Recent Developments on the euro area repo markets: main drivers

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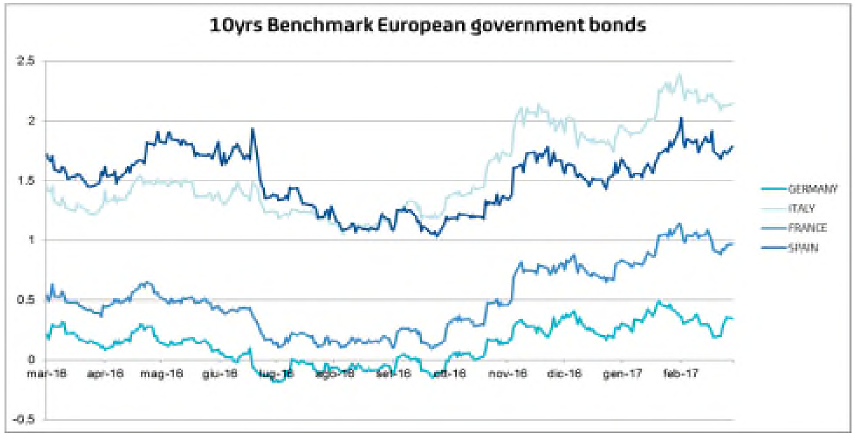
The market context

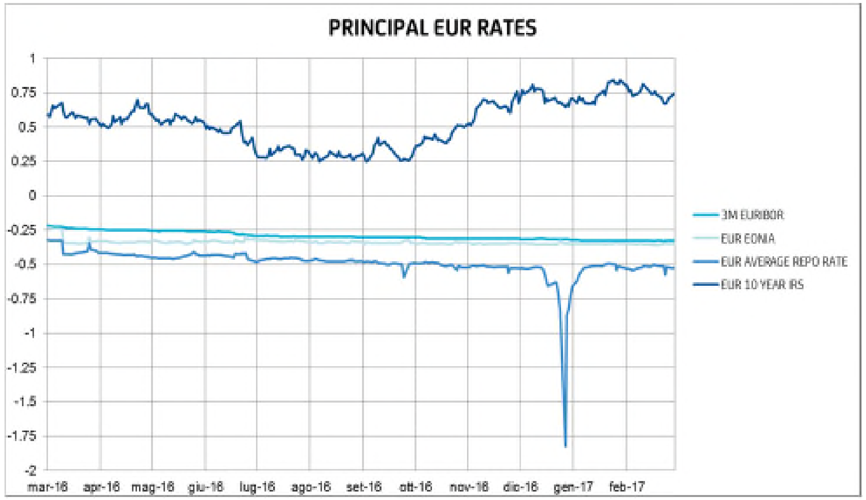
- In a **negative interest rates environment**, European unsecured and secured rates printed their historical lows.

- The market environment, together with the **massive QE purchases** (1,697 bios EUR), weighted on European government bonds. 10yrs German Bund's yield for the first time traded into negative field (Jun16 – Oct16).

- From the end of 2016, the recovery of inflation expectations turned itself into a **steepening of EUR rates**. The presence of an improved macroeconomic picture, led ECB to start talking about a potential tapering of the QE.



Source: Bloomberg



Source: Bloomberg

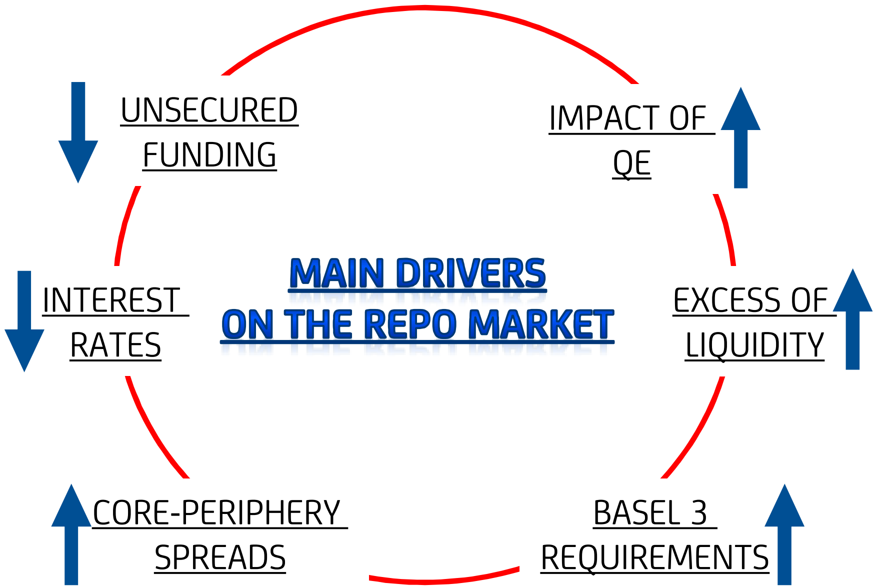
- **Political uncertainties** (Brexit, US elections, Italian referendum, France elections) increased volatility over financial markets, leading **to flight-to-quality** flows toward core European markets.

- The **characteristics of the QE**, together with flight-to-quality trends, reduced the liquidity of core EGB markets. For these reasons ECB entered some mitigation measures regarding the QE purchasing methodologies.

- The introduction of the Basel3 liquidity **regulatory requirements**, namely LCR, NSFR and LEVERAGE RATIO have been influencing the funding strategies of commercial and investment banks.

An unprecedented period for the repo market

- In the last 12 months, European repo market has been going through a path of unprecedented conditions. Such changing environment was basically influenced by the combined effect of different factors, namely:
  - The increasing excess of liquidity in a context of low interest rates;
  - the structural changes in the short-term wholesale market;
  - the monetary measures within the QE, mainly the PSPP and the TLTRO;
  - the evolution of prudential regulation of Basel 3 with the LCR, NSFR and leverage ratio requirements.



GC (general collateral) repo rates below the ECB deposit facility level

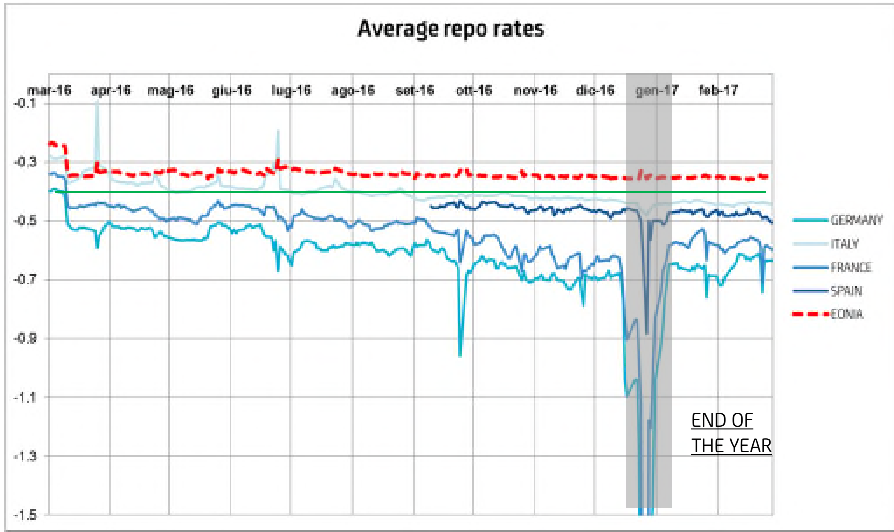
- European **GC repo rates have been consolidating since June below the -40bps of the ECB deposit facility**, in a context characterized by (i) a steadily increasing excess of liquidity, that is consolidating above 1.300 billion of EUR and (ii) a PSPP that absorbed by the end of 2016 more than 1.2 trillion of European government bonds;

- The **-40bps potential benefit of the TLTRO** clearly contributed to create downward pressures over both short term unsecured and secured EUR rates;

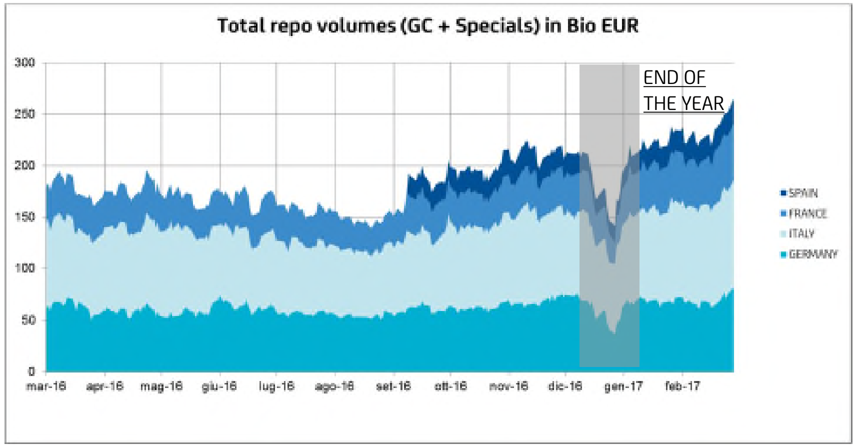
- **A structural change in the net liquidity positions of non-core banks** were recorded, with an increasing number of Italian and Spanish banks becoming very long of liquidity and often acting as liquidity providers toward big foreign banks on domestic markets;

- The repo market showed to be highly resilience to market volatility, especially if compared to the cash bond market. Shifts in the EONIA curve, even if reduced after March 2016, were gradually incorporated by repo rates

- As shown by the REFREU index (obtained from Bloomberg) **overall volumes have increased**



Source: Bloomberg – REFREU INDEX



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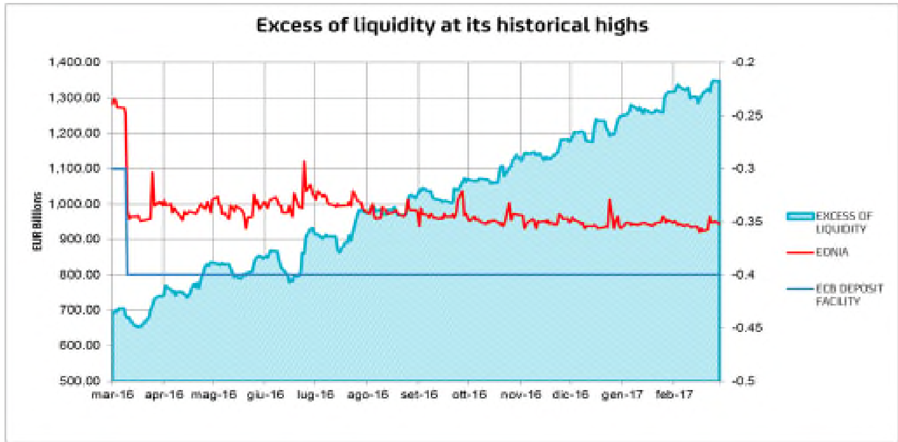
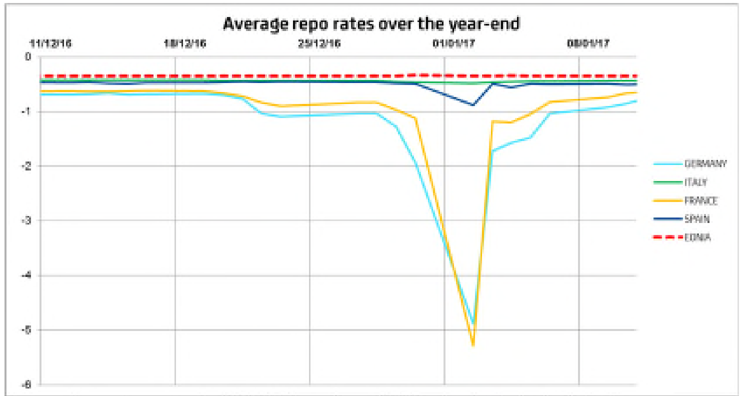


Source: Bloomberg

The QE and the fragmentation of the European repo market. The example of the year-end.

as at 28 February 2017	Monthly net purchases	Cumulative monthly net purchases	Remaining Weighted Average Maturity (WAM) in years
Germany	16,960	338,618	7.88
France	13,558	268,666	7.66
Italy	11,785	233,692	8.79
Spain	8,367	167,489	8.94
The Netherlands	3,825	75,672	7.93
Belgium	2,370	46,694	10.03
Supranational	6,818	155,231	7.36
Other	2,636	89,284	/
TOTAL	*68,208*	1,412,402	8.20

Source: ECB Statistics

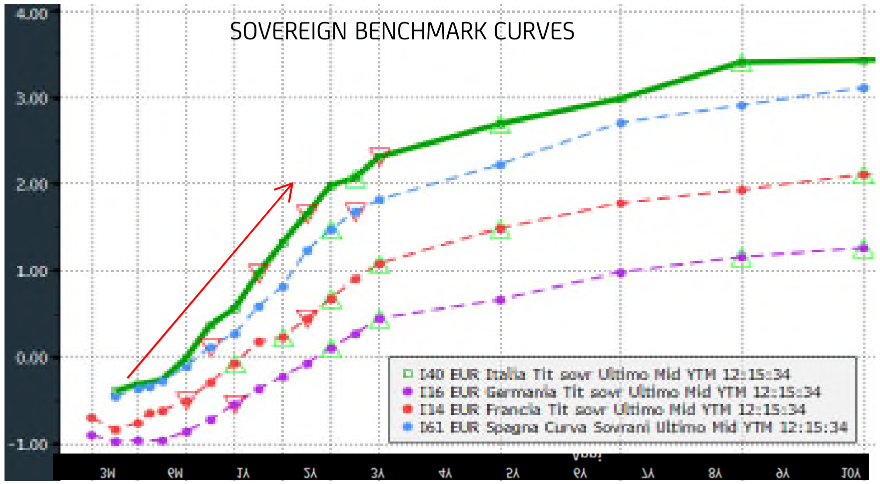


Source: Average repo rate (REFR) Bloomberg. REFR rates include deals both on special and GC papers

- **Widening of repo spreads between core and non-core papers**. The different underlying sovereign risk influencing spreads on the bond cash market, extended itself also to the repo market.
- Flight-to-quality trends involved the repo market in core Europe, pushing the GC German curve between -65/-70 bps and the French one around -55 bps
- Regarding the periphery, the refinancing cost of Italian and Spanish paper definitely improved**. Spreads between Italian and Spanish repo rates remained basically unchanged (2bps), proving the high resilience of the repo market** compared to the cash one, where Spanish yields fell below Italian ones over the entire curve consolidating *(10yrs Btp-Bonos spread passed from -40bps in March 2016 to +40bps in March 2017)*
- The core-peripheral discrepancy in the European repo market has its roots in the **scarcity of core European bonds.** Main drivers were:
  - Around 40% of securities within the PSPP is German and French, out of public debts that are proportionally smaller compared to Italy or Spain
  - Increased demand of HQLA due to LCR requirements
  - Flat curves reduced the incentive of trading different sovereign curves
- If the December mitigation measures introduced by the ECB seems to have reduced only partially concerns about bond scarcity, the current environment shows that some structural changes are taking place in the repo market.
- **DISLOCATION OVER THE YEAR-END**
  - Over the year-end with repo rates reached new historical lows in an extremely volatile and dislocated market;
  - Not only special rates, but also GC ones going from the -0.52% of Italy to the -8% of Germany
  - GC volumes totally dropped, signaling the financial sector being long of liquidity
  - The liquidity over European markets literally evaporated as highlighted by the severe widening of bid-ask spreads.

MARKET IS BECOMING MORE COLLATERAL DRIVEN

- During last year and particularly over reporting dates, traded volumes of special bonds have increased;
- For core Europe, main drivers are: LCR motivation, funds having the requirement to only invest in high-rated asset classes, lower liquidity and the related difficulties to cover short positions;
- For non-core Europe, the main reason has to be found in the **slope of the Italian and Spanish curves** , that keeps some arbitrage opportunities in terms of spread trading. This opportunities look to be more attractive in the 2-5 yrs segment.
- **<u>The repo market used to be cash-driven, has clearly became collateral-driven</u>**



A practical example of spread trading opportunities

By considering 3yrs maturities government bonds for Italy, France, Germany and Spain it is possible to understand how profiles of 6-months spread trading strategies vary across different markets. The more acctractive opportunitie over the Italian curve, sustains the activity over considered bonds and, as a consequence, increase the total amount of short positions. It follows that some bonds (considered as general collateral in normal conditions) become very expensive in terms of repo and are considered specials.

	Bond 1 (Short)		Bond 2 (Long)		6M REPO RATE	6M GC REPO RATE	SPREAD (bps)
	Bond	YTM	Bond	YTM			
ITALY	BTPS 4 ¼ 03/01/20	0.41	BTPS 4 09/01/20	0.54	-0.50	-0.41	**0.13**
FRANCE	FRTR 3 ½ 04/25/20	-0.32	FRTR 2 ½ 10/25/20	-0.24	-0.60	-0.55	**0.08**
SPAIN	SPGB 4 04/30/20	0.09	SPGB 4.85 10/31/20	0.18	-0.47	-0.43	**0.09**
GERMANY	DBR 3 ¼ 01/04/20	-0.78	DBR 3 07/04/20	-0.71	-0.65	-0.65	**0.07**

The Italian case

- After March, GC Italian rates after march 2016 started consolidating below the -40bps over the entire curve. After June 2016, no updward movements were recorded on GC rates over reporting dates.

- The activity over special bonds increased, fuelled by the combined effect of:
  - positive net liquidity positions of domestic counterparties;
  - the volatility recorded on the cash side mainly due to political uncertainties ;
  - steepening of the cash curve.

- Over the year-end, despite GC rates were less volatile compared to other European markets, special bonds rates were exposed to downside pressures.

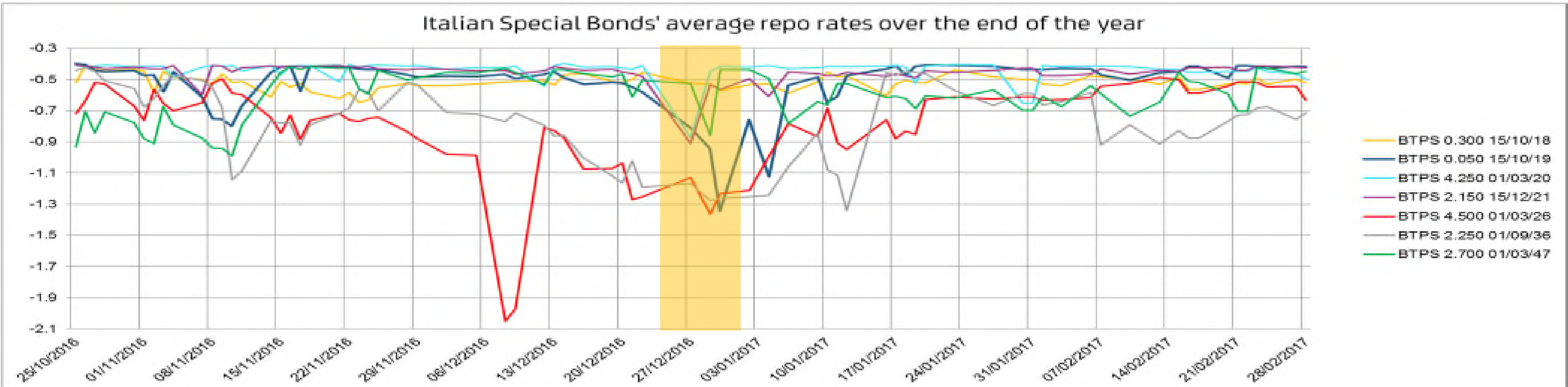
- The Italian market showed very positive liquidity conditions and an high resilience against market turbulences;.

  Main reasons were:
  - The larger public debt and the high liquidity of the BTP market;
  - The increasing usage of CCP to the detriment of bilateral deals;
  - The higher transparency and easier access to the market;
  - The more diversified institutional investor base

ITALIAN MTS VOLUMES

Average Daily Volumes in € mln (Not including OTC)

	GC	Special	Total
Jan-16	31,359	50,778	82,138
feb-16	32,679	53,794	86,474
mar-16	32,529	55,985	88,514
apr-16	28,327	60,330	88,657
May-16	28,231	57,739	85,971
Jun-16	22,795	54,844	77,639
Jul-16	24,263	49,792	74,056
Aug-16	21,360	51,557	72,917
Sep-16	19,803	56,348	76,151
Oct-16	28,153	58,848	87,002
nov-16	26,473	65,985	92,459
Dec-16	18,951	61,778	80,729
Jan-17	17,524	73,123	90,647
feb-17	14,145	84,912	99,057



Source: MTS. OTC trades are not included in the computation of average levels. Considered bonds are expressive of 1y, 2y, 3y, 5y, 10y, 20y, 30y benchmark bonds. BTP 4,5 01/03/26 was the CTD of the December BTP Future. This is the reason why it became very expensive during the December delivery.

The impact of regulatory developments on the repo market. New stimulus arising from limits.

- **LIQUIDITY COVERAGE RATIO AND THE INCREASING INTERESTS FOR HQLA**

  - LCR is playing a fundamental role in the liquidity management of financial institutions;
  - The regulation incentivizes banks to hold HQLA and increases their demands over the reporting periods. For a repo, a 0% weight is given only to secured funding backed by Level 1 high quality assets.
  - The repo not only continues to be a fundamental instruments in the liquidity management, but has become a valuable tool for managing the fulfillment of regulatory requirements;
  - Increasing interest of financial institutions for LCR enhancement strategies in the form of **collateral swap.** HQLA borrower can strengthen its LCR position, while the lender can achieve strategies of yield-enhancement.

- **NET STABLE FUNDING RATIO AND LONG-TERM REPO TRANSACTIONS**

  - The NSFR seems to have been a limitation in the last periods for those bank not showing a sound NSFR position;
  - The aim of limiting sources of funding below 1 year maturity reduced banks' willingness to enter reverse repo transactions;
  - The problem of the 6-months asymmetric treatment maturity is weighted on operators decisions. This is relevant especially for repos between financial institutions, since 6m repos have a 0% weight for the ASF and 6m reverse repos have a 10/15% weight for the RSF computation.
  - Increasing interest from financial institutions – not able to receive the -40bps benefit of the TLTRO- for **long term repo transactions.** This interest will become increasingly crucial for the repo market;

- **LEVERAGE RATIO AND THE NEW ROLE OF LIQUIDITY PROVIDERS FOR DOMESTIC BANKS**
  - The introduction of the Leverage ratio have strongly penalized the trading activity of investment banks on the repo market;
  - In a market characterized by high volumes and low margins, the trading and arbitrage activity of investment banks is a non-appealing business; The weight given to governament bonds' holdings is too high compared to potential benefits, esplecially with almost flat curves;
  - The exit from the market of large investment banks, allowed commercial banks –with more space in their balance-sheets – to have a **more active role** as market makers.