

Government Bond Data Report

European market data update

Q1: 2018



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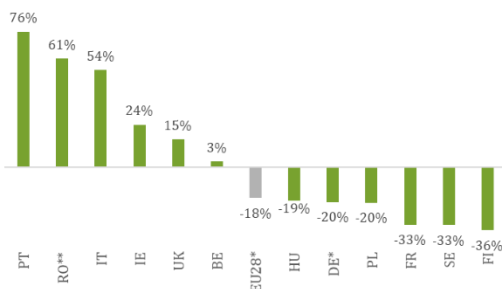
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“EU government bond trading volume¹ decreased 17.6% year-on-year”

Annual change in Government Bond average trading volumes

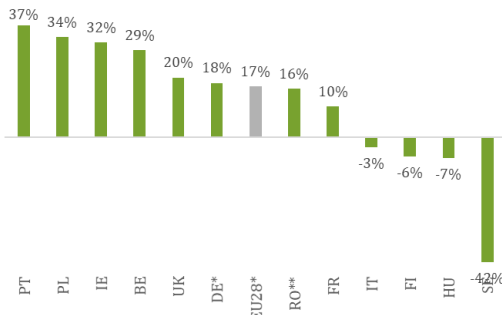
(1Q18 vs 1Q17) Selected European jurisdictions



Source: AFME with information from European DMOs and other agency sources and Trax, a MarketAxess subsidiary. See section 5 for details on aggregation basis and sources. *Europe total and German turnover is sourced from TRAX Facts as the quarterly variation of average daily volumes of government and sovereign bonds. **Romanian turnover volume calculated using outstanding volumes in Section 3.

Quarterly change in Government Bond average trading volumes

(1Q18 vs 4Q17) Selected European jurisdictions



Source: AFME with information from European DMOs and other agency sources and Trax, a MarketAxess subsidiary. See section 5 for details on aggregation basis and sources. *Europe total and German turnover is sourced from TRAX Facts as the quarterly variation of average daily volumes of government and sovereign bonds. **Romanian turnover volume calculated using outstanding volumes in Section 3.

Highlights and Market Environment

This report provides a comprehensive data source with updated statistics of the Government bond² primary and secondary markets in Europe (EU28).

Among the main findings of this report are:

- **Average daily trading volumes** of European government bonds decreased during 1Q18, driven by a significant decrease in German (-20%YoY) and French (-33% YoY) trading, only partially offset by increases in IT (54%YoY), UK (15% YoY) and IE (24% YoY). Notwithstanding the volatile quarter for markets, EU government bond trading decreased 17.6% YoY, with the lowest trading volume for a first quarter since 2013 according to MarketAxess.
- **European Government bond and bills gross issuance** totalled €669.0 bn in 1Q18, an increase of 15% from the volume issued in 4Q17 (€579.4 bn) but 2.7% below the volume issued in 1Q17 (€687.5 bn).
- **The average bid-cover ratio** (demand/amount allocated)³ was 2.10 in 1Q18, a decline from 2.14 in 4Q17 but slightly above 2.07 in 1Q17. German government bond auctions and tap issues saw the lowest quarterly average bid-cover ratio on our records for German bonds since 2010, from an average of 1.67 (2010-17) to 1.29 in 1Q18.
- The first quarter of the year saw **8 long-term credit rating upgrades for EU countries** and no downgrades. This reflects significant credit quality improvements of European sovereign issuers, particularly of southern European and CEE countries. There were two additional upgrades in the first two months of 2Q18.

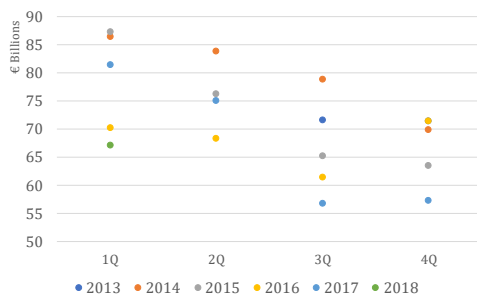
	2014	2015	2016	2017	1Q 2018
Gross Issuance (€ bn)	2727.9	2601.3	2556.1	2485.4	669.0
Bonds (€bn)	1268.1	1215.7	1187.0	1235.3	342.1
Bills (€bn)	1459.8	1385.6	1369.1	1250.1	326.9
Outstandings (€ tn)	9.32	9.73	9.60	9.51	9.64
Bid-cover ratio	2.29	2.22	2.16	2.13	2.10
Average daily turnover (% YoY change)	-	-8.4%	-7.2%	-0.3%	-17.6%

¹ Total EU government bond trading volume data is sourced from Trax

² Fixed income securities issued by central governments. The report includes Bonds and Treasury Bills and excludes agencies and Central Bank origination.

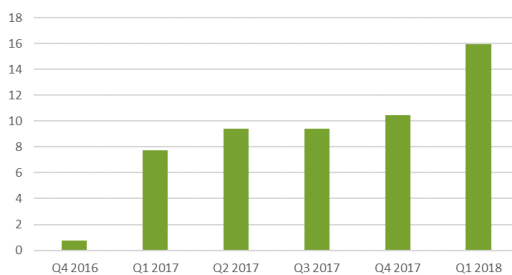
³ Weighted average (by issuance volume) of bid-cover ratios in the United Kingdom, Spain, France, Italy, Germany, Belgium, Sweden, Netherlands, Denmark and Austria.

Seasonality of EU government bond trading (quarterly trading volumes, EURbn)



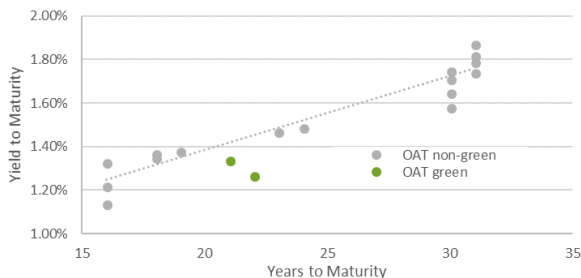
Source: Trax, a MarketAxess subsidiary

Outstanding EU green government bonds (€ billion)



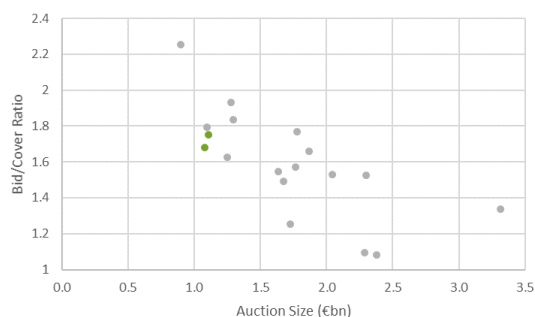
Source: Thomson Reuters Eikon

Yield to maturity of French OATs issued via auction (16 to 31 year maturity) since June 2017



Source: Thomson Reuters Eikon, AFME

Bid cover ratio⁴ of French OATs issued via auction (16 to 31 year maturity) since June 2017



Source: Thomson Reuters Eikon, AFME

Highlights

1Q 2018 EU Government Bond trading volume

EU government bond trading volume fell 17.6% year-on-year (YoY), with France, Sweden and Finland showing the largest reductions. This annual fall is larger than investment corporate bonds (-8% YoY) and contrasts with the YoY increase in equities (+8% YoY, according to CBOE markets), high-yield corporate bonds (+11.6% YoY) and FX (+23% YoY, according to CLS).

Compared to Q4 2017, EU government bond trading volume⁵ increased 17%, with quarterly increases for 8 of the 12 countries where data is available, notably Ireland (32% QoQ), United Kingdom (20% QoQ), Germany (18% QoQ) and France (10% QoQ). According to Trax, this 17% quarterly increase is slightly less than the equivalent values for corporate bonds (25% increase), but above the quarterly increase in equity trading and FX (both at 16% QoQ).

The quarterly increase in government bond trading was in part driven by seasonal factors (see chart on top left panel) as it was also the lowest trading volume for a first quarter since 2013.

Green government bond auction yield premium

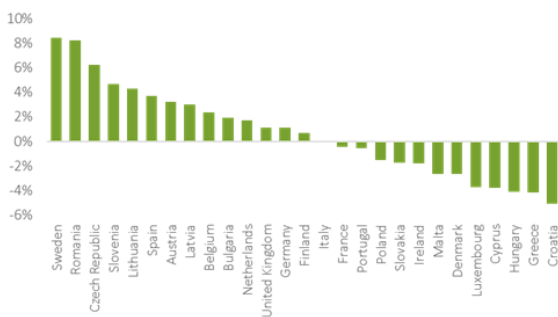
Belgium issued their first green government bond in Q1 2018 joining France and Poland in the EU (Lithuania also issuing a green bond in May 2018). Belgium's €4.5 billion issue increased the total outstanding green government bonds to €15.9 billion at the end of Q1 2018, more than doubling the equivalent value for a year earlier.

France have continued to tap their initial green bond issuance using auctions (the initial issuance was via syndication) increasing their outstanding green bonds from €7 billion in Q1 2017 to €9.7 billion in Q1 2018. The auctions for the green OAT are compared with the auctions of non-green OATs in the last year in the panel on the left. The comparisons show that the yield to maturity of OATs at auction was notably lower for green OATs than the yield curve for non-green OATs. The green OATs had maturities of 21 and 22 years but were issued at yields similar to 16Y OATs, so although this is a small data set it indicates that there is a 'green premium' for the French Government.

⁴ Excluding non-competitive bids

⁵ Total EU government bond trading volume data is sourced from Trax

Quarterly change in weighted average years to maturity for outstanding government bonds 4Q17 to 1Q18



Thomson Reuters Eikon

There was not a *premium* in terms of the bid-cover ratio of the auctions, as the green OATs had a lower bid cover ratio than non-green OATs of similar auction sizes (see chart on bottom left of previous page). It should be noted that as France is the only EU country to issue green government bonds via auction there is not a comparison available with other countries.

Number of Primary Dealers remains broadly unchanged

The number of primary decreased slightly in the year to May 2018, as the average number of primary dealers across the EU dropped to 15.4 from 15.5 in January 2018. This change was due to Scotiabank resigning as a UK GEMM in May.

Longer maturities in CEE

Of the five countries that saw the largest increases in weighted average maturities of outstanding government bonds in the last quarter, four were CEE countries. Sweden experienced the largest increase of over 8%; however, it is still the only country in Northern and Western Europe with a weighted average years-to-maturity of less than 5 years.

Italian election uncertainty halts year long decline in Southern European CDS spreads.

The continuous convergence of CDS spreads in the EU from Q1 2017 to Q1 2018, ended in Q2 2018 as the Italian election caused credit risk to increase in Spain, Portugal and Italy, and to cease the decline in Greece. See page 18 for further detail.

Major upcoming regulatory, legislative and policy initiatives

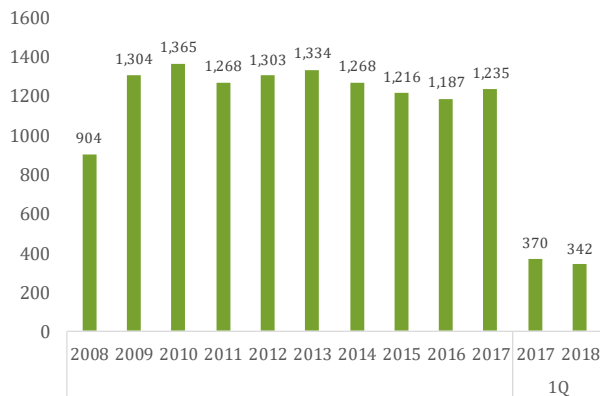
There several regulatory initiatives that are currently being considered at the European and national level with expected impact on the government bond markets. Some of the key initiatives recently implemented or currently being developed are:

- MiFID II/R
- Fundamental Review of the Trading Book (FRTB)
- Basel III
- CSDR
- Prospectus Regulation

AFME and its members are actively contributing on all of these and other initiatives.

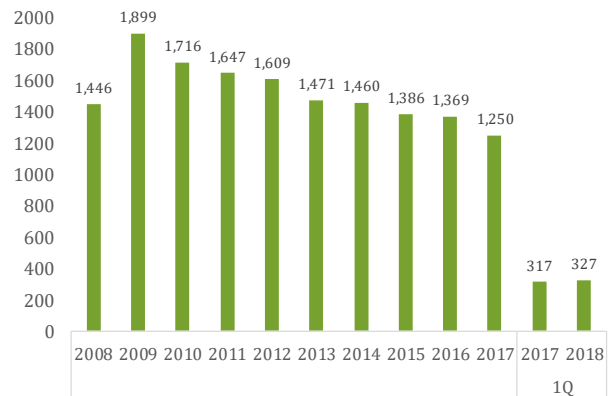
1. Issuance

1.1 EU Government Bond gross issuance (EUR bn)



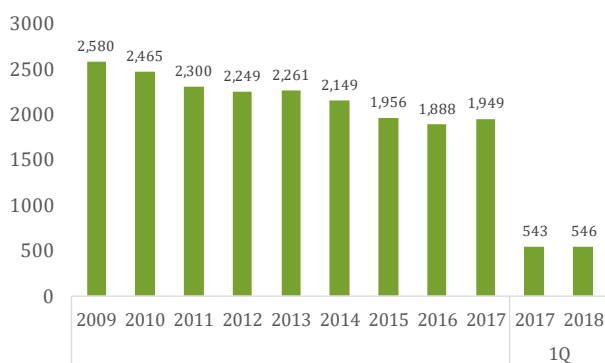
Source: ECB and National Debt Management Offices

1.2 EU Treasury Bills gross issuance (EUR bn)



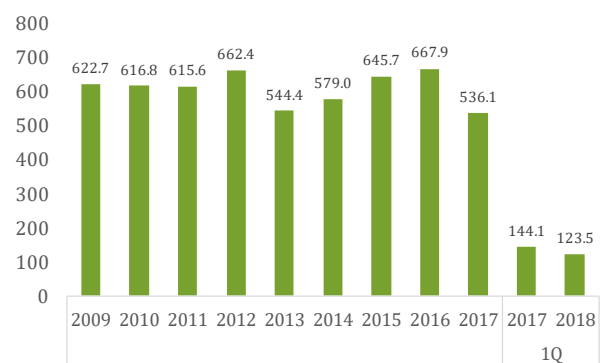
Source: ECB and National Debt Management Offices

1.3 Eurozone bonds and bills gross issuance (EUR bn)



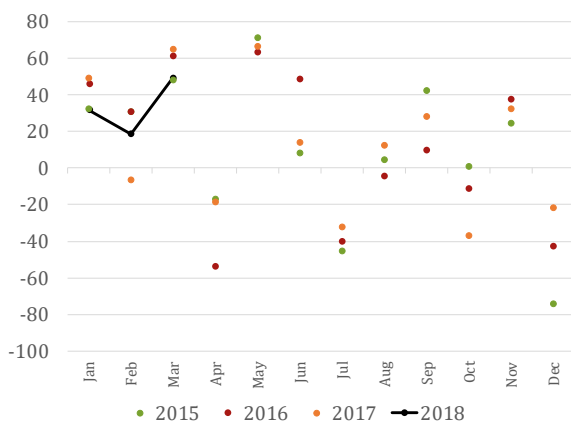
Source: ECB and National Debt Management Offices

1.4 Non-Eurozone bonds and bills gross issuance (EUR bn)



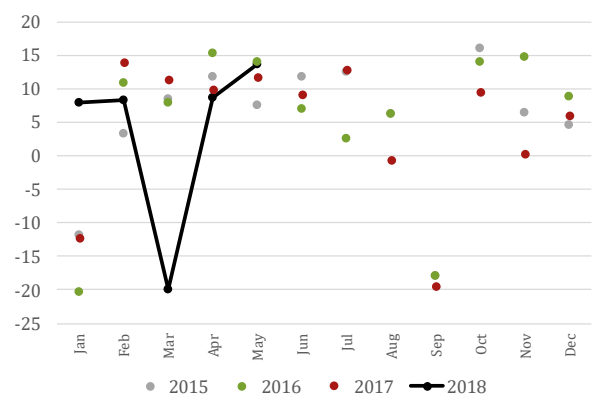
Source: ECB and National Debt Management Offices

1.5 Euro area net sovereign debt issuance (EUR bn)



Source: ECB

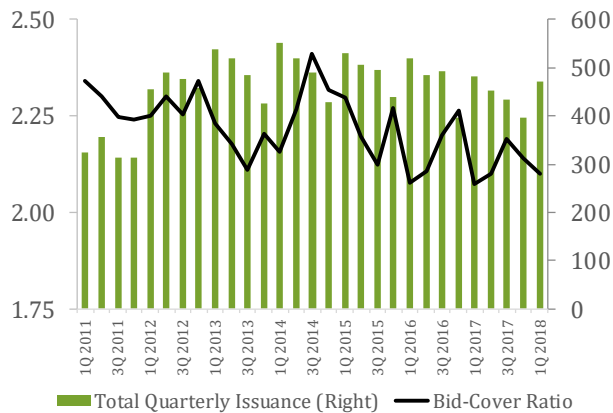
1.6 UK Gilts net issuance (GBP bn)



Source: UK Debt Management Office

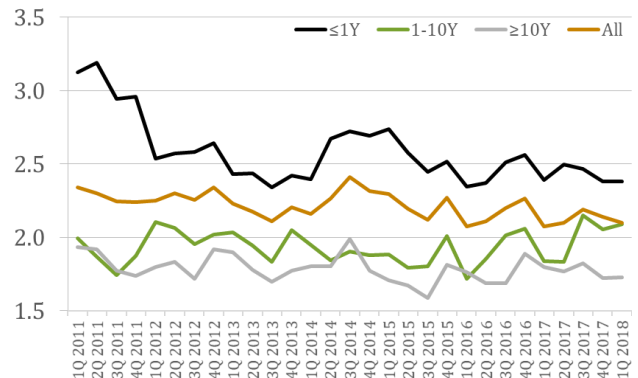
2. Recent auctions and primary dealers

2.1 Average bid-cover ratios and issued volumes in selected jurisdictions (EUR bn)



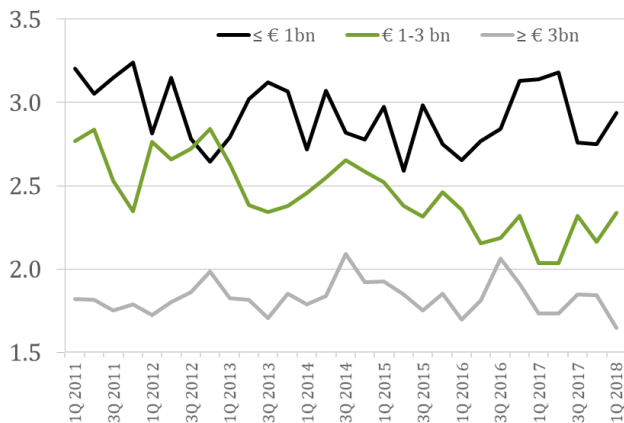
Source: Thomson Reuters Eikon. Weighted average of UK, DE, FR, ES, IT, BE, SE, NL, DK, and AT bonds and bills

2.2 Average bid-cover ratios by tenor (years) of issued instrument



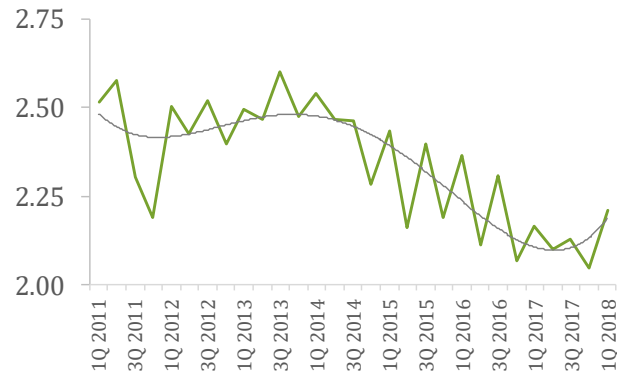
Source: Thomson Reuters Eikon. Weighted average of UK, DE, FR, ES, IT, BE, SE, NL, DK, and AT bonds and bills

2.3 Average bid-cover ratios by size of issued instruments



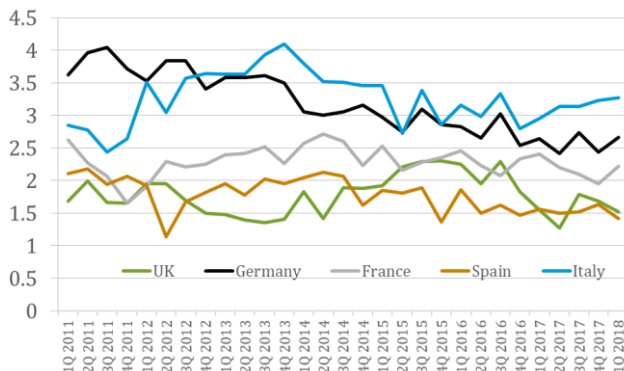
Source: Thomson Reuters Eikon. Weighted average of UK, DE, FR, ES, IT, BE, SE, NL, DK, and AT bonds and bills

2.4 Average auction size in selected European jurisdictions (EUR bn)



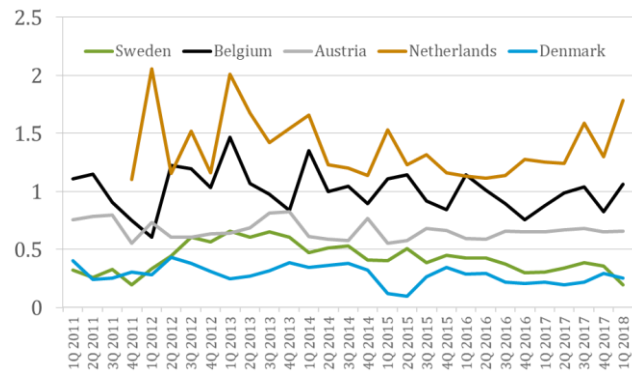
Source: Thomson Reuters Eikon. Weighted average of UK, DE, FR, ES, IT, BE, SE, NL, DK, and AT bonds and bills. Polynomial trendline in grey.

2.5 Average auction size in selected jurisdictions (EUR bn)



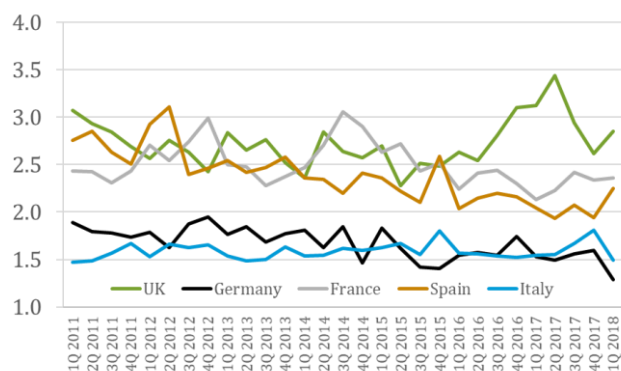
Source: Thomson Reuters Eikon

2.6 Average auction size in selected jurisdictions (EUR bn)



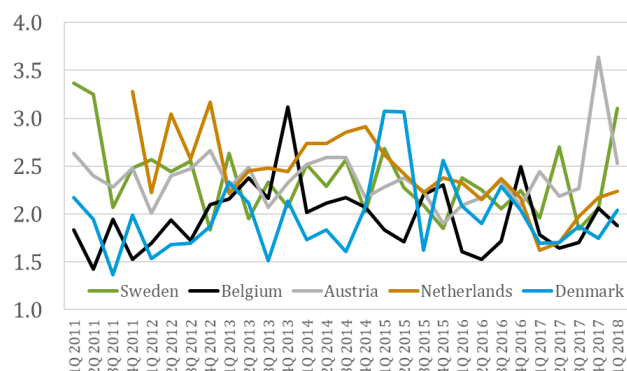
Source: Thomson Reuters Eikon

2.7 Average bid-cover ratios by jurisdictions



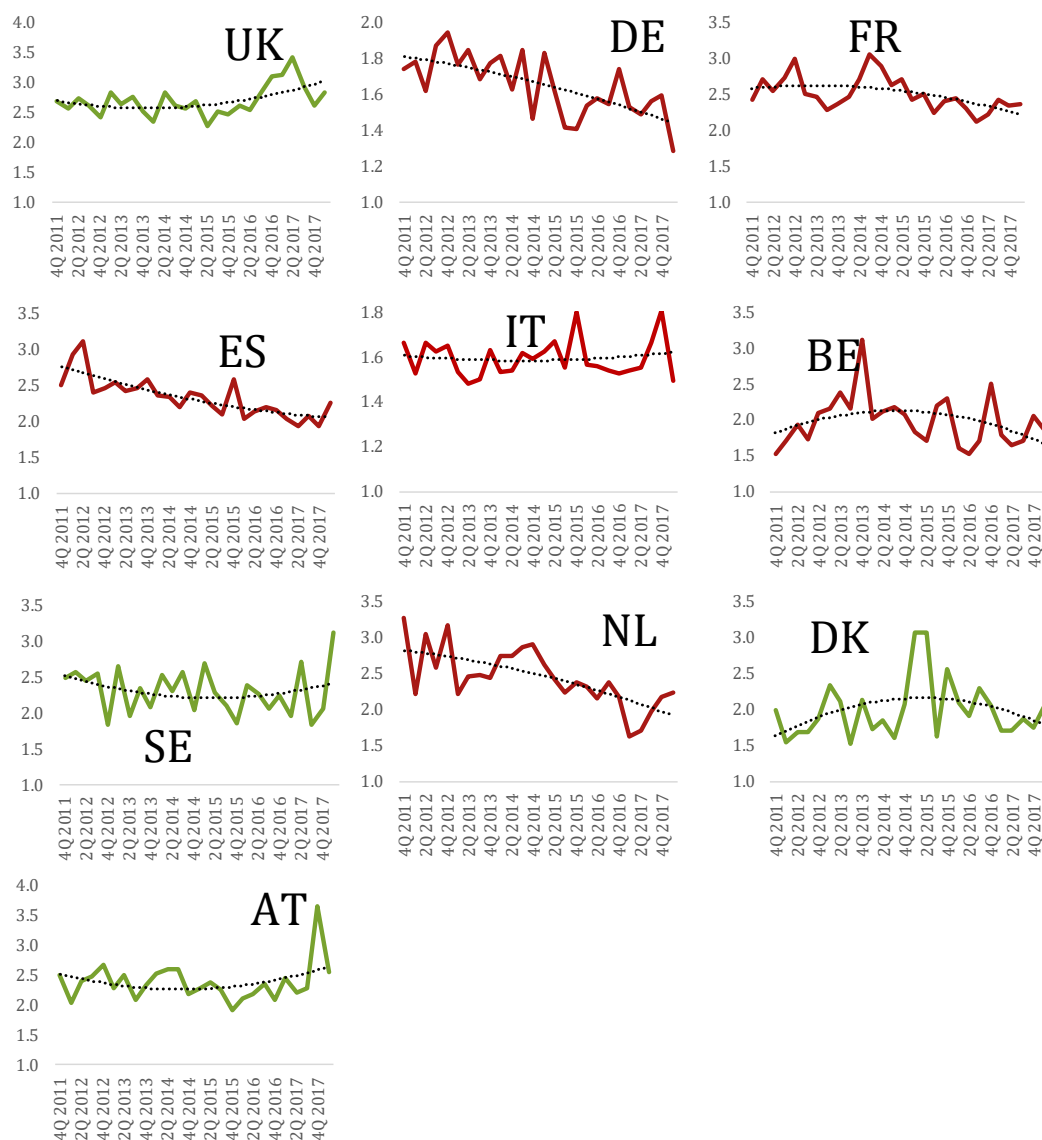
Source: Thomson Reuters Eikon

2.8 Average bid-cover ratios by jurisdictions



Source: Thomson Reuters Eikon

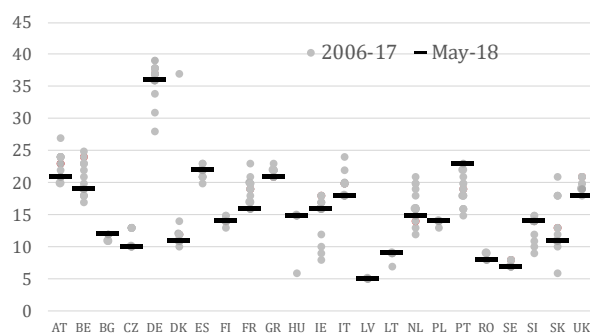
2.9 Average bid-cover ratios in selected jurisdictions: 2011-18⁶



Source: Thomson Reuters Eikon

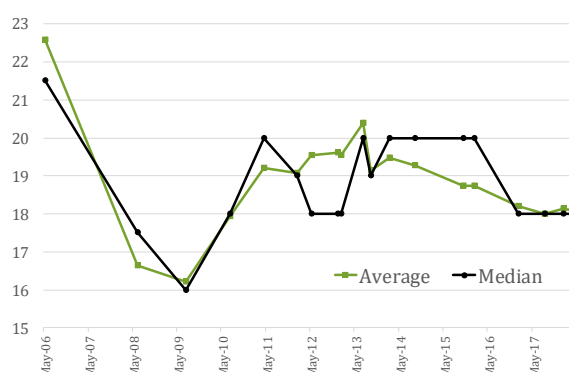
⁶ Chart colour indicates slope of trendline. Green indicates end value of trendline above starting value and red indicates end value of trendline below starting value.

2.10 Number of primary dealers relative to historic number



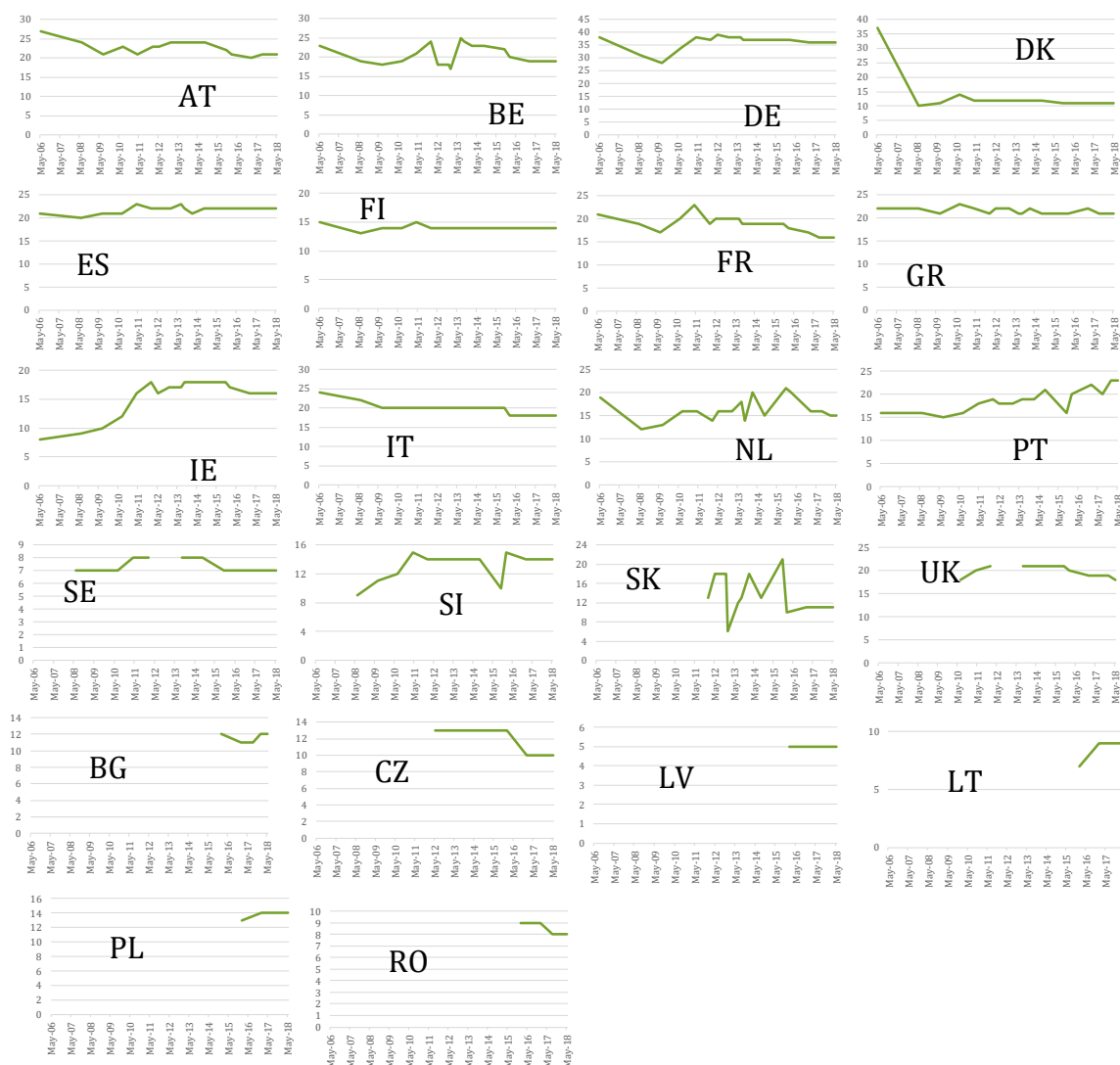
Source: AFME Primary Dealers Handbooks and national DMOs

2.11 Average and median number of primary dealers in selected EU countries



Source: AFME Primary Dealers Handbooks and national DMOs. Average and medians of AT, BE, DE, DK, ES, FI, FR, GR, IE, IT, NL, PT, SE, SI and UK

2.12 Number of primary dealers in Europe by jurisdiction: 2006-18⁷

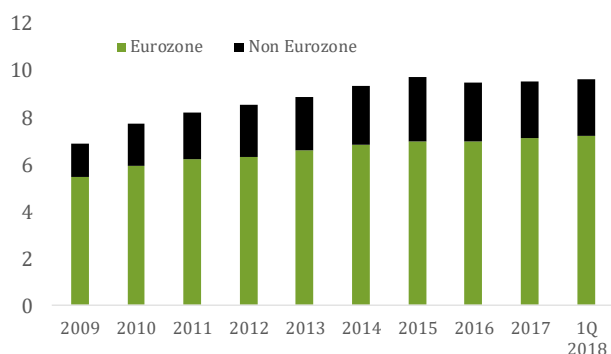


Source: AFME Primary Dealers Handbooks and national DMOs

⁷ Dotted line for UK and Sweden indicates data not recorded in the relevant period.

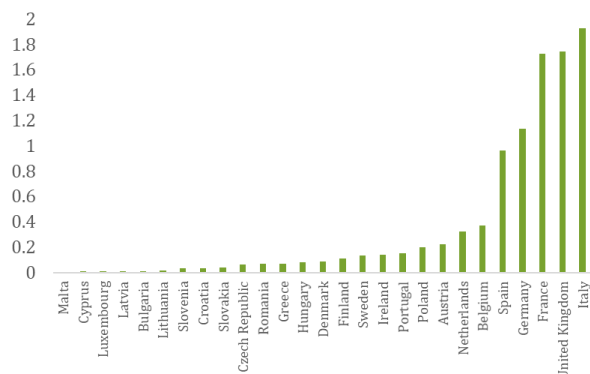
3. Outstanding

3.1 Outstanding debt securities issued by Central Governments (Nominal, EUR tn)



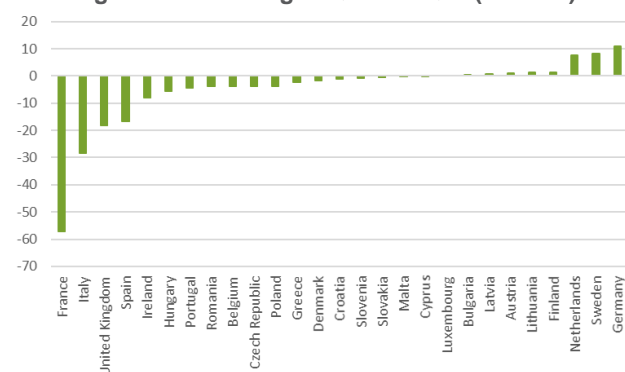
Source: ECB and Thomson Reuters Eikon

3.2 European government bonds outstanding by country (EUR tn)



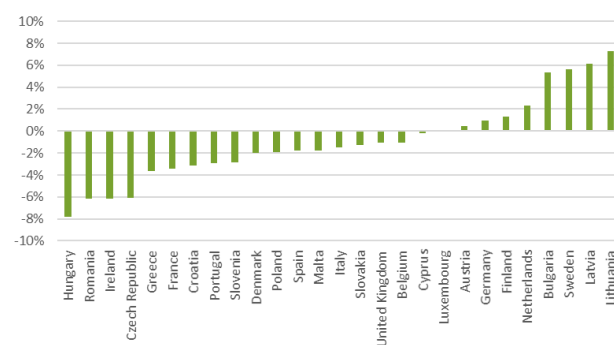
Source: Thomson Reuters Eikon

3.3 Change in outstandings 4Q17 to 1Q18 (EUR bn)⁸



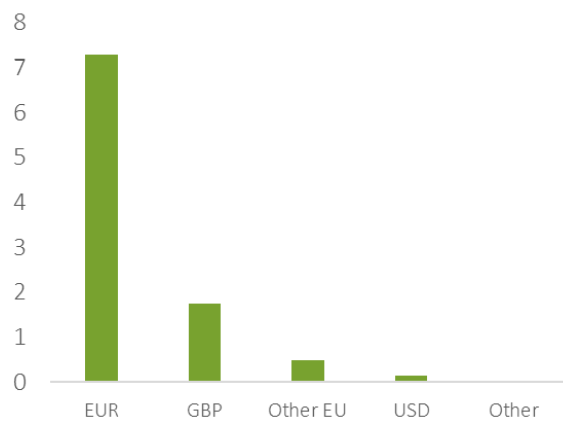
Source: Thomson Reuters Eikon

3.4 % Change in outstandings from 4Q17 to 1Q18



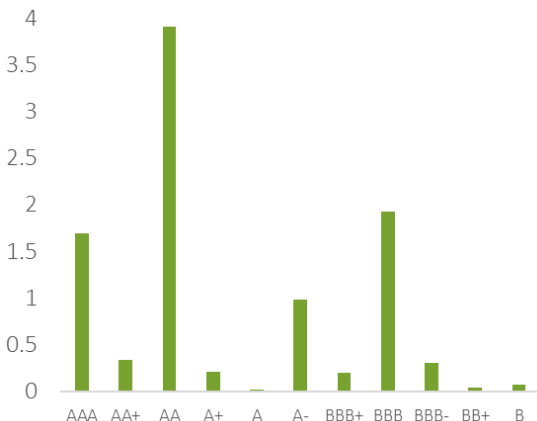
Source: Thomson Reuters Eikon and Standard and Poor's

3.5 European government bonds outstanding by currency (EUR tn)



Source: Thomson Reuters Eikon

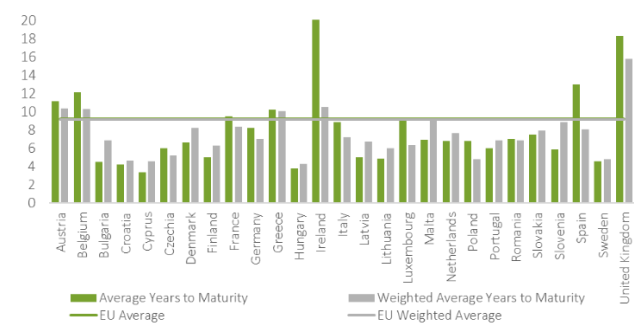
3.6 European government bonds outstanding by current rating of issuer (EUR tn)



Source: Thomson Reuters Eikon and Standard and Poor's

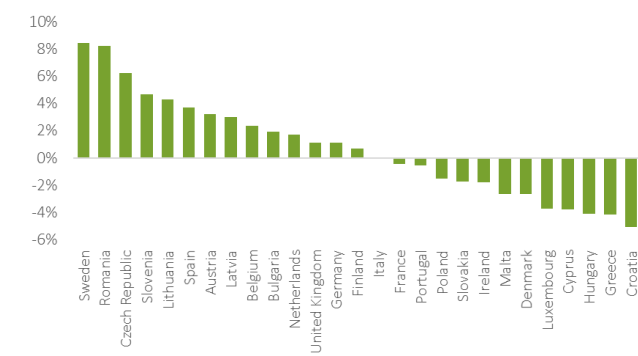
⁸ The significant increase in Greek outstanding bonds was due to a debt swap on 5th December 2017, which resulted in an addition of bonds to the data set used.

3.7 Average years to maturity for outstanding government bonds in EU countries⁹



Source: Thomson Reuters Eikon

3.8 Quarterly change in weighted average years to maturity for outstanding government bonds 4Q17 to 1Q18¹⁰

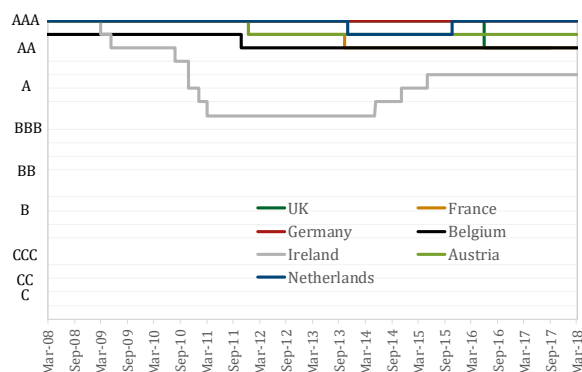


Source: Thomson Reuters Eikon

⁹ Weighted average by outstanding amount
¹⁰ Weighted average by outstanding amount

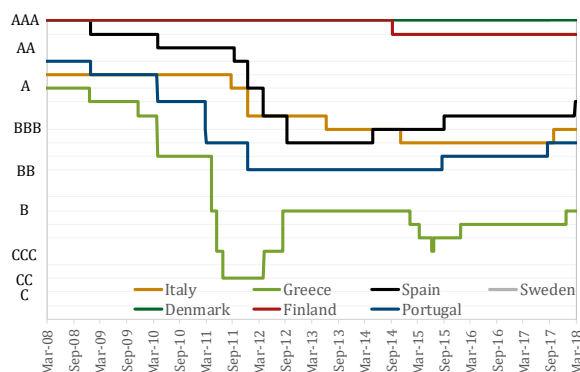
4. Credit quality

4.1 Long-term foreign currency credit rating (Central and Northern Europe)



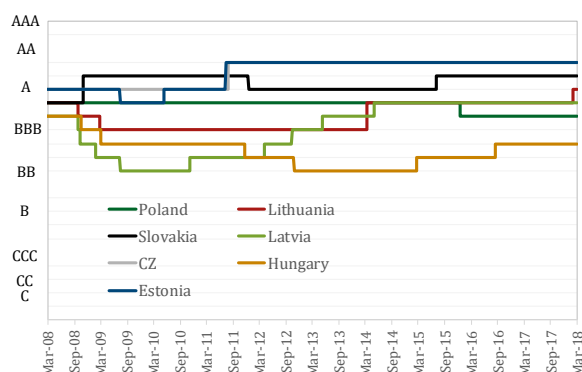
Source: Thomson Reuters Eikon with data of Standard and Poor's

4.2 Long-term foreign currency credit rating (Nordics and Southern Europe)



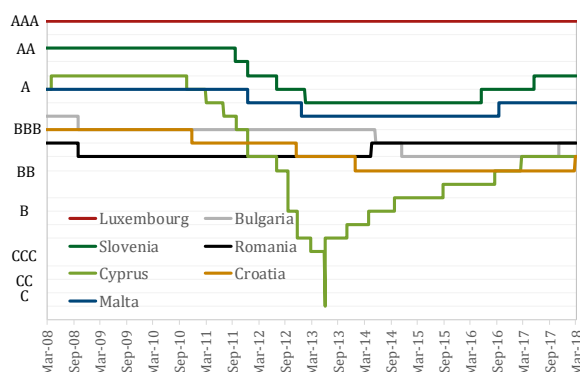
Source: Thomson Reuters Eikon with data of Standard and Poor's

4.3 Long-term foreign currency credit rating (Visegrad 4 and Baltic states)



Source: Thomson Reuters Eikon with data of Standard and Poor's

4.4 Long-term foreign currency credit rating (Balkans, CY, MT and LU)



Source: Thomson Reuters Eikon with data of Standard and Poor's

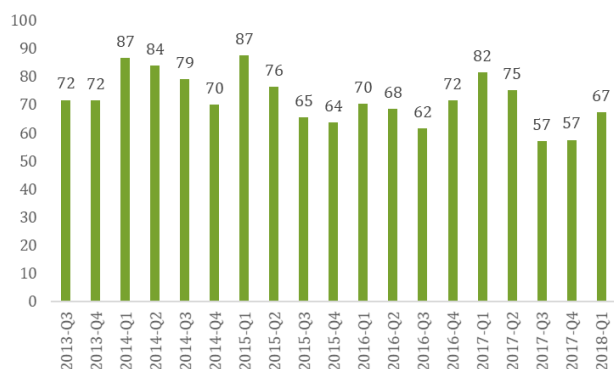
4.7 European rating actions on long-term foreign currency ratings (2018YtD)

Issuer	Rating action	Date	Rated by	Rationale
Spain	Upgrade to A- (stable) from BBB+	Jan-18	Fitch	Reduction in macro imbalances, strong econ. recovery, and limited econ. impact caused by Catalonia's declaration of independence
Croatia	Upgrade to BB+ (stable) from BB	Jan-18	Fitch	Strengthening tourism revenues, a current account surplus, and stronger consumption and investment
Greece	Upgrade to B (positive) from B-	Jan-18	S&P	Steadily improving general government finances and its gradually recovering economic prospects
Greece	Upgrade to B (positive) from B-	Feb-18	Fitch	Improved outlook of debt sustainability underpinned by sustained GDP growth, reduced political risks
Greece	Upgrade to B3 (positive) from Caa2	Feb-18	Moody's	Material fiscal and institutional improvements under its current adjustment programme
Croatia	Upgrade to BB+ (stable) from BB	Mar-18	S&P	External position improving on external deleveraging, current account surpluses, increase in FX reserves. Improved fiscal picture
Spain	Upgrade to A- (positive) from BBB+	Mar-18	S&P	Continuously strong economic performance, accompanied by a solid current account surplus and ongoing budgetary consolidation
Lithuania	Upgrade to A (stable) from A-	Mar-18	S&P	Strong economic development over the past years, robust growth prospects in the near term
Cyprus	Upgrade to BB+ (positive) from BB	Apr-18	Fitch	Strong improvement in the performance of and outlook for its public finances supported by strong nominal GDP growth
Spain	Upgrade to Baa1 (stable) from Baa2	Apr-18	Moody's	Enhanced economic resiliency due to an increasingly balanced growth profile and improved banking sector fundamentals

Source: Fitch, Moody's, S&P

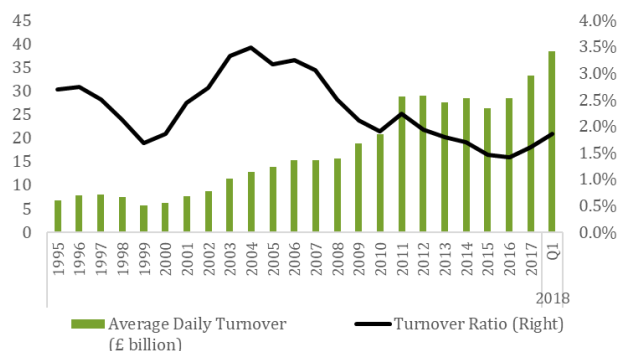
5. Secondary market trading volumes and turnover ratios¹¹

5.1 EU28: Average daily trading volumes (Government and sovereign bonds, EURbn)¹²



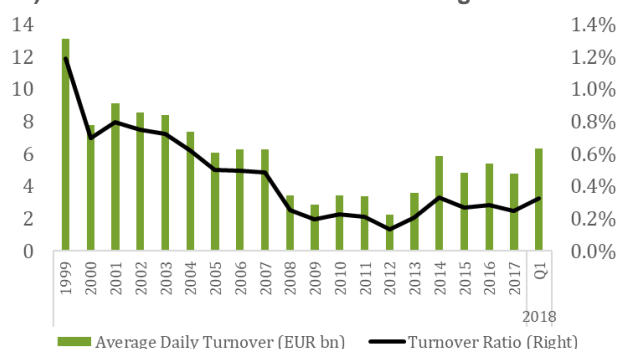
Source: Trax, a MarketAxess subsidiary

5.2 United Kingdom: Average daily trading volume (bonds only) and turnover ratio¹³



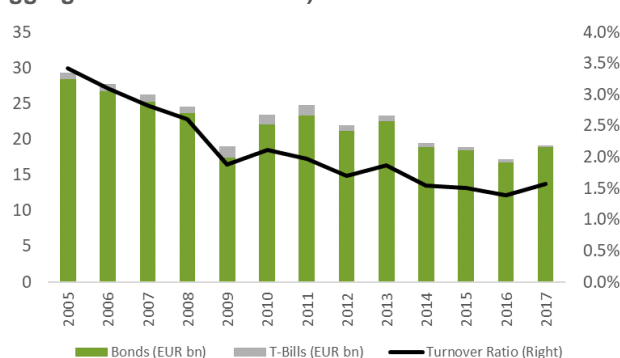
Source: UK Debt Management Office

5.3 Italy: Average daily trading volume (bonds and bills) and turnover ratio. Electronic trading¹⁴



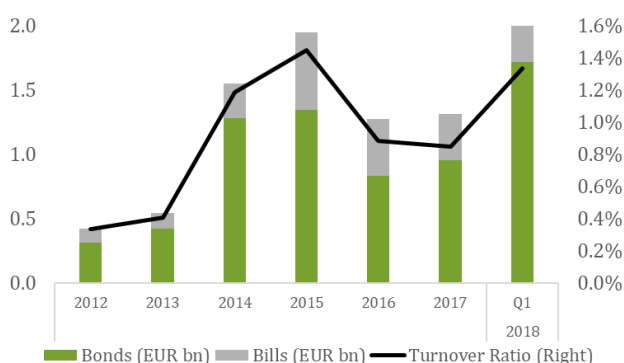
Source: Italian Dipartimento del Tesoro

5.4 Germany: Average daily trading volume (aggregated bonds and bills) and turnover ratio¹⁵



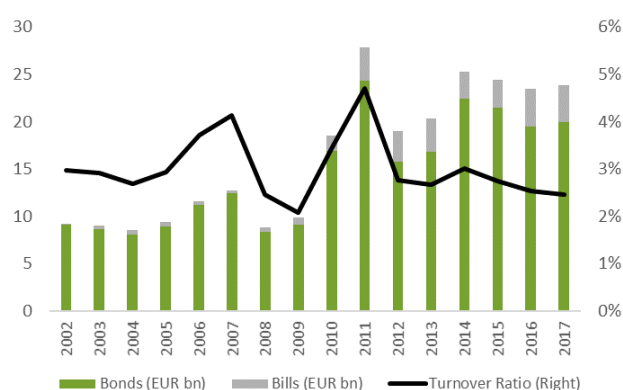
Source: Deutsche Finanzagentur and ECB

5.5. Portugal: Average daily trading volume and turnover ratio¹⁶



Source: Agência de Gestão da Tesouraria e da Dívida Pública – IGCP and ECB

5.6 Spain: Average daily trading volume and turnover ratio¹⁷



Source: Banco de España and Tesoro Público de España

¹¹ Turnover ratios are calculated as the average daily trading volume relative to total outstandings. Cash trading only (excludes repo and derivatives transactions). Given the differences in the aggregation basis across jurisdictions, the data is not fully comparable between countries.

¹² Secondary Market Volumes (please note this is restricted to 2013-Q3 onwards as split not available prior to this date. Volumes are calculated by converting the individual traded securities to EUR using the prevailing exchange rate on the date of each trade. ADV calculated by dividing the total converted volume by the number of UK trading days for quarter. Government & Sovereign bond volumes for EU28 member states as per the AFME methodology.

¹³ Turnover data reported to the DMO by the Gilt-edged Market Makers (primary dealers).

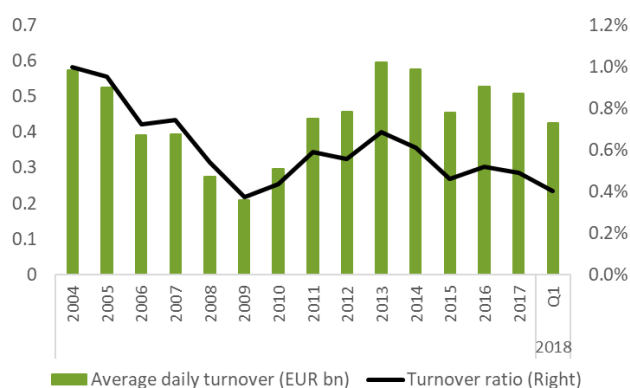
¹⁴ Turnover on electronic interdealer regulated market.

¹⁵ Turnover of both electronic and OTC trading. The traded volume is aggregated for a representative part of the members of the Bund Issues Auction Group with trades with all counterparties. Bubills, Schaetze, Bobls, Bunds and inflation-linked securities. Capital and coupon strips as well as US-dollar bonds are excluded. Data not currently available for 1Q18.

¹⁶ Turnover of electronic and OTC trading reported on MTS-Portugal, BrokerTec and eSpeed.

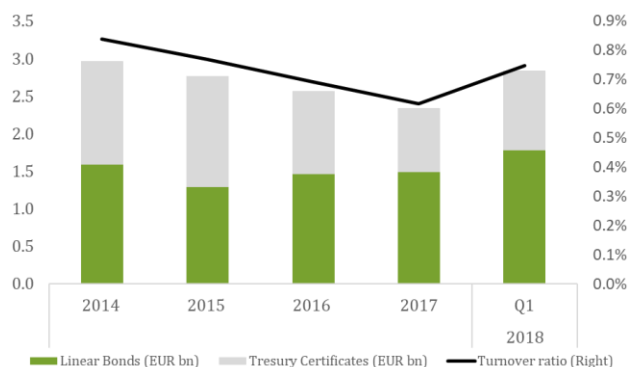
¹⁷ Turnover is total outright transactions (excluding Repo operations). Includes Treasury Bills, non-stripped Government Bonds and stripped Government Bonds, both in electronic platforms and OTC (second tier and transactions between market members and clients). Data not currently available for Q1 2018.

5.7 Finland: Average daily trading volume (aggregated bonds and bills) and turnover ratio¹⁸



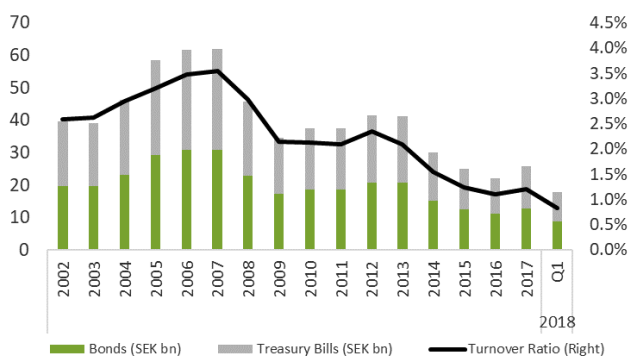
Source: Finland Valtiokonttori and ECB

5.8 Belgium: Average daily trading volume and turnover ratio¹⁹



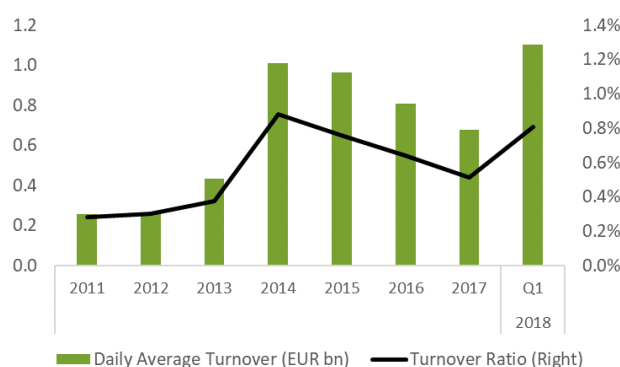
Source: Belgian Debt Agency and ECB

5.9 Sweden: Average daily trading volume and turnover ratio²⁰



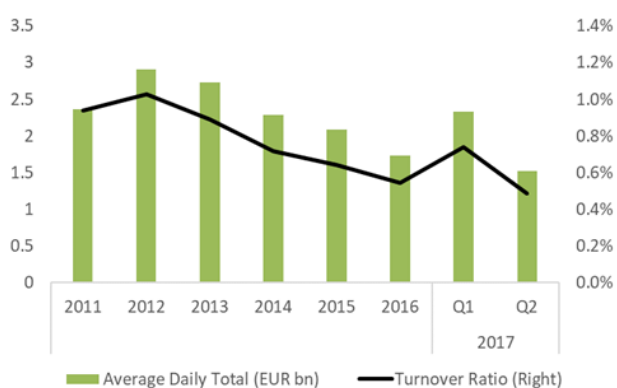
Source: Swedish National Debt Office (Riksgälden) and ECB

5.10 Ireland: Average daily trading volume (aggregated bonds and bills) and turnover ratio²¹



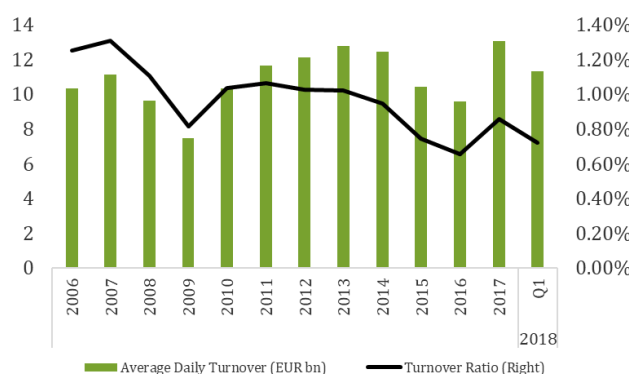
Source: Irish Stock Exchange and ECB

5.11 Netherlands: Average daily trading volume (bonds only) and turnover ratio²²



Source: Ministerie van Financiën

5.12 France: Average daily trading volume (bonds only) and turnover ratio²³



Source: Agence France Trésor and ECB

¹⁸ Turnover of customer trades, MTS Finland and Euro MTS.

¹⁹ Turnover is total outright transactions.

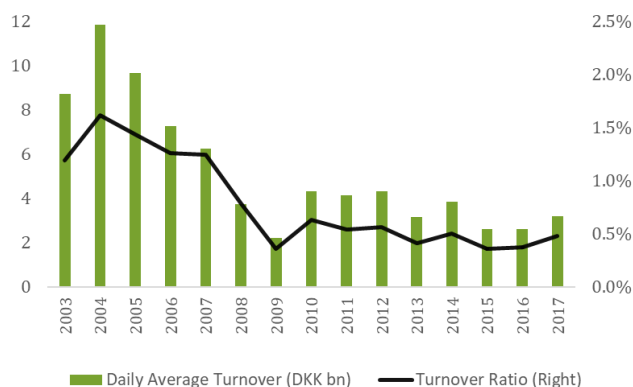
²⁰ Turnover is total outright transactions.

²¹ Turnover on Irish Stock Exchange.

²² Turnover is customer and interdealer trading. Total outright transactions, including electronic and OTC trading. Data available only as of 2Q17

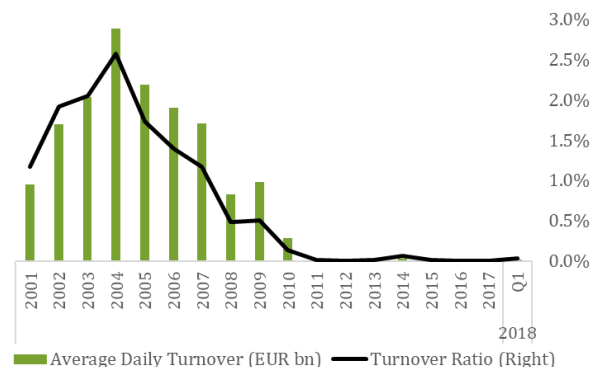
²³ Turnover of voice and electronic trading (not including PSPP transactions or trading without an SVT).

5.13 Denmark: Average daily trading volume (bonds and bills) and turnover ratio²⁴



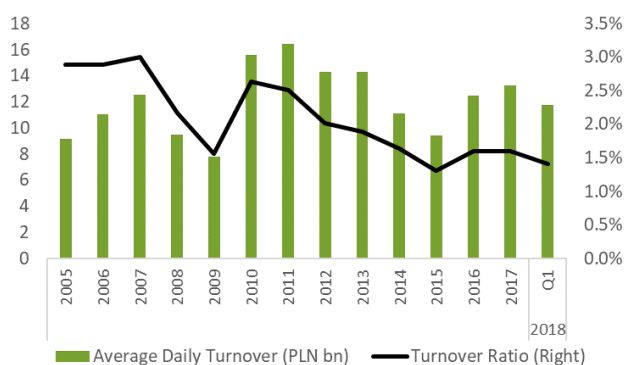
Source: Danmarks Nationalbank

5.14 Greece: Average daily trading volume (bonds only) and turnover ratio²⁵



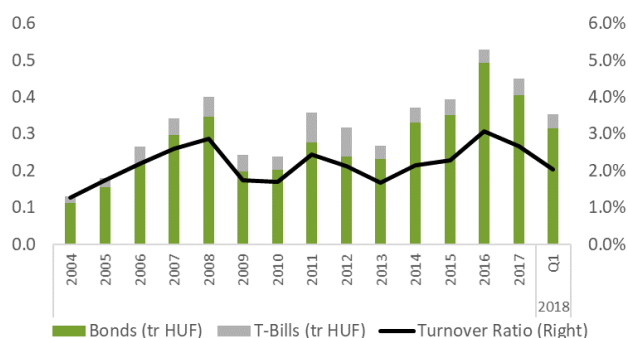
Source: Bank of Greece and ECB

5.15 Poland: Average daily trading volume (bonds only) and turnover ratio²⁶



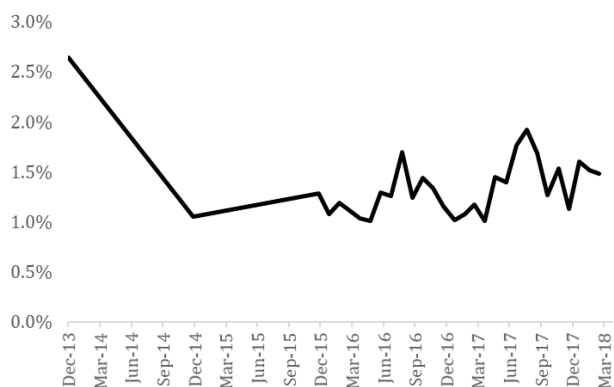
Source: National Depository for Securities (KDPW), WSE

5.16 Hungary: Average daily trading volume and turnover ratio²⁷



Source: ÁKK

5.17 Romania: Average daily turnover ratio²⁸



Source: Ministerul Finantelor

²⁴ Turnover of MTS, TradeWeb, Bondvision and trades reported to Nasdaq OMX (including voice trading). Data not available for Q1 2018.

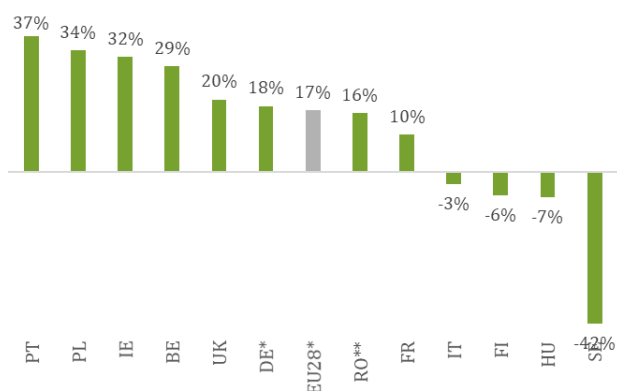
²⁵ Turnover on Electronic Secondary Securities Market (HDAT).

²⁶ Turnover is total outright transactions. Data from KDPW are presented according to the date of the settlement, while data from WSE are presented according to the date of conclusion of a transaction.

²⁷ Turnover on MTS Hungary and Keler OTC.

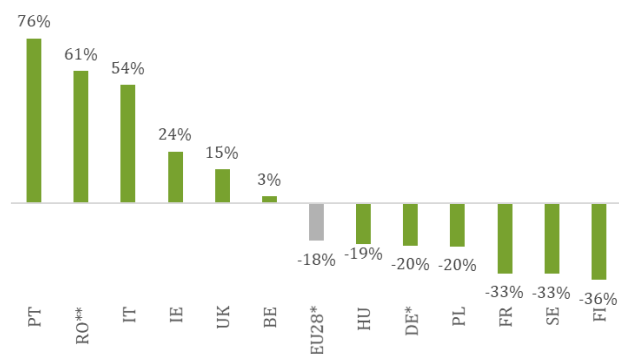
²⁸ Turnover ratio of the government securities issued on domestic market. Official values reported as average monthly turnover ratios, which have been converted assuming 20 business days per month. Turnover volume not available.

5.18 Quarterly change in average daily turnover volumes of EU government bonds: 4Q17 to 1Q18



Source: AFME with information from European DMOs and other agency sources. See section 5 for details on aggregation basis and sources. *Europe total and Germany is sourced from TRAX Facts as the quarterly variation of average daily volumes of government and sovereign bonds. **Romanian turnover volume calculated using outstanding volumes in Section 3.

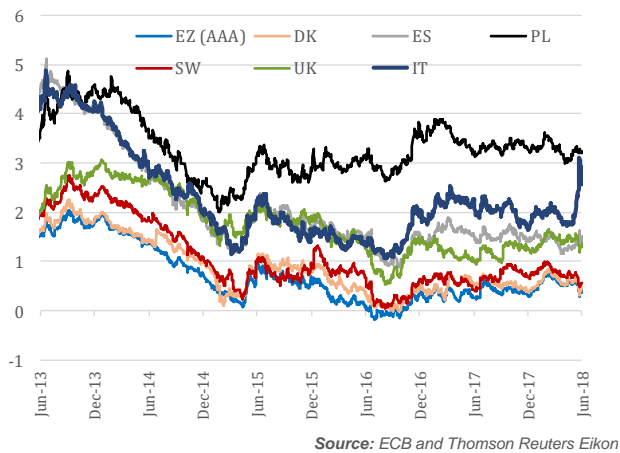
5.19 Annual change in average daily turnover volumes of EU government bonds: 1Q17 to 1Q18



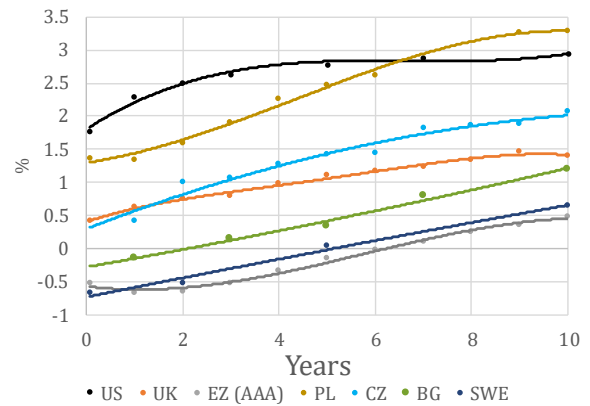
Source: AFME with information from European DMOs and other agency sources. See section 5 for details on aggregation basis and sources. *Europe total and Germany is sourced from TRAX Facts as the quarterly variation of average daily volumes of government and sovereign bonds. **Romanian turnover volume calculated using outstanding volumes in Section 3.

6. Valuations

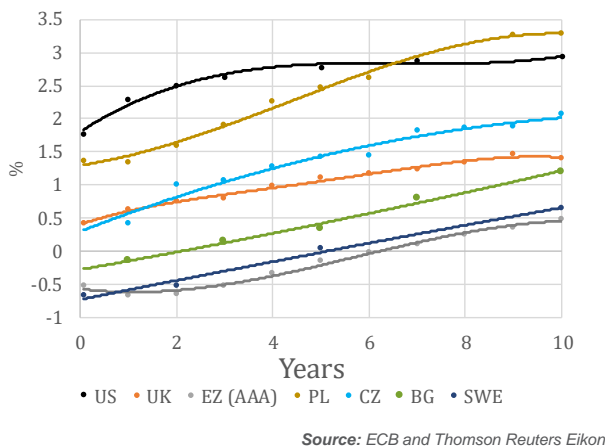
6.1 Selected European 10Y spot yields



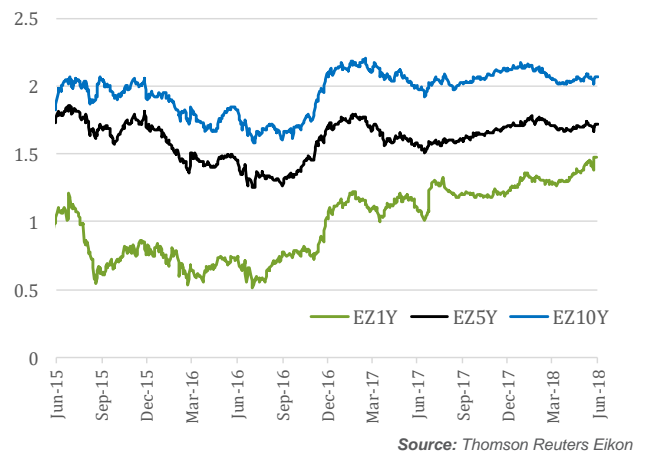
6.2 Sovereign spot yield curve of selected jurisdictions: 6 June 2018



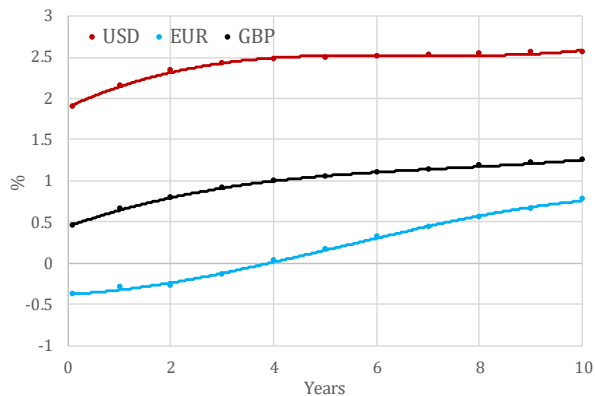
6.3 Slope: 1Y10Y spread (bps): 6 June 2018



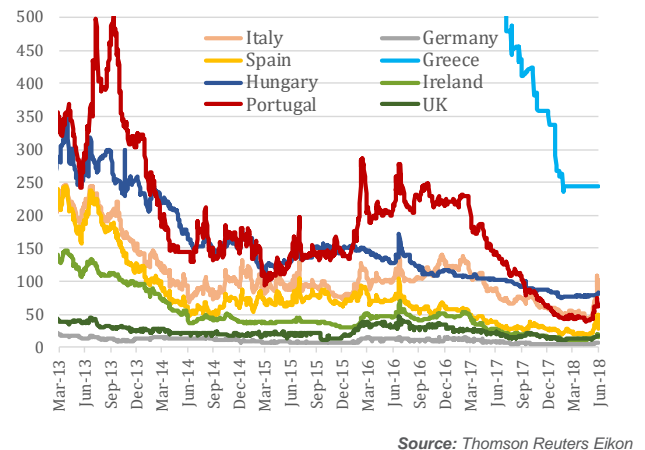
6.4 Market-implied inflation expectations (EuroZone)



6.5 Overnight index swap (OIS) yield curve: 6 June 2018



6.6 5Y Sovereign Credit Default Swap (CDS, bps)



Annex

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Methodologies

A summary of the methodologies adopted for this report is available at <https://www.afme.eu/en/reports/Statistics/Methodologies>

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