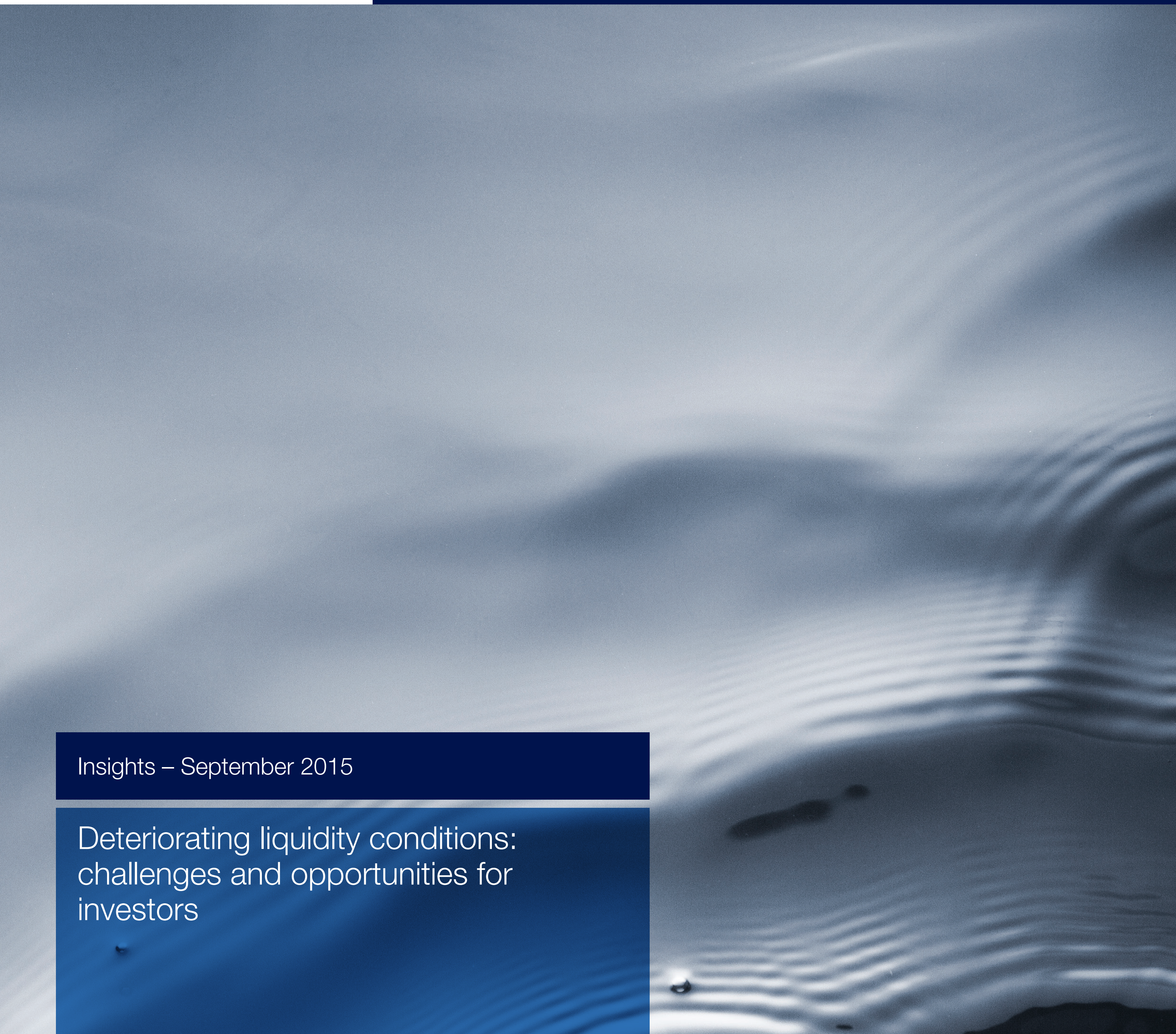
The fixed income liquidity challenge



Insights – September 2015

Deteriorating liquidity conditions: challenges and opportunities for investors

Foreword

Liquidity conditions have deteriorated across the fixed income markets this year and volatility has increased. Some investors are worried that bond funds could struggle to meet their redemption calls if there is a mass sell-off. Yet so far the problems appear contained.

As one of the world's largest managers of fixed income funds, we are well-placed to understand the risks involved. This report explains what is happening in the markets as well as the steps we have taken to ensure we continue to provide a consistent service in this potentially challenging liquidity environment. They include processes to monitor and manage liquidity risk across our investment strategies in case the situation deteriorates.

Where there is risk, there is also opportunity. We offer a number of ways to take advantage of any increase in market volatility caused by the lack of liquidity. They include a market neutral liquidity strategy, which exploits temporary mispricing when liquidity evaporates. Meanwhile, our global volatility strategy provides an efficient way to seek performance in stressed market conditions.

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Pascal Blanqué
Deputy CEO and CIO

As an economist and a financial historian, Pascal's research interests and academic work focus on monetary issues, the functioning of financial markets and the philosophical foundations of economics. His books include *Money, Memory and Asset Prices*, *The Social Economy of Freedom*, *Philosophy in Economics* and *Essays in Positive Investment Management*. Pascal has conducted research and taught at Ecole Normale Supérieure, Ecole Polytechnique and Paris-Dauphine University, and he is a member of the French Société d'Economie Politique.

Eric Brard
Global Head of Fixed Income

Since January 2011, Eric has been Global Head of Fixed Income at Amundi and a member of the Executive Committee. He began his career in 1985 as a primary market bond dealer for L'Européenne de Banque. In 1990, he joined Indosuez, which became Indocam in 1997, when he was appointed Head of Euro Fixed Income. In 2000, Eric joined Société Générale Asset Management. He was head of Fixed Income when SGAM and CAAM merged to create Amundi. Eric graduated in Economics and holds a postgraduate degree in Finance from Sorbonne University.

The fixed income liquidity challenge

A number of events have raised concerns about liquidity in bond markets. In response, we have put in place measures to protect investors, and offer strategies that can take advantage of any increase in volatility.

Liquidity defines the ability to buy or sell an asset quickly and easily, at low cost and with little impact on its price. It has been evaporating steadily from the global fixed income markets over the past few years for two reasons. In the first instance, central banks have been sucking up huge volumes of bonds through their quantitative easing (QE) programmes, reducing the overall supply.

At the same time, many large investment banks have pulled back from their market-making activities owing to increased capital requirements and restrictions on proprietary trading. Sovereign debt and corporate bond markets rely on market makers to absorb temporary imbalances in the fixed income markets. But they are no longer operating effectively.

As the volume of bonds on dealers' books has plummeted, bid-offer spreads have widened and average daily dealing volumes plunged. For example, the total amount of US Treasuries available has fallen from $2.7 trillion in 2007 to $1.7 trillion (as at September 2015). Block trade sizes have also fallen, although this trend may also be due to the expansion of dark trading pools.

Meanwhile, credit markets have boomed with new issuance 2.4 times larger today than 10 years ago (as at September 2015). In addition, assets under management in funds offering daily redemptions have grown by 10% a year and are now 76% higher than in 2008.

Volatility has increased

Crowded trades combined with low levels of structural liquidity have amplified price swings in fixed income markets globally. We have observed numerous instances in some of the most standardised and liquid asset classes over the past two years. Noteworthy examples include the taper tantrums in US Treasuries and German Bunds as well as the flash crash in October 2014 (see box 'Episodes of volatility').

Source: Amundi, September 2015.

Episodes of volatility

The US taper tantrum. In May 2013 the Fed hinted about reducing its $85 billion monthly bond purchases. 10-year US Treasury yields gained 140bps between May and September, and US bond sales turned negative (see figure 1).

The flash crash. For much of 2014 investors believed rates would rise. When this view changed, traders with short positions bought as many Treasury bonds as they could to limit their losses. On 15 October, 10-year yields plunged 34bps in four hours (see figure 2 on page 4).

The Bund tantrum. Chinese monetary policy triggered a recovery in commodity prices in April 2015, and the threat of deflation faded. 10-year Bund yields rose from 0.05% to 0.8% by the beginning of May (see figure 3 on page 5.)

Figure 1: The taper tantrum and flash crash

Bond market volatility increased when the Fed hinted about slowing down its monthly asset purchases in 2013, and again during the flash crash on 15 October 2014.

Note: The US 3-month/10-year swaption normalised volatility is the normalised implied volatility on three-month options for 10-year US interest rate swaps. It signals traders' expectations for fluctuations in swap rates.

Source: Amundi, 31 December 2014.

Although most events have been relatively harmless so far, there are fears that a global liquidity shock could spread and have more severe consequences. Higher realised volatility could trigger a massive sell-off in bond markets. In recognition of the risks, many asset managers are taking steps to manage fixed income trading flows in this challenging liquidity environment. Yet at the same time, any increase in volatility provides an opportunity for investors.

Assessing liquidity risk in our funds
Amundi manages €650 billion of fixed income assets (as of June 2015). We are sharply focused on monitoring liquidity across all areas of the markets with particular emphasis on investment grade credit and high yield, peripheral sovereign debt, emerging market debt and convertibles.

We cannot assess liquidity risk in our funds through one single indicator. We measure liquidity as our ability to meet redemptions without a significant impact on a portfolio's value and structure, which depends on a number of issues:

- Withdrawal scenario, at a portfolio, strategy, asset class and group level.
- Market conditions, bid-ask spreads and the ability to trade different volumes.
- Liquidation strategy, which involves selling assets so that the portfolio structure remains unchanged.

Those areas most at risk are UCITS and notably multi-asset funds. All our investment processes are subject to specific internal guidelines that seek to mitigate liquidity risk based on a number of characteristics. They include asset class, issue size, average daily trading volumes (or open interest for listed options), credit rating, region, diversification and minimum cash buffer.

We monitor portfolio liquidity using a variety of proprietary tools by taking into account stressed withdrawal scenarios based on the past behaviour of investors by type of asset and client. Additionally, we measure liquidation costs and time as well as portfolio distortion (in stressed and current market conditions). We set specific trigger alerts for portfolio managers and encourage them to perform simulations across their funds.

Monitoring liquidity risk
We monitor liquidity at the investment process level of individual funds on an aggregated basis with limits set by our risk committee (where relevant). We also monitor liquidity at the group level. Amundi's risk department reports potentially illiquid assets by desk to the investment committee, and separates commingled funds from mandates and dedicated funds. It also provides details of cross holdings (balanced funds or funds of funds) in order to assess the impact of outflows or reallocations in these funds.

Why does liquidity matter?

Liquidity is important to funds for two reasons. First, when liquidity is scarce, trading activity can have a dilutive impact on a fund's performance, affecting non-selling shareholders. Second, there is redemption risk – a fund may not be able to meet requests from its investors to sell units in time.

Amundi's duty is to act in the best interests of our funds' investors and treat them fairly, regardless of the market's underlying liquidity conditions. Our liquidity policies stand ready to handle two situations:

- Massive correlated outflows, which is only an issue when the market is under stress.
- A stressed environment over a prolonged period where managers are often compelled to (1) stick to their benchmark and reduce overweight exposures; and/or (2) sell most of their liquid assets first, thereby distorting their funds' exposure.

Figure 2: Anatomy of a market meltdown
US government bonds suffered a "flash crash" on 15 October 2014, denting the market's reputation for orderly trading.

Sources: Bloomberg, FT Research.

This process also contributes to the investment committee's decisions. The risk department provides withdrawal simulations to the investment committee upon request. Investment guidelines regarding liquidity are monitored by the risk department and reported to the investment committee.

Our liquidity monitoring focuses on these assets in a number of ways:

- Stress testing based on past performance data.
- Scenario analysis, which explores massive distortions in bond markets and redemption simulations on our flagship funds.
- Market indicators dashboard.
- Breakdown by asset class at a fund level and at the firm level.

Precautionary measures

We have taken a number of precautionary measures to make sure we are prepared to deal with the main issues associated with the risks posed by the reduction in bond market liquidity:

Secure access to liquidity. Owing to the size and scale of our operations, Amundi benefits from easy access to financial markets at competitive prices.

Liquidity buffers. We have strengthened the awareness of liquidity risk across all our portfolio managers, and made the "liquidity budget" a key issue for all investment decisions. In addition, we have created a three-step system to deal with any increase in market stress, with liquidity goals defined for each fund. Using derivatives, including credit default swaps and total return swaps, is part of our solution.

Pricing policies. We are working towards implementing swing pricing. This should help dampen the dilution impact of trading costs with the threshold set at a proportion of net subscription or redemption in a day. We intend to implement this approach gradually across our funds. Notably, we do not intend to implement "redemption gates" so we can return money to investors promptly when they ask for it back.

Fund mergers. We have conducted a comprehensive review to maximise fund mergers because large funds are less likely to face liquidity issues.

No credit lines. Unlike many of our competitors, we have decided not to extend bank credit lines at a fund level because it would distort their risk profiles and could only be a very temporary measure.

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Figure 3: The German Bund tantrum

After falling to record lows over the first few months of 2015, German 10-year Bund yields spiked when commodity prices recovered, relieving pressure on the threat of deflation.

Source: Amundi, 6 July 2015.

Measures against a liquidity crisis
We have designed liquidity crisis management mechanisms with a dedicated team to be assembled in the event of a crisis. Organised around Amundi's investment committee, we have specified its operating protocol in order to ensure optimal responsiveness and the best possible coordination.

Liquidity indicators and redemption levels will trigger any action, and we will coordinate order execution and trading desks in several ways. We will centralise orders in a single management centre to optimise markets access, while also focusing on treating shareholders equally and maintaining the market's integrity.

Opportunities for investors

Although a lack of liquidity in global fixed income markets presents a challenge for fund managers, it also creates opportunities. We offer a number of strategies for investors to take advantage of these conditions.

They include our arbitrage strategy. This market neutral liquidity strategy is designed to exploit temporary mispricing when liquidity evaporates. It aims to generate sustained returns with low volatility over a long-term investment horizon.

Meanwhile, our global volatility strategy provides an efficient way to seek performance in stressed market conditions. This uses equity derivatives to exploit market liquidity risk and has performed well during periods of financial market stress. During these episodes, trading volumes of listed equity derivatives have spiked considerably providing a deep pool of liquidity to this "volatility asset class" (see figure 4).

We continue to help institutional investors assess liquidity risk through our advisory services. They include asset-liability management studies, which analyse scenarios under stressed market conditions. We also conduct specific liquidity studies by simulating massive redemptions in the event of extreme market stress.

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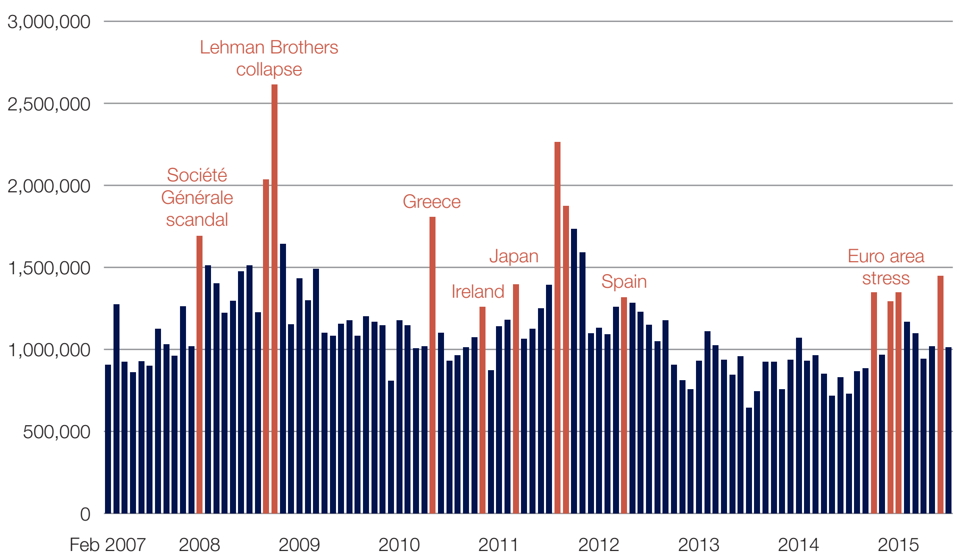
Figure 4: Volatility is a liquid asset class during periods of market stress
EUREX Eurostoxx50 options, average daily trading volumes, monthly from February 2007 to July 2015.



Source: Eurexchange, 31 July 2015.

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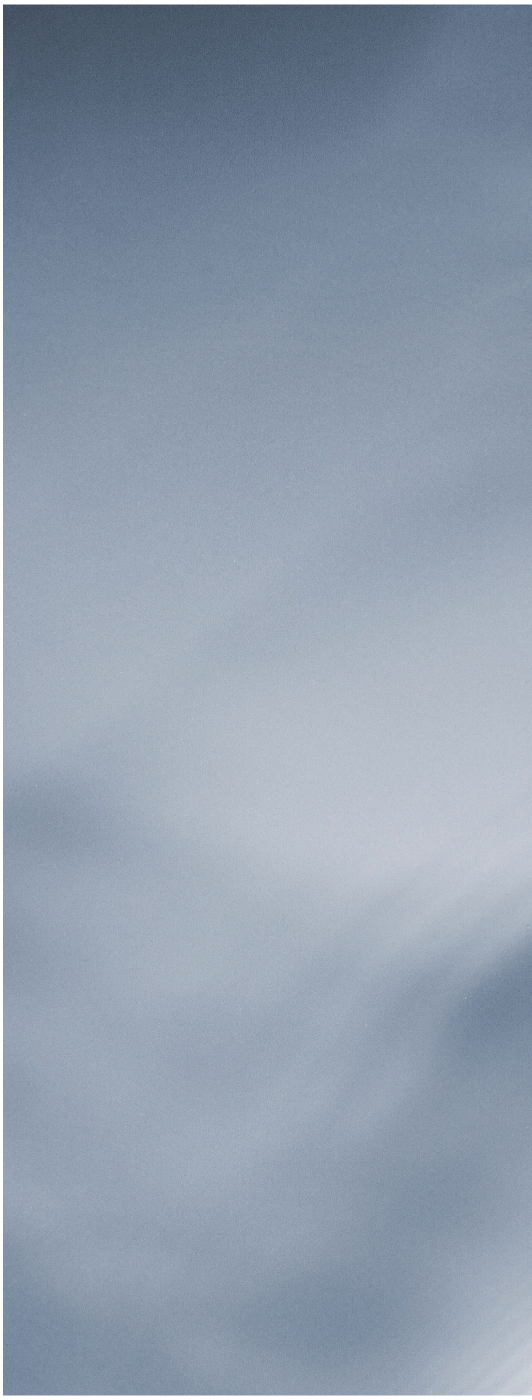

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