Bond Market Contact Group

Monitoring and assessment of bond market depth and liquidity

BMCG, 12 October 2016





Market liquidity is challenged

Liquidity is becoming more challenged...

- Asset price distortions: Negative yields, overly ambitious valuations, term premia at historic lows (see annex page 8 and 9)
- The ability to either source or provide secondary market liquidity continues to be challenged. It appears to be increasingly difficult to trade in large sizes, to execute orders quickly or to establish reliable prices, according to ICMA¹⁾.

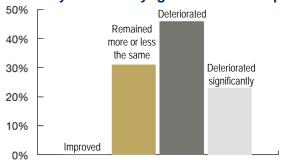
...as the complex interplay of extraordinary monetary policy and financial regulation is taking its toll

- For the moment, fundamental factors have largely been brushed aside on Eurozone government and corporate bond markets. The large-scale purchase programme coupled with heightened political uncertainty, and resulting "crowded trades" (e.g. asset managers forced into more passive "buy-and-hold-strategies", making the market strongly one-directional and fuelling "herd mentality"), are undeniably distorting prices in the entire euro bond market.
- Additionally, today's regulations and risk capital charges on banks and broker-dealers have undermined the market-making liquidity model.

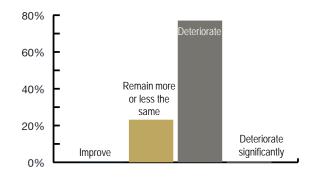
Sovereign bond markets and QE: The two dimensions of "scarcity scares"

- 1. Acting within self-imposed constraints
- Who is willing to sell to the ECB?

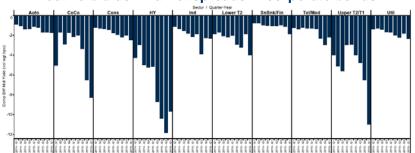
ICMA buy-side survey: general market liquidity¹⁾



ICMA buy-side survey: liquidity next 12 months¹⁾



Effective bid-ask market spreads in corporate bonds^{1) 2)}



¹⁾ See ICMA (July 2016): "Remaking the corporate bond market". 2) Effective bid-ask market spreads in euro-denominated corporate bonds defined as executed price compared with the mid-price of the indicative composite. Sources: ICMA, Allianz Global Investors GmbH.

How real money investors have adapted to this regime

Liquidity risk profile of EU bond funds: trend (2016 vs. 2015) towards longer maturities at the expense of liquidity (ESMA)

"Protection coefficient": a small interest rate increase already would cause losses for "safe" govt. bonds¹

Climbing up the risk ladder



AllianzGI RiskMonitor 2016: top asset classes favored

European equities

Corporate debt:

Real estate (private

Private equity (including

% Yes, Multiple answers allowed

High yield

for going long

Liquidity risks should not be underestimated - are investors

too sanguine?



AllianzGI RiskMonitor 2016: liquidity risks not considered

¹⁾ The "Protection Coefficient" is a relative valuation tool for investments in different bond markets, based on a "break even" spread, measuring the yield increase at which the nominal return of the respective segment is 0% over the period under consideration. Note: Calculation excludes currency risks and "roll down the yield curve" effect. Sovereigns based on 5y yields. Data as of 30 Sep. 2016. Sources: Bloomberg, Datastream, ESMA (2016) "Report on Trends, Risks and Vulnerabilities" No. 2, 2016, AllianzGl RiskMonitor 2016, Allianz Global Investors GmbH.

Range of tools to manage potential liquidity mismatches

Mandatory regulatory requirements regulating funds

- Limits on asset concentration
- Limits on counterparties
- Availability of short-term borrowing and limits on leverage

Key policy tools to manage internal fund liquidity stemming from industry practices

- Swing pricing
- Dual pricing / redemption fees
- Dilution levy
- In-kind redemptions

Pre-emptive tools, e.g. swing pricing, dual pricing

- Out of the money (OTM) gates in fund structures
- Suspension of dealings
- "Side-pockets"

Post-event tools, e.g. redemption gates to limit withdrawals or credit facilities to meet redemptions

"Although the use of such liquidity management tools is rare, there have been occasions in the past where activation is needed to ensure investors are protected. Although the impacts of such actions have been acutely felt by fund investors, the broader, system wide consequences of invoking such tools have been limited." (IOSCO)

Do current regulations treat liquidity risks satisfactorily?

Significant regulatory requirements are in place already...

- EU investment funds are subject to significant regulatory requirements (e.g. under both the collective funds frameworks AIFM and UCITS Directive), such as
 - the need for an independent risk management function
 - particular liquidity risk management requirements
 - monitoring the ongoing liquidity profile of assets within the fund; stress-testing
 - disclosures to regulators and investors.

...but there is still room for "putting the bits and pieces together" in order to increase the likelihood that redemptions are met even under stressed market conditions

- Consistently with the IOSCO survey, AMIC and EFAMA consider the existing EU regulations and tools available in most European
 jurisdictions as both comprehensive and appropriate for liquidity management in both normal and exceptional circumstances. There is
 room for improvement, though, in some specific areas:1
 - supervisory convergence: ESMA could play a more active role in Europe in encouraging the appropriate use of non-regulatory liquidity risk management tools (e.g. swing pricing) at national level, thereby broadening the range of available tools; these tools should be made available to open-ended funds to reduce first-mover advantage, where it may exist
 - providing guidance on stress testing at the level of individual open-ended funds
 - improving the use (!) of existing data (e.g. on the liquidity profile of open-ended funds) for systemic risk analysis by ESMA and ESRB, e.g. system-wide stress testing exercises that could potentially capture effects of collective selling by funds and other institutional investors on the resilience of financial markets and the financial system more generally
 - encouraging the development of association level liquidity risk best practices (e.g. guidance and direction regarding open-ended funds' use of extraordinary liquidity risk management tools)

Issues for discussion

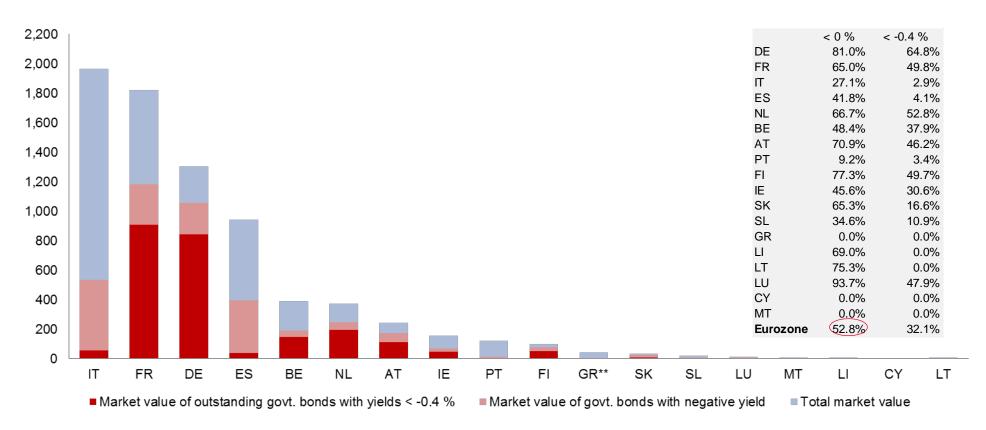
- 1. Is the market liquidity or lending channel likely to have a larger impact on end users?
- 2. "Internalized" liquidity creation an option?
- Growing importance of disintermediation trading platforms complementary pillar next to or cannibalizing the traditional market-making liquidity model?
- 4. Central banks as a "market maker of last resort" for the capital markets?

Source: Allianz Global Investors GmbH.

Annex

More than half of the Eurozone government bond universe is currently carrying a negative nominal yield

Market volume of outstanding public debt* with negative yields and yields below the ECB's deposit rate (in EUR bn)



^{*)} excl. agencies, excl. T-Bills, incl. inflation-linked bonds **) incl. ECB (European Central Bank) and EIB (European Investment Bank) holdings of GGBs (German Government Bonds). Past performance is not a reliable indicator of future results. Sources: Bloomberg, Allianz Global Investors GmbH. Data and calculations as of 4 October 2016.

Sovereign bonds: investors pile into "safe havens"

Non-EMU countries

Generic government bond rates, in %1: Yields from the short end to the mid-range of the curve are hovering in negative territory, not only in Europe

| | 3M | 1Y | 2Y | 3Y | 4Y | 5Y | 6Y | 7Y | 8Y | 9Y | 10Y | 15Y | 20Y | 30Y |
|------------------|-----------|-------|-------|-------|-------|-------|-------|-----------|-------|-------|-------|-------|------------|-------|
| Germany | -0.81 | -0.65 | -0.69 | -0.70 | -0.67 | -0.57 | -0.53 | -0.47 | -0.37 | -0.25 | -0.10 | 0.03 | 0.26 | 0.48 |
| France | -0.68 | -0.63 | -0.64 | -0.61 | -0.54 | -0.43 | -0.34 | -0.27 | -0.08 | 0.07 | 0.22 | 0.52 | 0.79 | 1.01 |
| Italy | -0.39 | -0.24 | -0.11 | 0.00 | 0.06 | 0.29 | 0.46 | 0.65 | 0.85 | 1.07 | 1.25 | 1.60 | 1.92 | 2.32 |
| Netherla | nds -0.77 | | -0.66 | -0.64 | -0.62 | -0.46 | -0.46 | -0.37 | -0.24 | -0.09 | 0.03 | | | 0.55 |
| Belgium | -0.73 | -0.63 | -0.65 | -0.58 | -0.54 | -0.47 | -0.41 | -0.32 | -0.17 | 0.00 | 0.16 | 0.54 | 0.63 | 1.10 |
| Austria | | -0.54 | -0.61 | -0.59 | -0.53 | -0.48 | -0.41 | -0.38 | -0.31 | -0.03 | 0.12 | 0.07 | | 0.81 |
| Finland | | -0.62 | -0.65 | -0.61 | -0.53 | -0.50 | -0.42 | -0.32 | -0.22 | -0.12 | 0.06 | 0.30 | | 0.56 |
| Switzerla | nd | -0.94 | -0.96 | -0.97 | -0.90 | -0.86 | -0.79 | -0.73 | -0.67 | -0.60 | -0.55 | -0.32 | -0.18 | -0.03 |
| S ≺ Sweden | -0.75 | -0.75 | -0.67 | | -0.55 | -0.36 | | -0.22 | | | 0.19 | | | |
| □ Denmark | -0.51 | -0.70 | -0.55 | -0.15 | | -0.36 | | | | | 0.02 | | | 0.51 |
| UK | 0.33 | 0.14 | 0.10 | 0.11 | 0.18 | 0.22 | 0.32 | 0.41 | 0.53 | | 0.75 | 1.15 | 1.32 | 1.47 |
| US | 0.30 | 0.59 | 0.80 | 0.91 | | 1.18 | | 1.45 | | | 1.62 | | | 2.33 |
| Japan | -0.40 | -0.35 | -0.28 | -0.27 | -0.25 | -0.23 | -0.22 | -0.22 | -0.18 | -0.14 | -0.07 | 0.11 | 0.36 | 0.46 |

¹⁾ Generic government rates monitor yield changes for government benchmark bonds. Past performance is not a reliable indicator of future results. Sources: Bloomberg, Allianz Global Investors GmbH. Data as of 4 October 2016.

Recourse to liquidity management tools is common across many European jurisdictions

Table of available key policy tools to manage internal fund liquidity in some EU fund jurisdictions¹

| | Jurisdictions | | | | | | | | | |
|--------------------------------|---------------|--------|----------|---------|----------|------------|-------------|-------|----|--|
| Tools | Belgium | France | Germany | Ireland | Italy | Luxembourg | Netherlands | Spain | UK | |
| Swing pricing | | ✓ | | ✓ | ✓ | ✓ | ✓ | | ✓ | |
| Dual pricing (redemption fees) | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | |
| Dilution levy | | ✓ | | ✓ | ✓ | ✓ | ✓ | | ✓ | |
| In-kind redemption | | ✓ | ✓ | ✓ | | ✓ | ✓ | ✓ | ✓ | |
| OTM gates | | ✓ | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | |
| Suspension of dealings | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | |
| Side pockets | | ✓ | | ✓ | ✓ | ✓ | | ✓ | ✓ | |

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