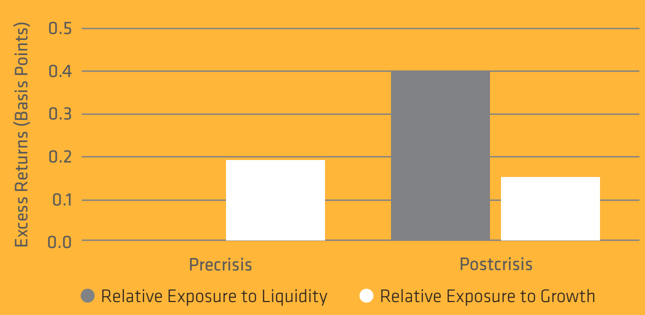
Total Assets of Major Central Banks (USD Trillions)



Historical analysis does not guarantee future results.
Through July 4, 2015
FED: US Federal Reserve; BOE: Bank of England; ECB: European Central Bank; BOJ: Bank of Japan; PBC: People's Bank of China
Source: Bloomberg and Haver Analytics

POSTCRISIS, LIQUIDITY CONDITIONS DRIVE EXCESS RETURN

Relative Exposure of a Hypothetical Portfolio to Growth Outlook, Liquidity Conditions



Current analysis does not guarantee future results.
As of April 30, 2015
Precrisis: 1996–2009; postcrisis: 2009–2015
Source: AB

into riskier assets, such as high-yield bonds and emerging-market debt, to earn a decent return. In 2014, retail-oriented mutual and exchange-traded funds owned nearly 23% of the US high-yield market, up from 15% in 2006 (*Display 3, page 2*). Retail ownership of investment-grade bonds more than doubled over the same period.

The result: large numbers of investors are crowded into the same trades. That causes prices to trend strongly in one direction, but may leave the market vulnerable to a sudden correction if everyone wants to sell at once.

The fact that small investors are playing a bigger role in these markets is important, because they tend to move into and out of assets often, depending on the latest headline or price trend. In recent years, investors have charged into—and out of—various assets, including high-yield bonds and emerging-market debt, with alarming frequency (*Display 4*).

What's more, a great many investors—and we suspect this even goes for some large ones—are venturing into riskier corners of the credit markets because central banks' low-interest-rate policies have made it hard for them to find income elsewhere. Many are taking on more risk than they ordinarily would. When interest rates start to rise, government bonds or even cash may suddenly look more attractive, potentially causing a rush for the door.

In theory, investors can exit an open-ended mutual fund or an ETF at will. But the growing popularity of these funds forces them to invest in an ever larger share of less liquid bonds. If everyone wants to exit at once, prices could fall very far, very fast. A lucky few may get out in time. Others will probably get trampled.

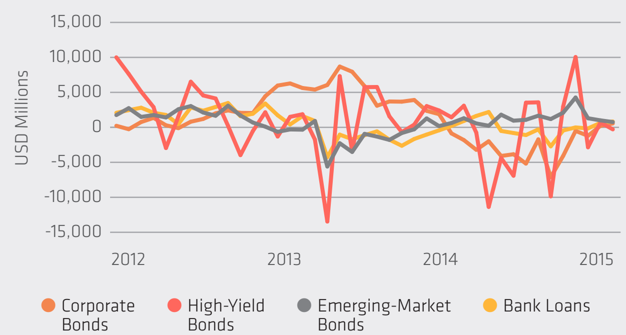
CROWDING REDUX: BIG INVESTORS REDUCE RISK

Historically, institutional investors' large balance sheets and long time horizons allowed them to ride out market downturns and even engage in some bargain hunting, buying assets at a discount from investors who needed to sell.

But here, too, things changed after the financial crisis. Determined to avoid a repeat of the big losses the crisis inflicted, many large investors, including insurance companies, risk parity funds and even high-net-worth individuals, have adopted new risk-management strategies that have the potential to make liquidity conditions worse. This is because the investors who use these strategies may act the same way at the same time.

DISPLAY 4: CROWDING INTO AND OUT OF SECTORS

Investment Flows



Historical analysis does not guarantee future results.
Through May 31, 2015
Source: Strategic Insight Simfund

DISPLAY 5: THE GROWTH OF RISK-AWARE PRODUCTS

AUM and Leverage

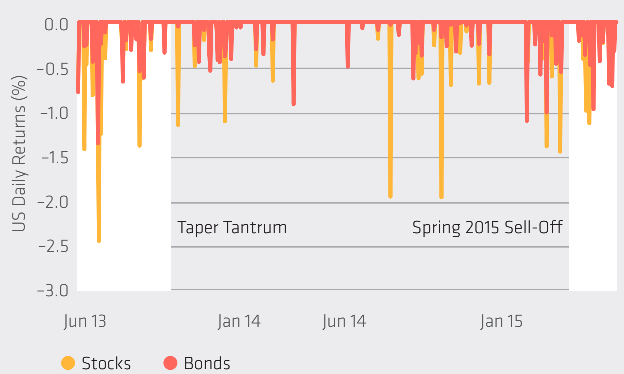
	AUM (USD Trillions)	Gross Leverage (Ratio)	Notional (USD Trillions)
Risk Parity	$0.30–$0.50	2.0–3.5	$0.60–$1.80
Long/Short Equity	0.25	1.6	0.40
VA Insurance	0.30	1.00	0.30
Total	**$0.85–$1.05**	**1.5–2.4**	**$1.30–$2.50**

Historical analysis does not guarantee future results.
As of May 31, 2015
Source: Morningstar, Strategic Insight Simfund and AB

Most of the strategies use the concept of value at risk (VaR), a quantitative technique that measures the level of risk within an investment portfolio over a given time frame. If the risk level falls, managers may respond by buying more assets. If it rises above a certain level, they may sell assets to bring it back into line.

DISPLAY 6: CORRELATED SELL-OFFS BECOMING MORE COMMON

Trading Days when US Stock and Bond Returns Were Both Negative



Historical analysis does not guarantee future results.
Through June 11, 2015
Stocks represented by S&P 500; bonds by Barclays US 7-10 Year Treasury.
Source: Barclays, Bloomberg, S&P and AB

DISPLAY 7: WHAT VOLATILITY MEANS FOR RISK PARITY FUNDS

Potential Impact of 30% Rise for Risk Parity Based on Typical Asset Funds

	Risk Allocation	Typical Dollar Allocation	Notional* (USD Bil.)	Reduction in Assets in Response to 30% Rise in Vol. (USD Bil.)
Equities	25%	35%	$140	$32
Commodities	25	55	220	51
Rates	25	145	580	134
Credit	25	120	480	111
Total	**100%**	**355%**	**$1,420**	**$328**

Current analysis does not guarantee future results.
As of May 31, 2015
*Based on estimated total AUM for a risk parity of about $400 billion
Source: AB

Doing this might make sense for a given investor, but when everyone is doing the same thing at the same time, it may cause market liquidity to dry up. This is a concern, because there's a lot of money being managed this way—more, we suspect, than many investors realize (*Display 5, previous page*). A significant rise in volatility could provoke a large wave of automatic selling. Prices might then fall, prompting fear to spread, investors to sell and illiquidity to get worse.

Markets got a sneak peek at this in 2013 when the US Federal Reserve first hinted at plans for tapering its monthly asset purchases, which markets saw as a prelude to higher interest rates. A multimonth sell-off ensued—it later became known as the "taper tantrum"—and liquidity dried up. Bid-ask spreads, which measure the gap between the price a buyer is willing to offer and a seller is willing to accept, widened sharply.

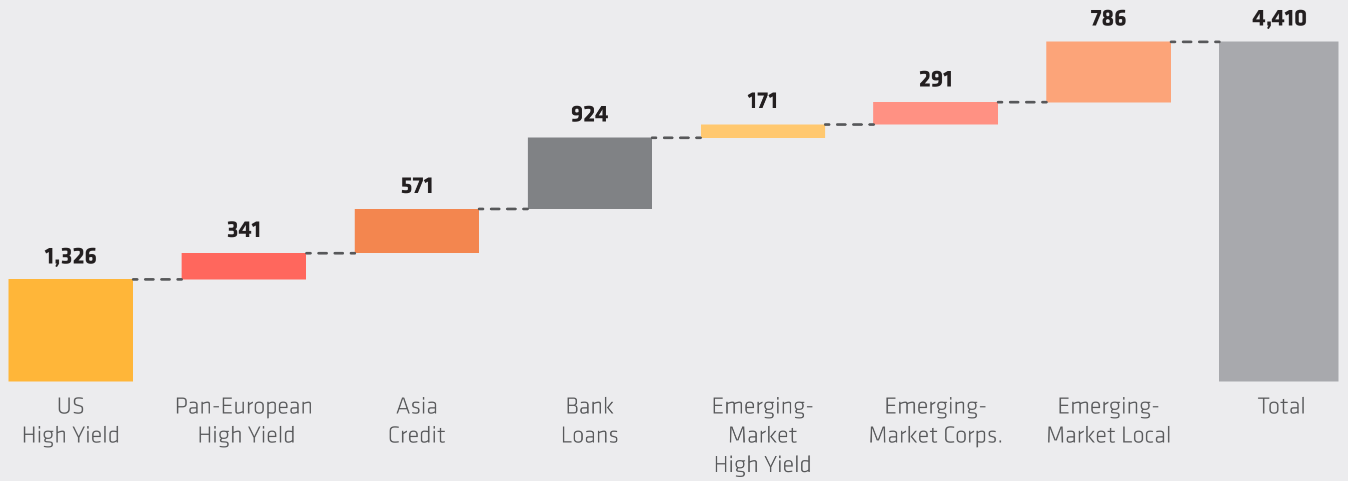
That episode (and a few others since then) was also notable for another reason: the prices of bonds, stocks, commodities and other assets all declined. Normally, riskier assets such as equities, commodities and high-yield debt are negatively correlated with Treasuries and other safe assets. When risky assets fall in value, safe ones rise. But correlated sell-offs—one might call them miniature fire sales—are becoming more common (*Display 6*).

This is a particular problem for risk parity funds, which have proliferated over the past decade. These funds, which manage money on behalf of pension funds, endowments and other large institutional investors, target a specific level of risk and spread it equally between risky assets and safe ones. But they assume the correlations will be negative and stable. Should correlations turn positive, with stocks and bonds declining at the same time, the risk contribution of each would rise. Managers would then have to sell both to maintain their risk targets. In other words, selling begets more selling.

There's another concern here: leverage. Mention leverage, and most people think of hedge funds. But these days, leverage applies equally to pension funds and other types of investors that use risk parity strategies. Because bonds are inherently less volatile than stocks, risk parity managers must buy them on leverage to equalize the risk contribution of the two assets. Risk parity funds tend to be leveraged anywhere from 200% to 350%, so bond market losses could force a

DISPLAY 8: USE A BROAD, MULTI-SECTOR APPROACH

Size of Credit Sectors (USD Billions)



Current analysis does not guarantee future results.

As of December 31, 2014

US high yield is represented by Barclays US Corporate High-Yield; pan-European high yield by Barclays Pan-European High-Yield (EUR); Asia credit by J.P. Morgan Asia Credit; bank loans by Credit Suisse Leveraged Loan; emerging-market high yield by J.P. Morgan EMBI Global Non-Investment-Grade; emerging-market corporates by J.P. Morgan CEMBI Broad Diversified; and emerging-market local by J.P. Morgan GBI-EM (since 2002) and J.P. Morgan ELMI+ (prior to 2002). An investor cannot invest directly in an index or average, and neither includes the sales charges or operating expenses associated with an investment in a mutual fund, which would reduce total returns.

Source: Barclays, Credit Suisse, J.P. Morgan and AB

broad sell-off in equities and other asset classes if managers rush to meet margin calls (*Display 7, previous page*).

EXCHANGE RATES GET MORE VOLATILE

Margin calls aren't a concern for risk parity funds alone. As the global currency market grows more volatile, any investor who holds a large share of foreign assets runs the risk of being forced to sell if the market turns against him or her. This may be the most underappreciated liquidity-draining trend of them all.

By driving down interest rates, global central banks have forced investors to hunt for returns in foreign markets. Cross-border investment, of course, isn't new. The volume of money being invested in foreign-currency bonds, however, has increased dramatically. Japanese investors poured ¥10.58 trillion into foreign fixed-income markets in 2014 alone, according to Japan's Ministry of Finance, about US$86 billion at current exchange rates.

Most money that finds its way into global credit markets is hedged back to investors' home currencies. A European investor in the US high-yield market who wanted to protect himself against a dollar decline might do this by entering a forward contract that allows him to sell dollars in the future at a given rate. But what if the euro declines instead? Then, the investor could be forced to sell his bonds or other

> Avoid the crowd: make decisions based on value, not popularity.

assets in his portfolio in order to pay the insurance associated with his hedge. Think of it as another type of margin call.

Normally, hedging one's currency exposure tends to improve risk-adjusted returns. But currency markets, like bond markets, have become less predictable in recent years, and large price swings have become more common. For instance, the Swiss franc surged nearly 20% against the euro and US dollar in just one day in 2015 when the Swiss National Bank abruptly ended a three-year policy of managing the euro/franc exchange rate. With so much money chasing returns overseas, sharp currency moves like this one could suddenly turn large numbers of credit investors into forced buyers or sellers.

ADDING FUEL TO THE FIRE

In one way or another, the trends we've detailed may have driven investors around the world to behave the same way at the same time. That distorts asset prices—investors end up buying when things are expensive and selling when they're cheap—and it suggests investors are less likely to find that their asset is liquid when they need liquidity most. If something were to trigger a sharp market decline, there would likely be plenty of sellers, but precious few buyers.

Indeed, many investors may not have a choice. They may be forced to sell, whether because of volatility, margin calls or sharp exchange-rate movements. And a more austere regulatory regime means banks won't be around to keep asset prices in check. In other words, if a fire starts, each of these trends may act as an accelerant.

FIREPROOFING PORTFOLIOS

Now here's the good news: There are things investors and their asset managers can do to protect themselves from liquidity risk—and possibly even profit from it. In the following section, we'll examine each one in detail. But if there's a common thread that holds them together, it's this: Take the long view and focus on value. We think investors who take that to heart will find that they don't have to fear liquidity risk. They just have to manage it.

Here are five things we're doing—and that we think all asset managers should do—to fireproof clients' portfolios.

+ **Diversify using a broad multi-sector strategy.** Liquidity can affect different sectors in different ways. So segregating allocations into single-sector funds—high yield, emerging markets, and so on—is risky; if liquidity dries up in one sector, investors can quickly find themselves trapped.

  A holistic and dynamic multi-sector approach that taps into a broad universe of fixed-income assets can offer better protection (*Display 8, previous page*). If selling spikes and liquidity dries up in high yield, multi-sector managers can quickly and easily move to investment-grade corporates or another sector where liquidity is more plentiful. Think of it this way—if you need water, running around with one bucket to catch the raindrops is hard work. A diversified, multi-sector strategy uses more than one bucket to catch more rain.

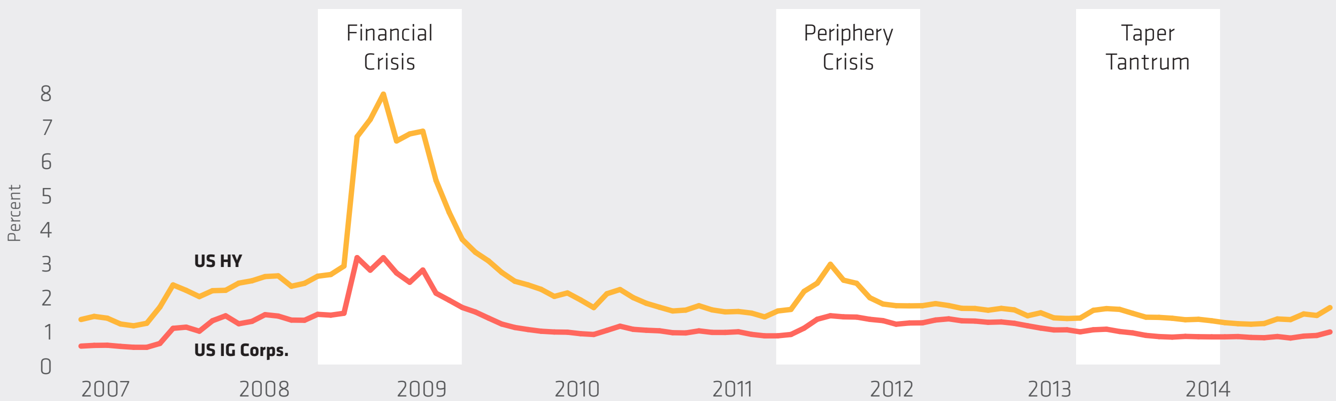
+ **Be a contrarian and avoid the crowd**. Staying out of crowded trades also puts investors in a position to make decisions based on value, not popularity. For example, when retail investors suddenly fell out of love with emerging markets a few years ago, investment-grade, BBB-rated emerging-market corporate bonds suddenly became cheaper than B-rated US corporate high-yield debt. That didn't make much sense.

  More recently, investors reacted to the start of a central bank bond-buying program in Europe by charging into German and other European government bonds, pushing yields to record lows (some fell into negative territory, meaning investors were paying governments for the privilege of lending them money). When that inflow reversed, yields vaulted higher. In both cases, investors who didn't follow the crowd could buy at attractive prices.

  This ability to be agile and take the other side of popular trades can be a crucial advantage when other investors have to sell, whether

DISPLAY 9: WHEN YOU WANT LIQUIDITY, IT COSTS MORE

Barclays Liquidity Cost Score for US Investment-Grade Corporate and US High-Yield



Historical analysis does not guarantee future results.
Through December 31, 2014
The Barclays Liquidity Cost Score measures the cost of immediately executing a round-trip transaction for a standard institutional trade.
US HY refers to the Barclays US Corporate High-Yield Index; US IG Corps. refers to the Barclays US Corporate Investment-Grade Index.
Source: Barclays and AB

it's to meet margin calls, to reduce volatility, or for another reason. Think of the investors who used the taper tantrum to buy attractive bonds when everyone else was hitting the sell button. For providing liquidity when others needed it, they were compensated with higher yields (*Display 9*).

+ **Keep cash handy—and don't neglect derivatives.** In illiquid markets, managers who keep more cash on hand than usual may be in a better position to swoop in and buy attractive assets when others are desperate to sell.

  Cash can also come in handy for meeting redemptions. No doubt that's why US taxable- and municipal-bond mutual funds were allocating more than 9% of their portfolios to cash on average in 2014, according to Morningstar. They were not nearly as prepared when the global financial crisis hit: the average cash allocation in December 2008 was just 1.6%.

  Of course, cash yields next to nothing today, so to offset the potential performance drag, managers can tap the relatively more liquid derivatives market to get exposure to "synthetic" securities. The derivatives market also gives investors access to additional pools of liquidity.

+ **Do your credit homework—and expand your investment horizon.** When liquidity is plentiful, it's easy to exit trades that have achieved their objectives. But as we've seen, investors today shouldn't assume that liquidity will be there when they need it. That's why it pays to dig deeply into every possible investment. Multiple time horizons, including holding to maturity, should be considered when analyzing bonds. If holding a particular bond to maturity

> Investors who have done their homework should trust their judgment.

DISPLAY 10: LENGTHEN YOUR INVESTMENT HORIZON

For illustrative purposes only
Source: AB

doesn't look attractive in the current environment, investors might want to reconsider the security altogether (*Display 10*).

On the other hand, investors who have done their homework should trust their judgment and, whenever possible, stick with the securities that they consider to be sound long-term investments—even when market turbulence rises. One of the biggest mistakes investors can make when liquidity is low is to believe what the market says their assets are worth, not what their credit analysis tells them they're worth. If their analysis is correct, those values will rebound.

And remember: Bonds have a known ending value. As long as the issuer doesn't go bankrupt, investors will earn a steady stream of interest and get their money back when the bond matures. This may be what ultimately drives returns, not day-to-day changes in price.

+ **Consider selective investments in private credit.** File this one under the "silver lining" tab: Some of the forces that have been reducing liquidity—namely, increased regulation—are also unlocking attractive opportunities. As banks originate fewer residential and commercial mortgages and lend less to midsize companies, asset managers are filling the void. Yields on many private credit assets—including direct loans to middle-market companies, privately originated commercial mortgages and others—are, on average, considerably higher than those on more traditional bonds.

  Of course, these assets aren't as liquid as more traditional bonds. But as we've seen, liquidity can suddenly disappear anywhere in the fixed-income market. And remember, bonds' primary role in a portfolio is to provide income. Investors with long time horizons might want to ask themselves how much liquidity they really need.

INTERVIEWING AN ASSET MANAGER: A LIQUIDITY CHECKLIST

We appreciate that few investors can do all of this on their own. That's why it's important to vet asset managers carefully. Before entrusting your money to anyone, make sure that the manager has an investment process that addresses liquidity risk and offers the ability to manage it. Here are some questions we feel investors should be asking.

+ **To what do you attribute the decline in liquidity?** If the asset managers' only answer is "regulation," chances are they're not seeing the big picture. That could make your portfolio more vulnerable in a crisis. Look for a thorough understanding of the underlying trends.

Another thing: Be wary of those who tell you that the prospect of higher US interest rates or the gradual withdrawal of central bank stimulus worldwide is the cause of the liquidity crunch. That's more likely to be a spark that makes an increasingly illiquid environment worse.

+ **How has your process changed as liquidity has dried up?** Seven or eight years ago, few people worried about bond market liquidity. So investors should want to know what changes prospective managers have made to their investment process to account for this new risk. Have they broadened their horizons—and reduced their risk—with a diversified, multi-sector approach?

  Is there cash on hand to meet redemptions and to take advantage of liquidity-driven sell-offs?

  How has their credit research changed? Would the advisor be comfortable holding the bonds in his or her portfolio to maturity, if necessary?

+ **What about volatility?** Volatility is a fact of life in markets, and investors should expect more of it as liquidity dries up. The best thing a manager can do is be prepared.

  For instance, does the manager buy "call" or "put" options—the right to buy or sell an asset in the future at a predetermined price to protect against a big liquidity-induced market move? In our view, doing so is a lot like spending $3 on an umbrella when the sun is shining. After all, we know it's going to rain eventually.

  The alternative—waiting until volatility rises and prices fall before selling—is akin to buying the umbrella after the storm has started. Chances are you'll pay $5 for it—and you'll get soaked as you run through the rain to get it.

  For managers who use VaR-based strategies, ask if they use quantitative models to monitor volatility and asset correlations. The most effective models should allow managers to assess the risk of rising correlations in a way that allows them to act before they happen.

+ **What role do traders play?** Historically, traders at asset-management firms mostly executed orders. But as banks have retreated from the bond-trading business, the responsibilities of buy-side traders have grown. Managers who embrace a hands-on role for traders are more likely to be able to turn illiquidity to their advantage.

  A few questions to consider: Do traders play an active role in the entire investment process? Are they skilled enough to find sources of liquidity when it's scarce and make the most of the opportunities caused by its ebb and flow? Do traders understand the manager's strategies? Or are they simply tasked with executing trades?

CONCLUSION

During the global financial crisis, liquidity evaporated from financial markets in what seemed like the blink of an eye. For those of us who lived through it, just the thought of that ordeal is enough to make us sweat. That's why it alarms us to see liquidity slowly but steadily ebbing away again from the financial markets in general—and the bond market in particular. While we don't think another large-scale liquidity crisis is inevitable, we don't think one can be ruled out, either.

Yet, to paraphrase Rudyard Kipling, investors who can keep their heads when others about them are losing theirs are best equipped to shield themselves from disaster and potentially turn illiquid conditions to their advantage. Generations from now, the history of the financial crisis will focus on the damage done to markets and investors. But we shouldn't forget the footnote: those who kept their cool—and whose investing success didn't depend entirely on liquidity—made a lot of money.

INDEX DEFINITIONS

- **Barclays 7-10 Year Treasury Index:** A universe of Treasury bonds with remaining maturities of seven to 10 years.
- **Barclays Pan-European High-Yield (EUR) Index:** Covers the universe of fixed-rate, sub-investment-grade debt denominated in euros or other European currencies (except Swiss francs). This index includes only euro- and sterling-denominated bonds, because no issues in the other European currencies now meet all the index requirements.
- **Barclays US Aggregate Bond Index:** A broad-based benchmark that measures the investment-grade, US dollar–denominated, fixed-rate taxable bond market, including US Treasuries, government-related and corporate securities, mortgage-backed securities (MBS [agency fixed-rate and hybrid ARM pass-throughs]), asset-backed securities (ABS) and commercial mortgage-backed securities (CMBS).
- **Barclays US Corporate High-Yield Index:** Represents the corporate component of the Barclays US High-Yield Index.
- **Barclays US Corporate Index:** Represents the performance of US corporate bonds within the US investment-grade fixed-rate bond market.
- **Credit Suisse Leveraged Loan Index:** Designed to mirror the investable universe of the US dollar–denominated leveraged loan market.
- **J.P. Morgan Corporate Emerging Market Bond Index (CEMBI):** Tracks USD corporate emerging-market bonds.
- **J.P. Morgan Asia Credit Index (JACI) Index:** Tracks fixed-rate USD-denominated bonds issued in the Asia ex Japan region, including sovereigns, quasi-sovereigns and corporate entities.
- **J.P. Morgan Emerging Local Markets Index (ELMI):** Tracks total returns for local-currency–denominated money market instruments in the emerging markets.
- **J.P. Morgan Government Bond Index-Emerging Markets (GBI-EM):** Tracks local-currency government bonds issued by emerging markets. The GBI-EM consists of regularly traded, liquid, fixed-rate, domestic-currency government bonds.
- **J.P. Morgan Emerging Markets Bond Index Global (EMBI Global):** Tracks total returns for traded external debt instruments in the emerging markets, and is an expanded version of the J.P. Morgan EMBI+.
- **S&P 500 Index:** Includes a representative sample of 500 leading companies in leading industries of the US economy.

RISKS TO CONSIDER

Below-Investment-Grade Risk: Investments in fixed-income securities with lower ratings (commonly known as "junk bonds") tend to have a higher probability that an issuer will default or fail to meet its payment obligations.

Credit Risk: A bond's credit rating reflects the issuer's ability to make timely payments of interest or principal—the lower the rating, the higher the risk of default. If the issuer's financial strength deteriorates, the issuer's rating may be lowered and the bond's value may decline.

Currency Risk: If a non-US security's trading currency weakens versus the US dollar, its value may be negatively affected when translated back into US-dollar terms.

Derivatives Risk: Investing in derivative instruments such as options, futures, forwards or swaps can be riskier than investing in traditional investments, and may be more volatile, especially in a down market.

Foreign (Non-US) Risk: Investing in non-US securities may be more volatile because of political, regulatory, market and economic uncertainties associated with such securities. These risks are magnified in securities of emerging or developing markets.

Inflation Risk: Prices for goods and services tend to rise over time, which may erode the purchasing power of investments.

Interest-Rate Risk: Fixed-income securities may lose value if interest rates rise or fall—long-term securities tend to rise and fall more than short-term securities. The values of mortgage-related and asset-backed securities are particularly sensitive to changes in interest rates due to prepayment risk.

Leverage Risk: Trying to enhance investment returns by borrowing money or using other leverage tools may magnify both gains and losses, resulting in greater volatility.

Market Risk: The market values of the portfolio's holdings rise and fall from day to day, so investments may lose value.

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