

3Q 2022

Government Bond Data Report

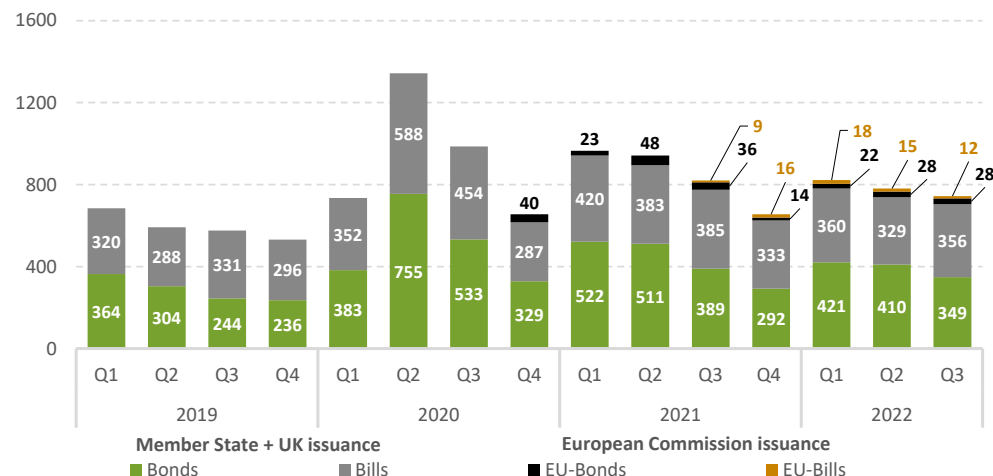
European market data update



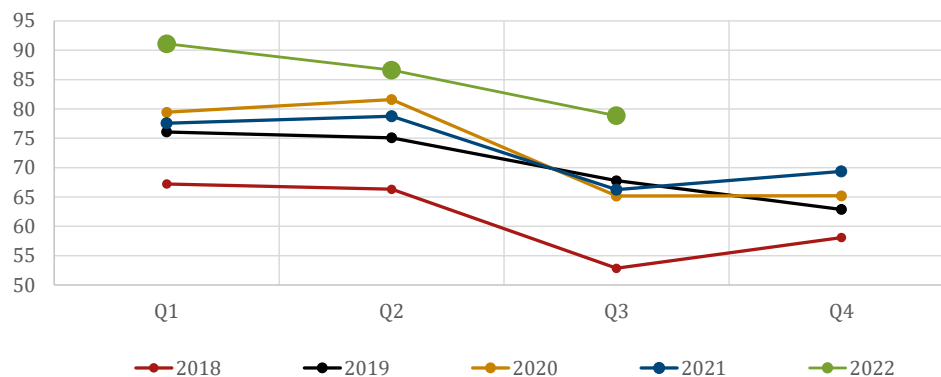
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Highlights and Market Environment

1. European (EU+UK) government bond and bill issuance (EUR bn, 2019-2022 Q3)



2. European Government bond average daily trading volumes



Source: ECB, National Debt Management Offices and UK Debt Management Office [chart 1]. TraX data from MarketAxess[chart 2]. ¹Total EU+UK bond and bill issuance and percentage changes may show minor variations to that shown in Chart.1 due to rounding.

EUR 745 bn bonds and bills issued in Q3 2022 as issuance volumes fall 9.3% (YoY)

Total quarterly issuance in Europe (EU Member States, UK and EU Commission) was EUR 745 bn during Q3 2022, 9.3% lower than Q3 2021 (YoY) and 4.7% lower than Q2 2022 (QoQ).

Compared to pre-pandemic levels, issuance in 3Q22 was 29.2% higher than in 3Q19.

EU Member States and the UK issued EUR 704 bn in bonds and bills during 3Q22¹, representing a decrease of 4.6% (QoQ) and a decrease of 9.1% (YoY) (see Chart 1).

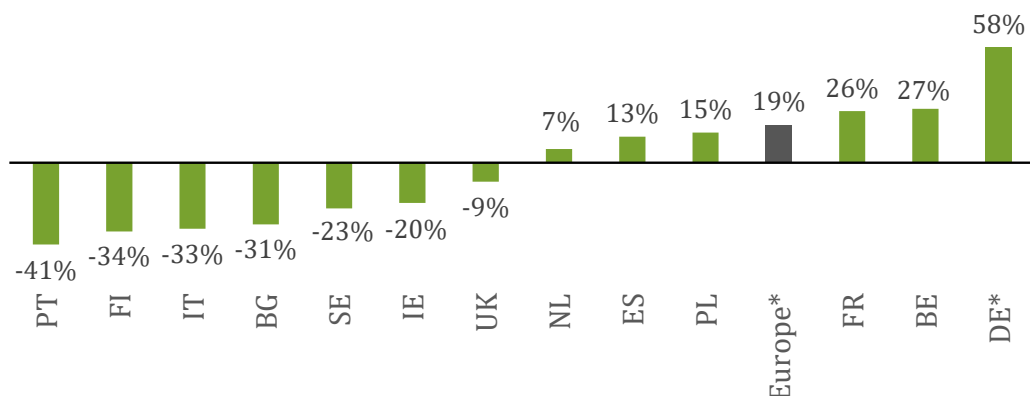
The EU Commission issued an additional EUR 27.7 bn in EU-bonds and EUR 11.7 bn in EU-bills bringing the total YtD issuance (bonds+bills) to EUR 122.2 bn as of Q3 2022. The EU Commission accounted for 5.3% of total European sovereign issuance in 3Q22 (compared to 5.4% of the total in 2Q22 and 4.9% in 1Q22).

Highest year-to-date average daily trading volume in European (EU+UK) government bonds as of Q3 2022 YtD

According to TraX data from MarketAxess, trading continued to be robust in European government bonds, with Q3 2022 having the highest third-quarter average daily trading volumes since 2014. After consistently active quarters in 2022, average daily trading volume in 2022 year-to-date are now the highest on record (since 2014) (see Chart 2).

Highlights and Market Environment

3. Annual changes in Government Bond average daily trading volumes (3Q22 vs 3Q21) Selected European jurisdictions



4. United Kingdom: Aggregated weekly trading volume (bonds only) (Jan21-Sep22)



Source: AFME with information from European DMOs and other agency sources and TraX data from MarketAxess. *Europe (EU+UK) total and German turnover is sourced from TraX data from MarketAxess as the quarterly variation of average daily volumes of government and sovereign bonds. **Romanian turnover volume calculated using outstanding volumes in Section 3.

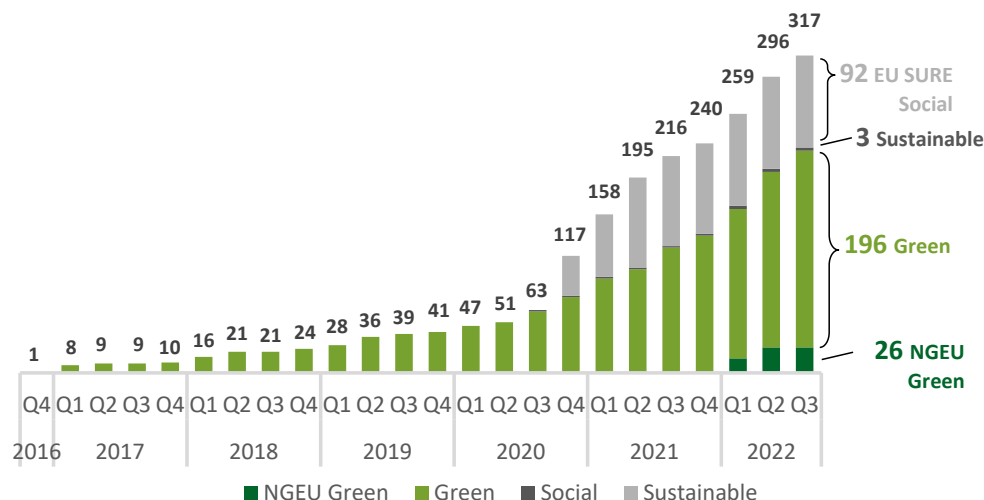
European government bond trading increased 19% YoY and decreased 9% QoQ in 3Q22

Average daily trading volumes of European government bonds increased by 19% YoY during 3Q22, driven by a significant increase in trading in Germany (58% YoY), Belgium (27% YoY), France (26%), Poland (15%), Spain (13% YoY) and the Netherlands (7% YoY). There was a decrease in trading in Portugal (-41% YoY), Finland (-34% YoY), Italy (-33% YoY), Sweden (-23% YoY) and the UK (-9% YoY) (see Chart 3).

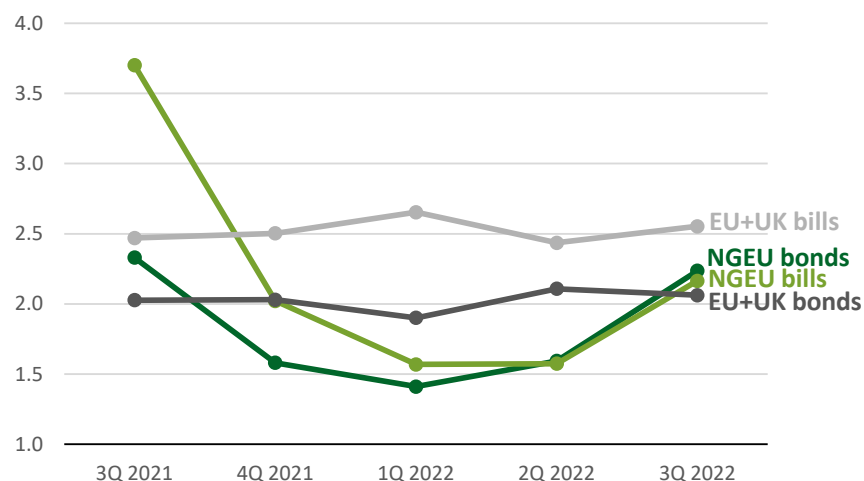
In the UK, government bond trading reached a 28-month high in the week commencing 30-Sep (see Chart 4), amid heightened volatility in the UK Gilts market as the autumn budgetary announcement led to a significant amount of repricing in the UK sovereign sector. UK trading volumes increased 99% in the week commencing 30-Sep (compared to the week before), which, excluding the first two weeks of the year (when markets pick up from the typically quiet holiday period), represent the sharpest rise in trading on record (which begin in 1Q16).

Highlights and Market Environment

5. European outstanding ESG sovereign bonds (EUR bn, 2016-2022)



6. Weighted average bid-cover ratios for European Commission NGEU and EU MS*+UK bond and bill issuance



Source: Thomson Reuters Eikon and European Commission [chart 5]. Thomson Reuters Eikon . EU MS*+UK refers to weighted average UK, DE, FR, ES, IT, BE, SE, NL, DK and AT bonds (maturity 1-10Y) and bills [chart 6].

European sovereign ESG market continues to expand in Q3 2022 as outstanding volumes reach EUR 317 bn

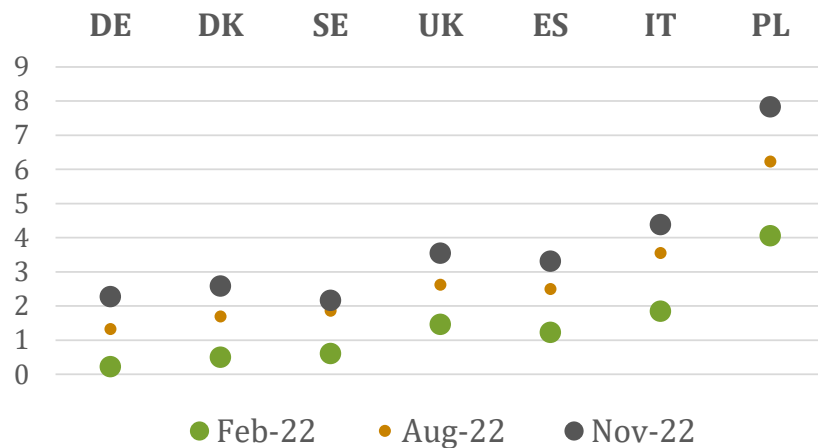
Outstanding amount of green government bonds reached EUR 317 bn during 3Q22 (see chart 5), with green volumes driven by new issues in Italy (EUR 6.0 bn), Germany (EUR 5.0 bn) and Belgium (EUR 4.5 bn), and tap issuance in the UK (EUR 5.7 bn), Denmark (EUR 0.7 bn) and France (0.5 bn). Following the latest Italian green bond issue during 3Q22, Italy now has a total amount of EUR 19.5 bn green government bonds outstanding, representing the fourth largest ESG holdings out of European sovereign issuers, after France, Germany and the UK.

More recently in 4Q22 to date, the European Commission issued EUR 1.5 bn via a re-opening of it's 15Y NGEU green bond.

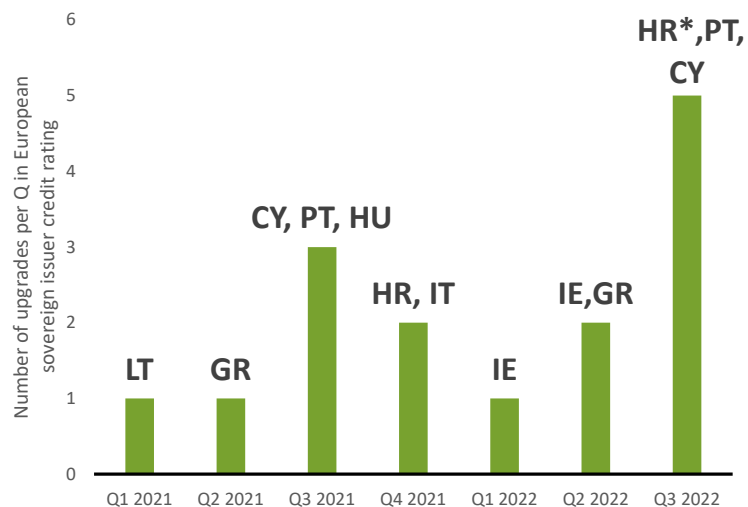
Weighted average bid-cover ratio for NGEU bond and bill auctions converge to European average during Q3 2022

The level of demand observed for European Commission auctions of NGEU bonds and bills have risen during Q3 2022, converging on the EU+UK average, after falling during 4Q21-1Q22. EU bond auctions have been utilised exclusively for tap issues via the re-opening of existing NGEU bonds. New NGEU bond issuance has instead been via syndication, with oversubscription rates of between 8.9-14.1 since 2Q21, which is significantly above the weighted average European bid-cover ratio (for bonds+bills), of 2.2-2.3 during this period.

7. Selected European 10Y spot yields (Feb-22, Aug-22 and Nov-22)



8. European rating actions on long-term sovereign credit ratings



Source: Thomson Reuters Eikon [Chart.7]. Fitch, Moody's, S&P [Chart.8]. *HR: Croatia received 3 upgrades from each credit rating agency during Q3 2022.

10Y spot yields continue to rise in 2022 year to date (as of early November)

The 10Y spot yield rate in DE, DK, SE, ES, IT and PL reached new 2022 peaks in October 2022 after falling between mid-June and early-September.

Among European countries, 10Y spot yields in Sweden increased by the smallest magnitude from Aug-22 to early Nov-22, rising 30.5bp during this period.

During 3Q22 there were 5 upgrades and no downgrades in long-term credit rating changes for European nations

This brings the full-year total to 8 upgrades and no downgrades (following 2 upgrades and no downgrades in Q2 2022, and 1 upgrade and no downgrades in Q1 2022) (see chart.8).

European sovereign issuers have experienced 15 upgrades in total since Q1 2021, with the credit rating of European sovereign issuers remaining resilient throughout and after the pandemic, evidenced by the lack of downgrades during this period.

Major upcoming regulatory, legislative and policy initiatives

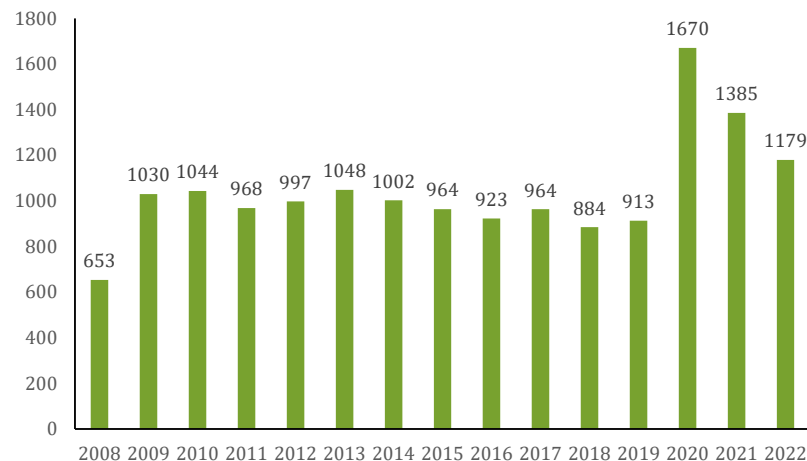
There are several regulatory initiatives currently being considered at the European and national level with expected impact on the government bond markets. Some of the key initiatives recently implemented or soon to be applied include:

- Basel III
- CSDR
- Fundamental Review of the Trading Book (FRTB)
- Prospectus Regulation
- MIFIR Review

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

Issuance

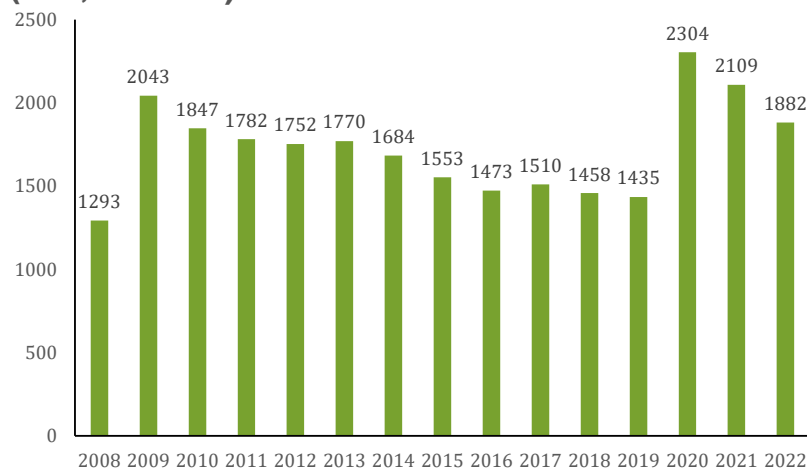
1.1 European (EU+UK) Government Bond gross issuance (YtD, EUR bn)



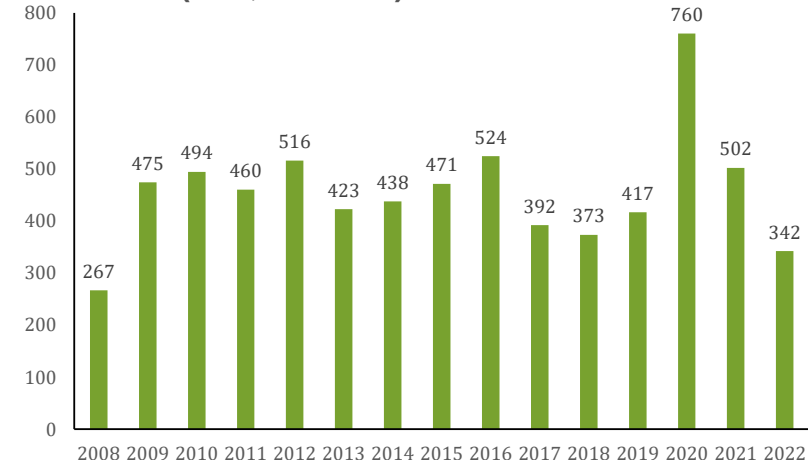
1.2 European (EU+UK) Treasury Bills gross issuance (YtD, EUR bn)



1.3 Eurozone bonds and bills gross issuance (YtD, EUR bn)

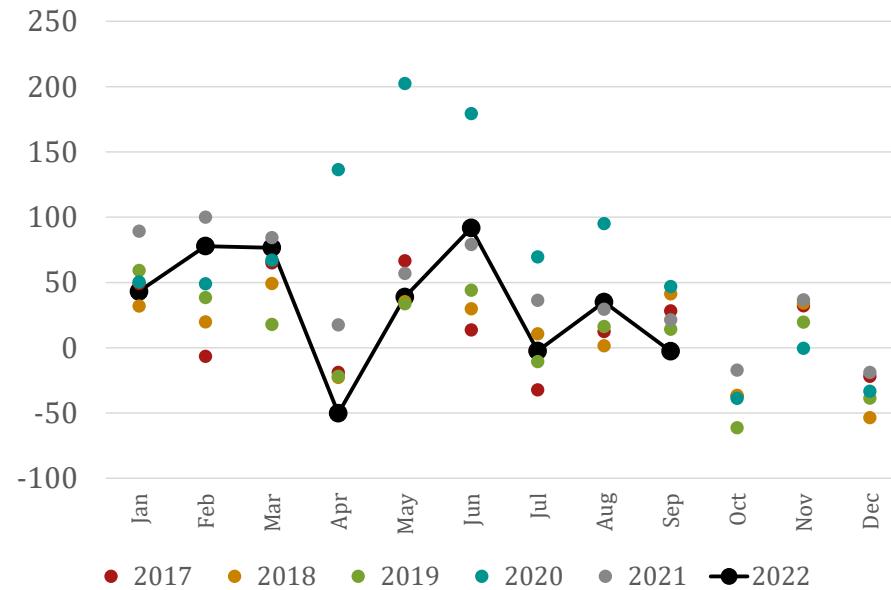


1.4 Non-Eurozone bonds and bills gross issuance (YtD, EUR bn)

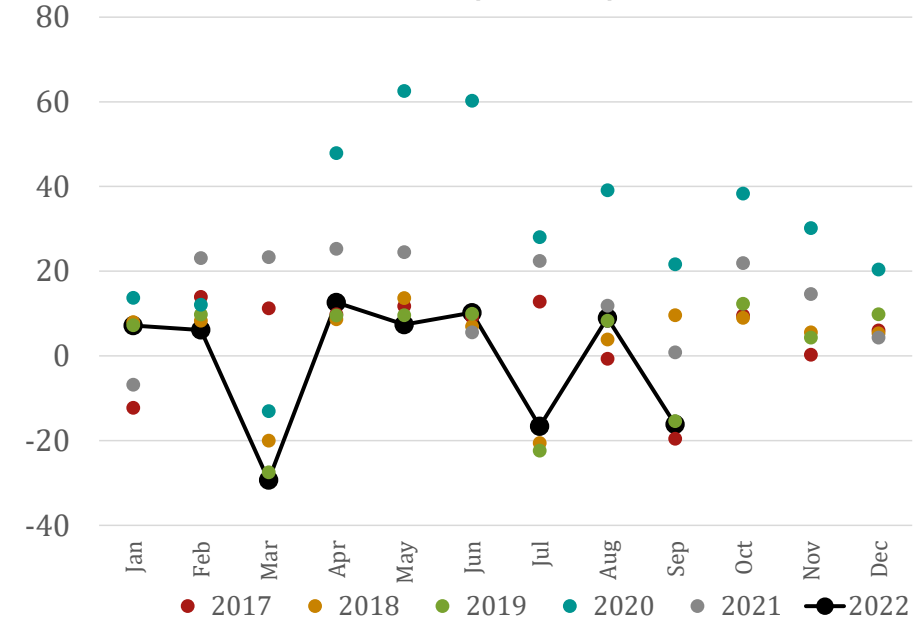


Source: ECB, National Debt Management Offices and UK Debt Management Office. YtD implies (Q1+Q2+Q3). Data on this page excludes EU Commission issuance (ie. NGEU, SURE) and includes debt issued from EU Member States and the UK only.

1.5 Euro area net sovereign debt issuance (EUR bn)



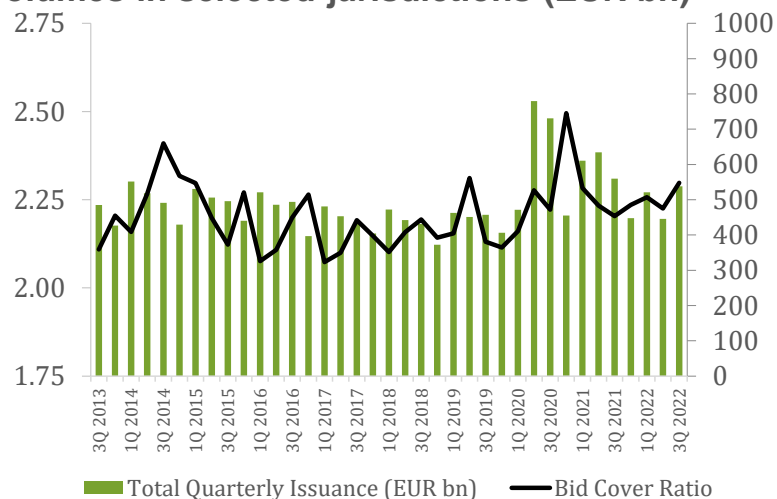
1.6 UK Gilts net issuance (GBP bn)



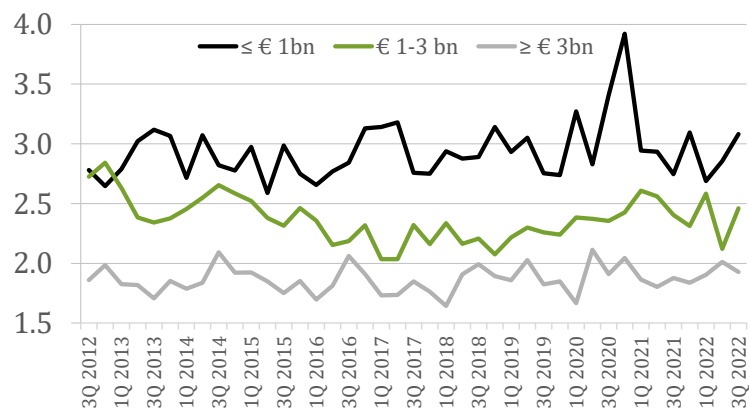
Source: ECB and UK Debt Management Office.

Recent Auctions and Primary Dealers

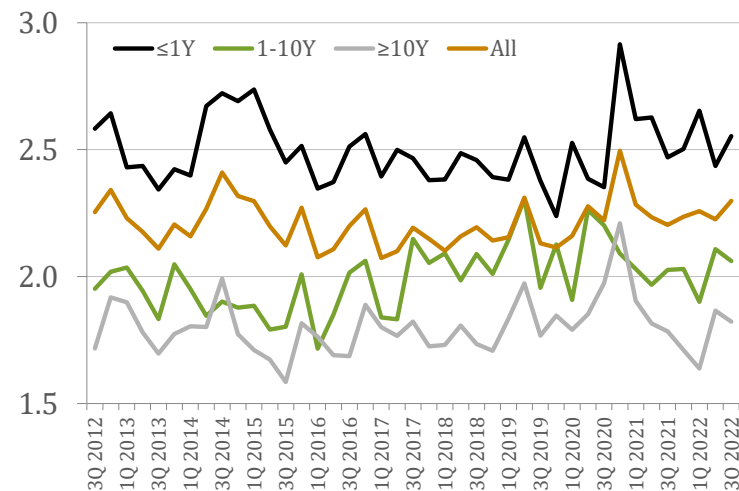
2.1 Average bid-cover ratios and issued volumes in selected jurisdictions (EUR bn)



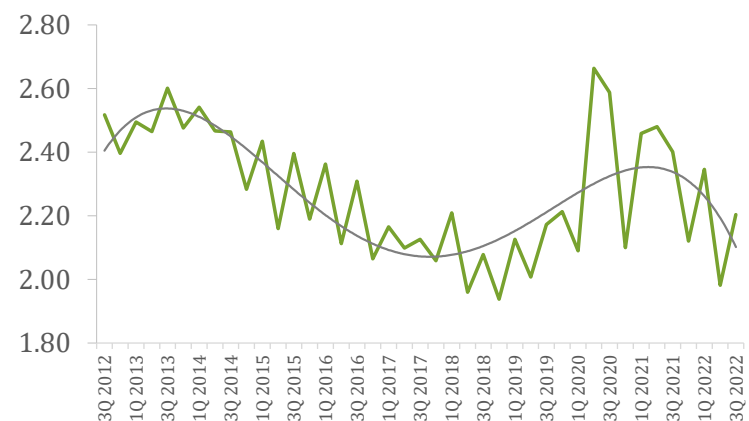
2.3 Average bid-cover ratios by size of issued instruments



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

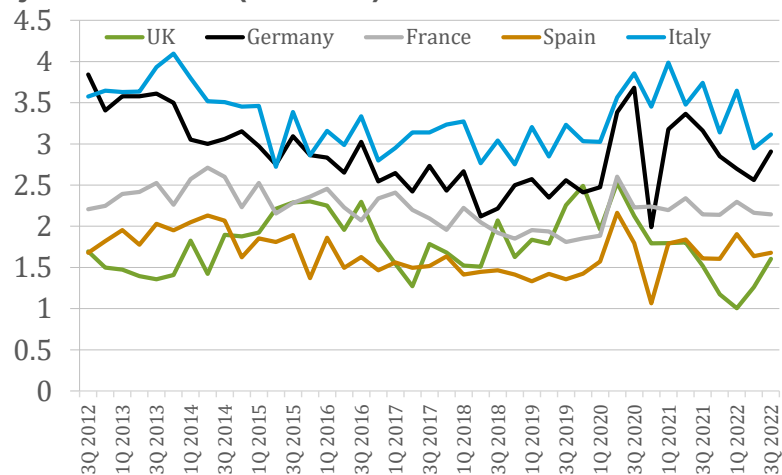


2.4 Average auction size in selected European jurisdictions (EUR bn)

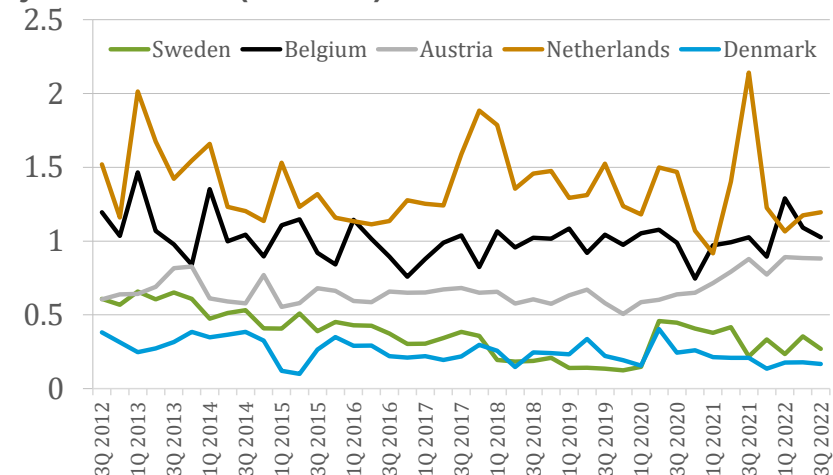


Source: Thomson Reuters Eikon. Weighted Average of UK, DE, FR, ES, IT, BE, SE, NL, DK and AT bonds and bills. In chart 2.4 polynomial trendline shown in grey.

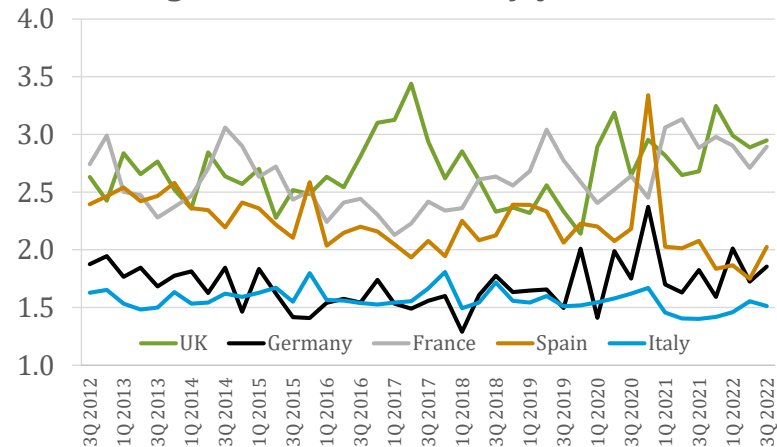
2.5 Average auction size in selected jurisdictions (EUR bn)



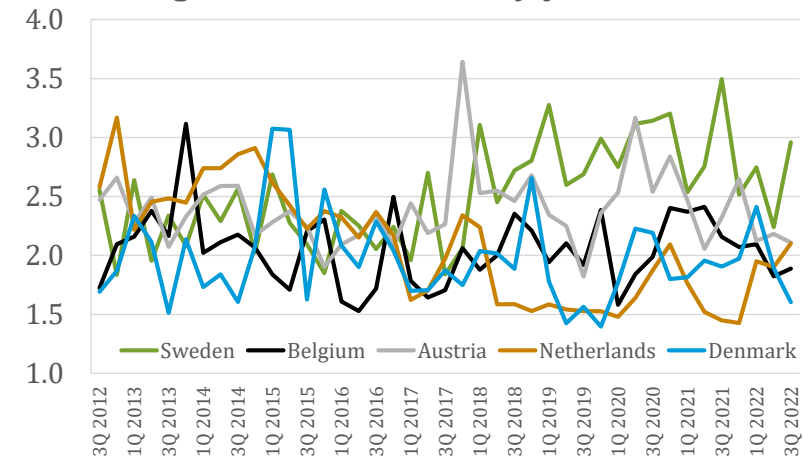
2.6 Average auction size in selected jurisdictions (EUR bn)



2.7 Average bid-cover ratios by jurisdictions

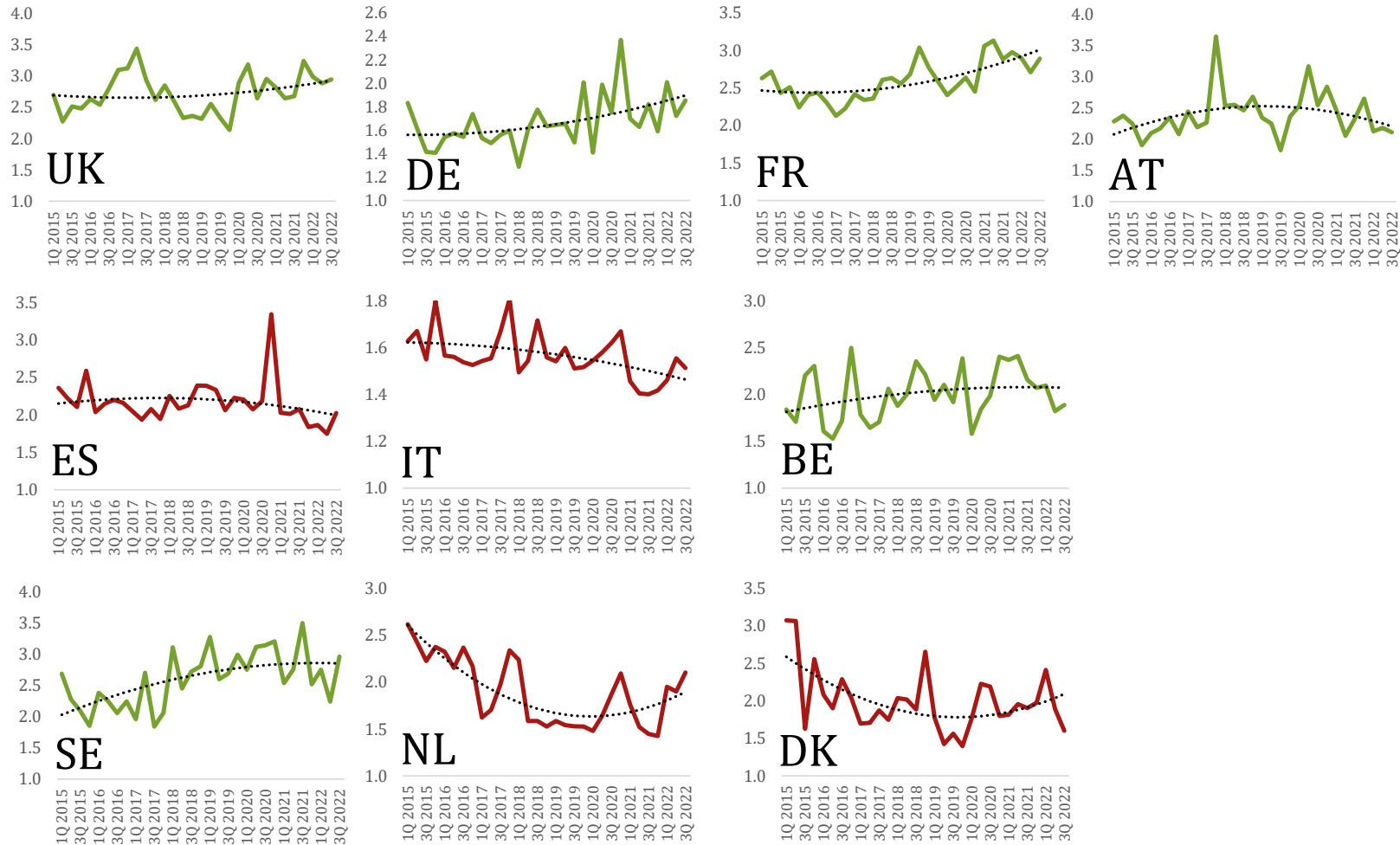


2.8 Average bid-cover ratios by jurisdictions



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

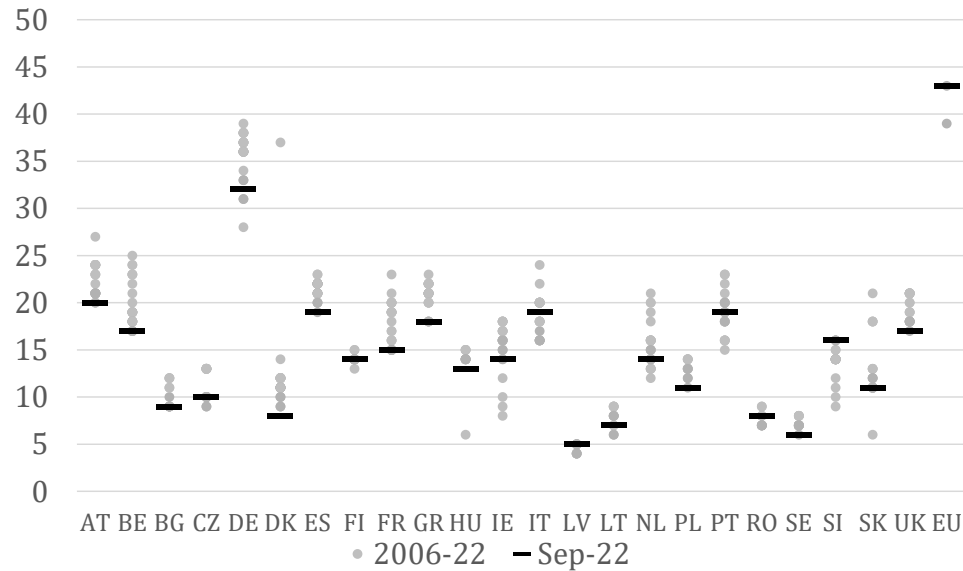
2.9 Average bid-cover ratios in selected jurisdictions: 2013-22



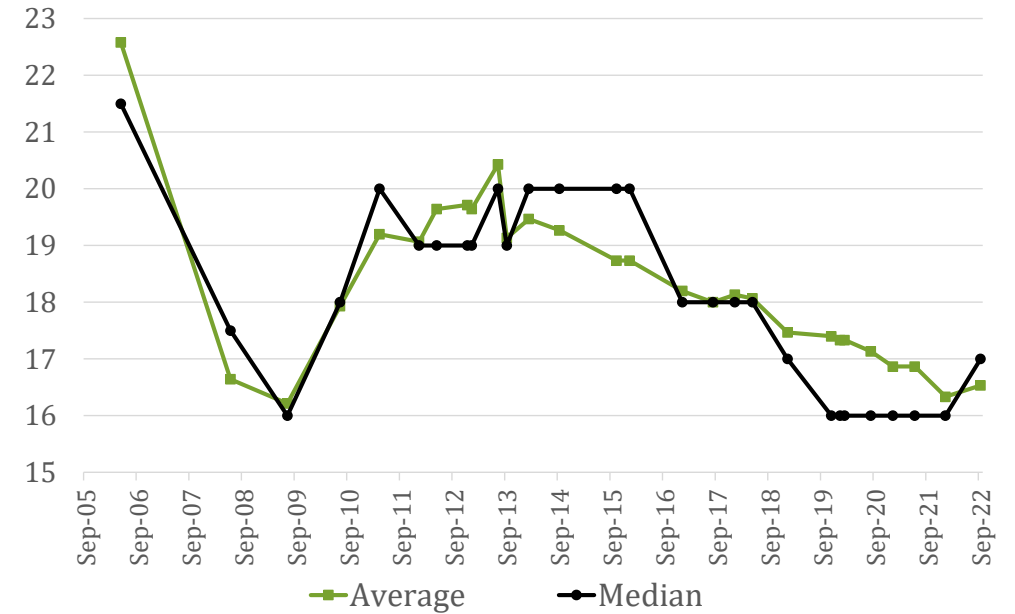
Source: Thomson Reuters Eikon. **Green** indicates end value of trendline above starting value, **red** indicates end value of trendline below starting value

Primary Dealers: European countries and EU

2.10 Number of primary dealers relative to historic number

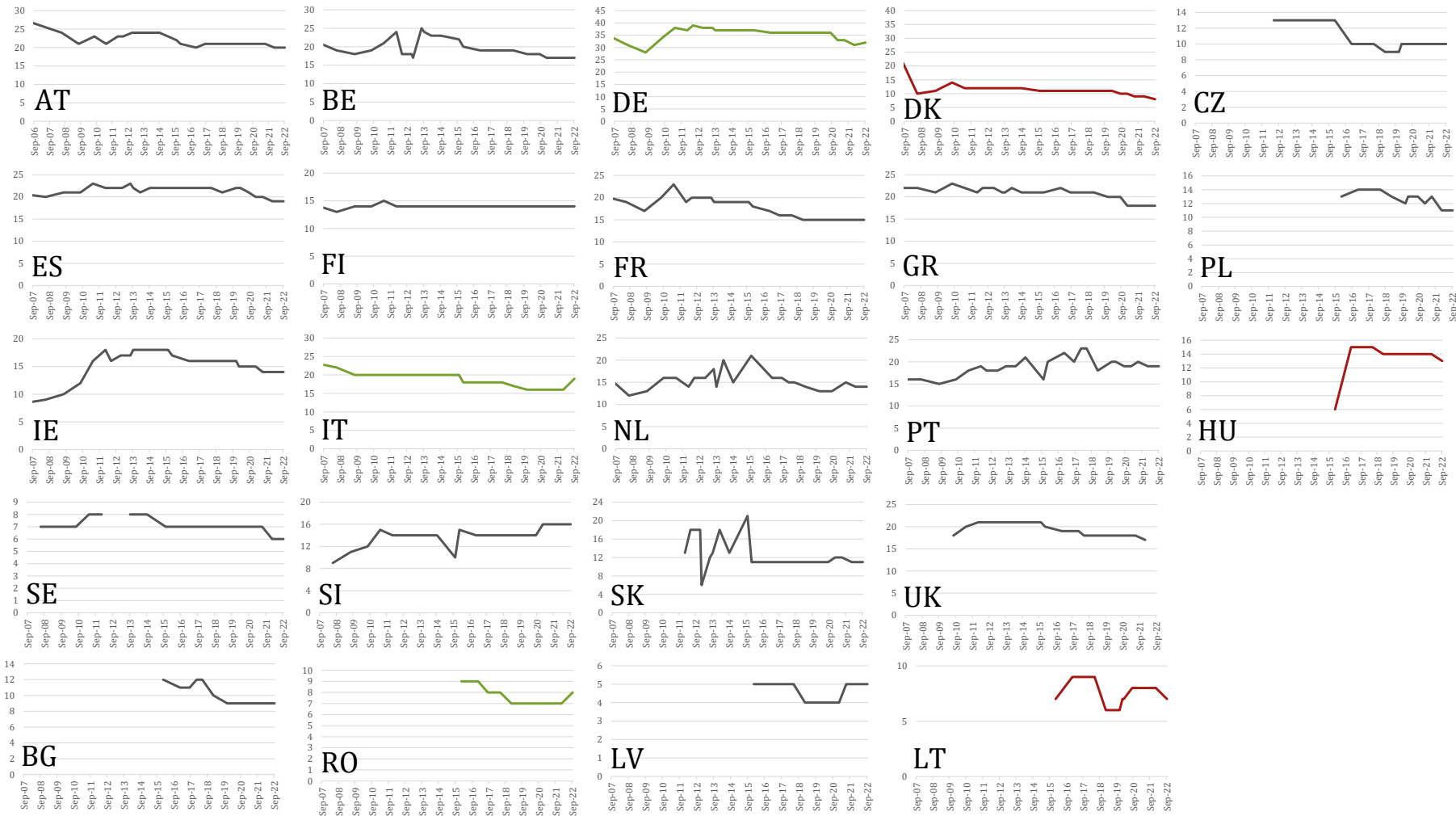


2.11 Average and median number of primary dealers in selected European countries



Source: AFME Primary Dealers Handbooks AFME HRF Table, national DMOs. Average and medians of AT, BE, DE, DK, ES, FI, FR, GR, IE, IT, NL, PT, SE, SI and UK. EU in Chart 2.10 refers to the EU Primary Dealer Network. Latest data as of September 2022.

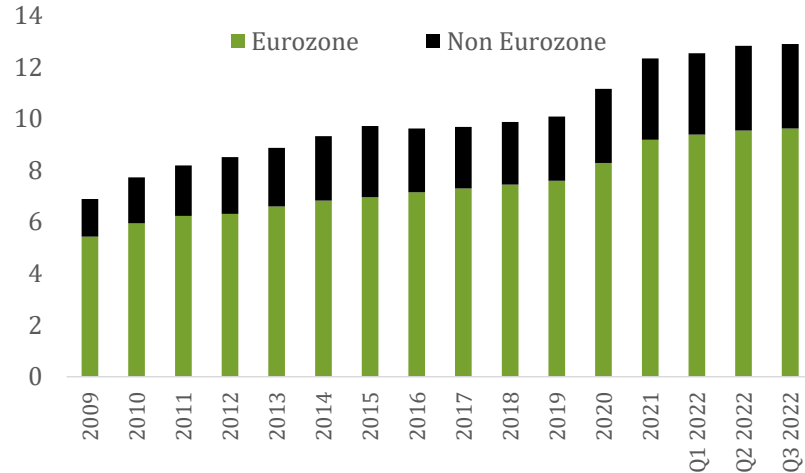
2.12 Number of primary dealers in Europe by country: 2006-22



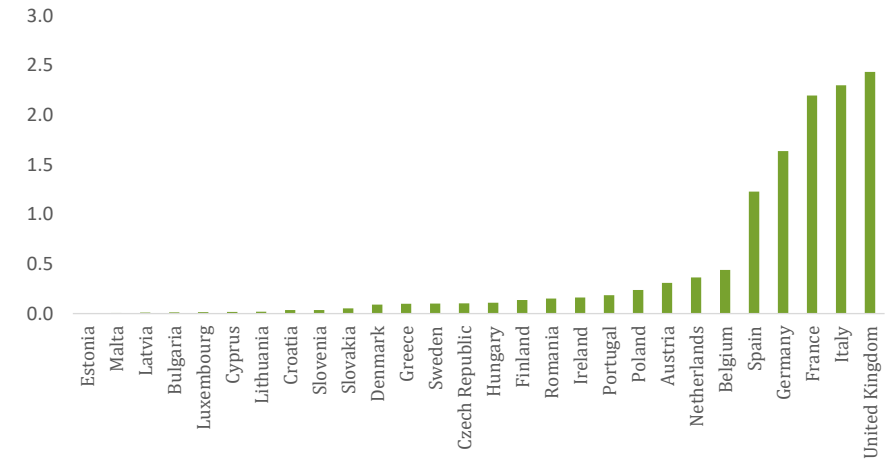
Source: AFME HRF Table and National DMOs. The gap in the line for Sweden indicates data was not recorded in the relevant period. **Chart colour indicates net change in PDs since January 2022.** **Green** indicates an increase; **red** indicates a decrease and **grey** indicates no change. Latest data as of September 2022.

Outstandings

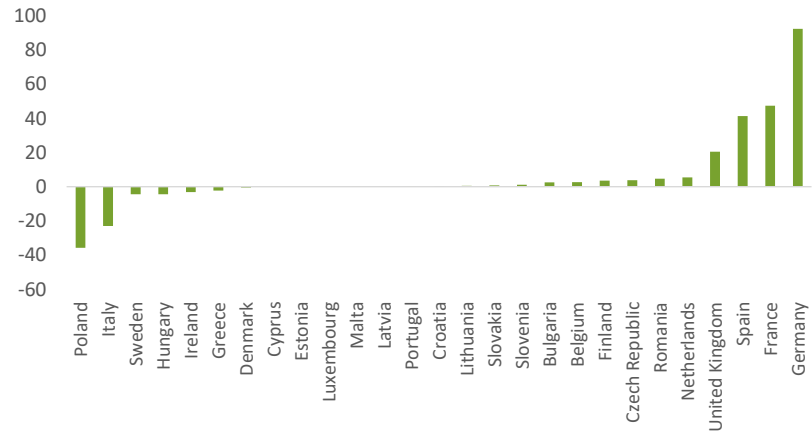
3.1 Outstanding debt securities issued by Central Governments (Nominal, EUR tn)



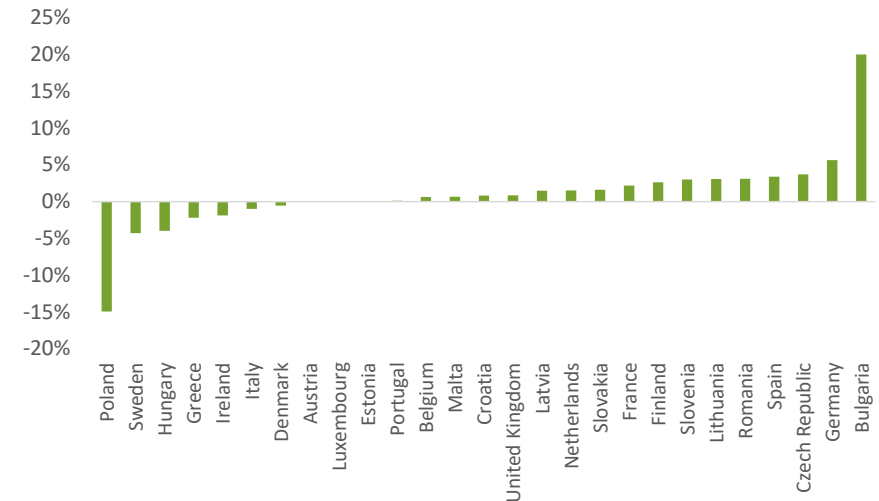
3.2 European government bonds outstanding by country (EUR tn)



3.3 Change in outstandings 2Q22 to 3Q22 (EUR bn)

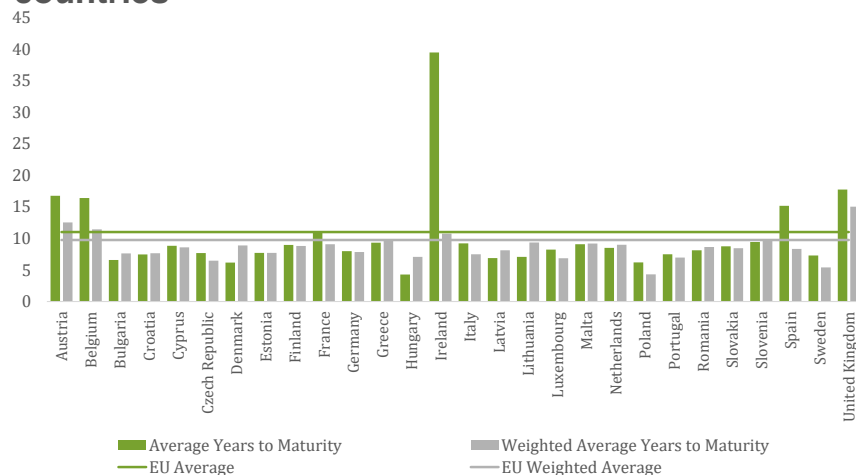


3.4 Change in outstandings from 2Q22 to 3Q22 (%)

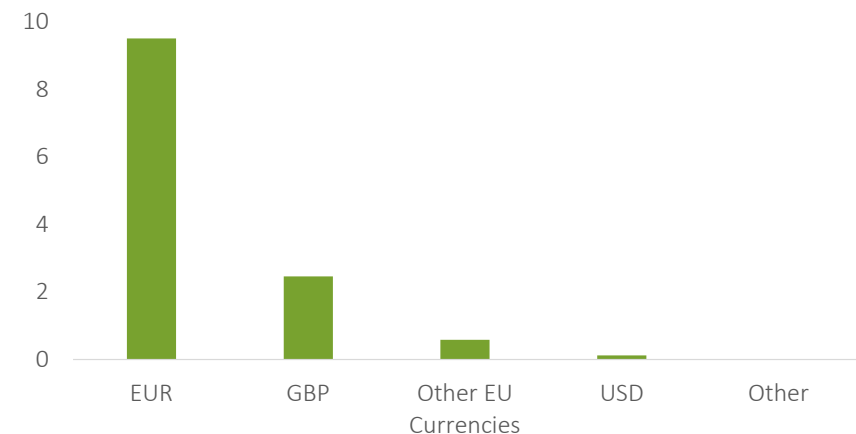


Source: ECB, Thomson Reuters Eikon and UK DMO.

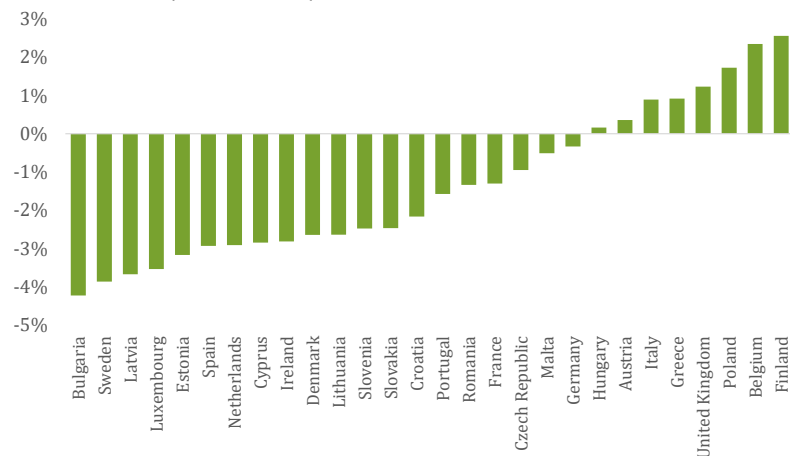
3.5 Average years to maturity for outstanding government bonds in European (EU+UK) countries



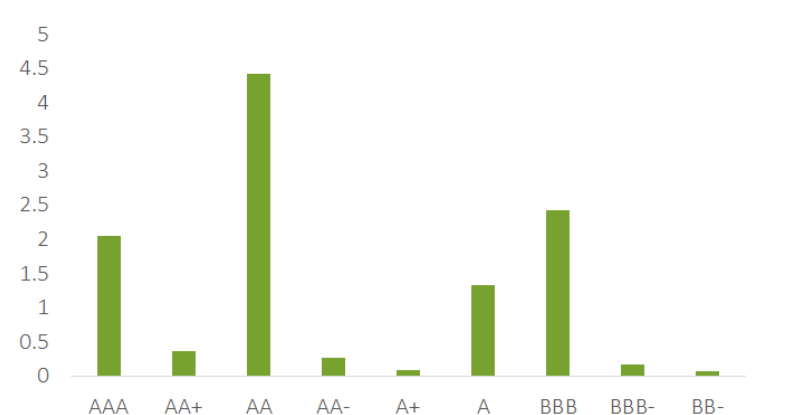
3.7 European government bonds outstanding by currency (EUR tn)



3.6 Quarterly change in weighted average years to maturity for outstanding government bonds 2Q22 to 3Q22



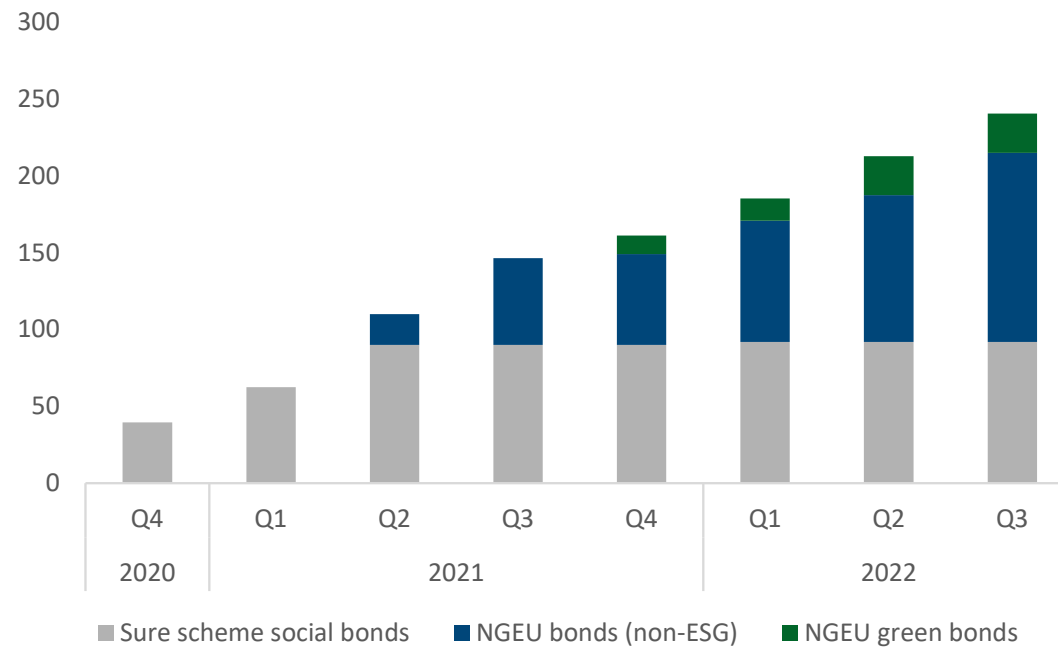
3.8 European government bonds outstanding by current rating of issuer (EUR tn)



Source: Thomson Reuters Eikon. For Charts 3.5 and 3.6 weighted average in by outstanding amount.

Outstandings: European Commission bonds

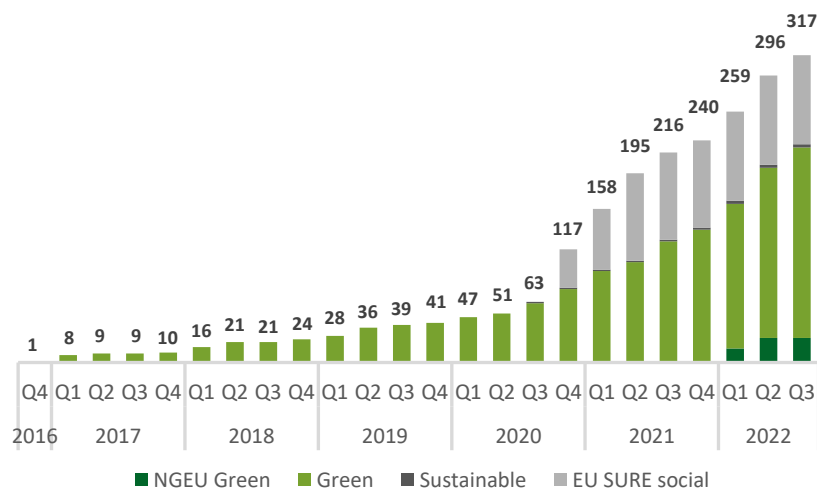
3.9 Outstanding bonds issued by the European Commission (EUR bn)



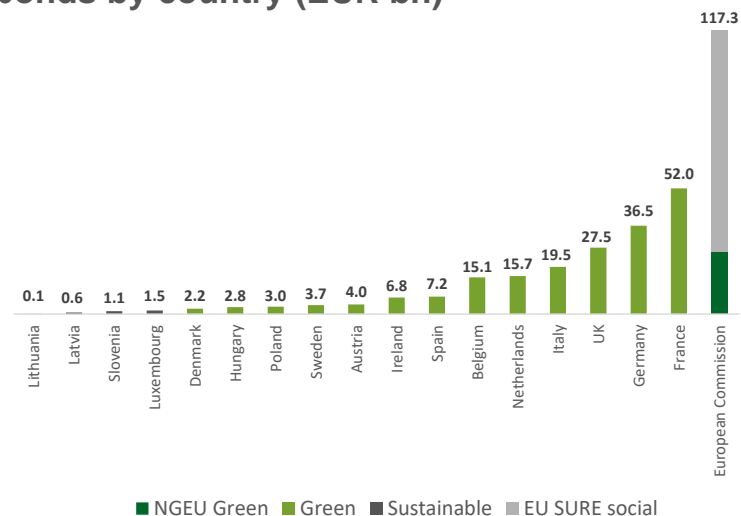
Source: European Commission. **NGEU** refers to bond issuance by the European Commission under the NextGenerationEU scheme.

Outstandings: ESG Bonds

3.9 European outstanding ESG (green, social and sustainable) bonds (EUR bn)



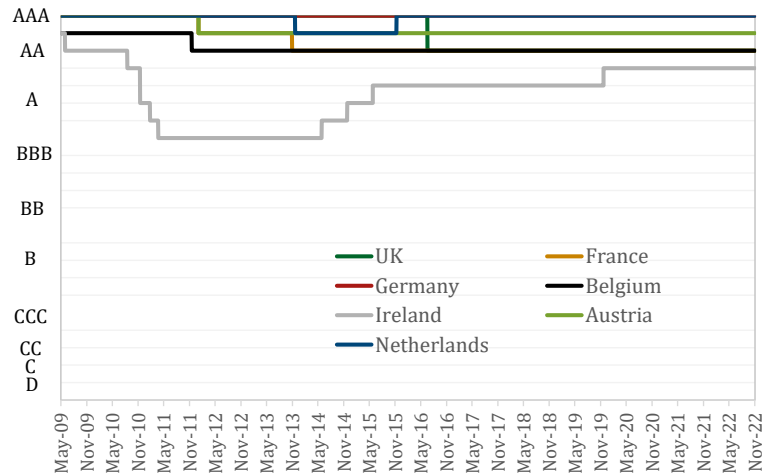
3.10 European outstanding ESG government bonds by country (EUR bn)



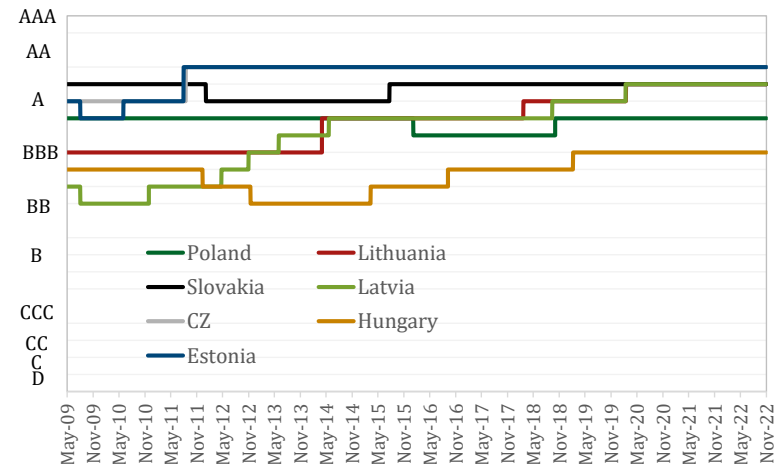
Source: Thomson Reuters Eikon, European Commission. All outstanding social bond volumes in Chart 3.9 are issued by the European Commission.

Credit Quality

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

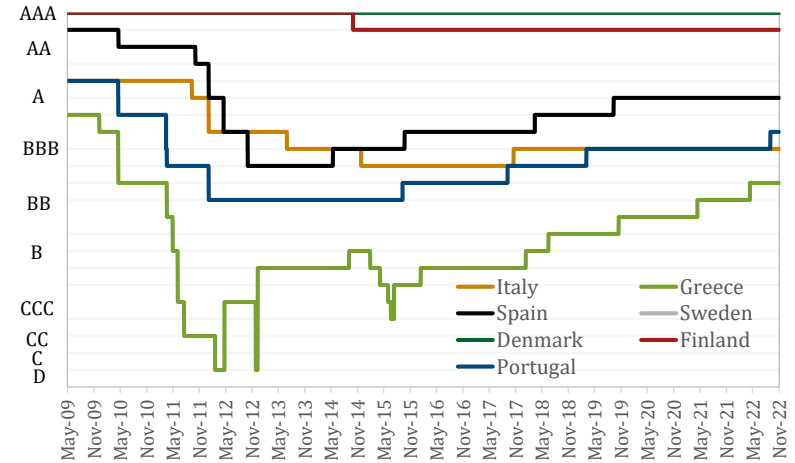


4.3 Long-term sovereign credit rating (Visegrad 4 and Baltic states)

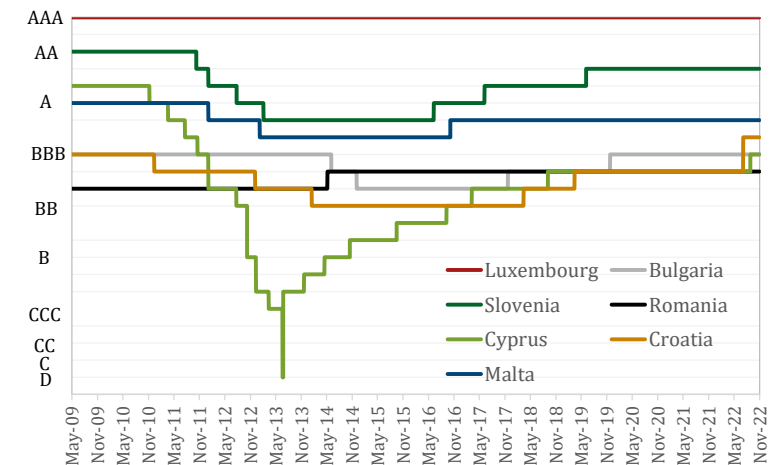


Source: Thomson Reuters Eikon

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



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



4.5 European rating actions on long-term sovereign credit ratings (2022 YtD)

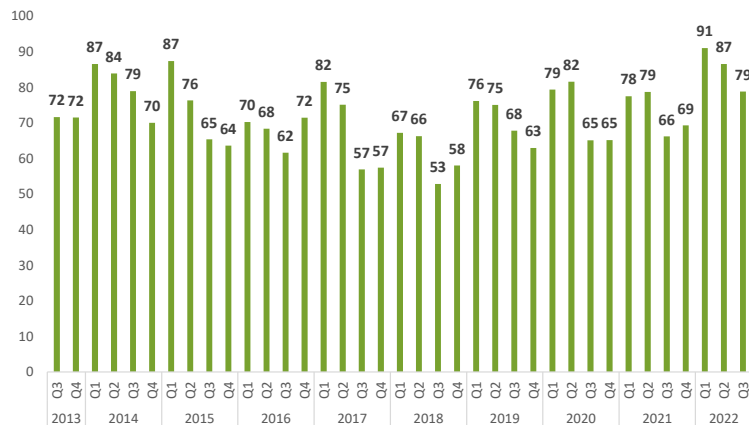
Ireland	Upgrade to AA- (stable) from A+	Jan-22	Fitch	Expected continued improved in Ireland's fiscal metrics, supported by strong revenue performance, driven by an expansion of the tax base, leading to a strong upward revision of Ireland's revenue forecast.	1Q22
Greece	Upgrade to BB+ (stable) from BB	Apr-22	S&P	Expected continuous improvement in Greece's policy effectiveness and presence of fiscal buffers that will allow the country to absorb the indirect impact of the war in Ukraine on its economy and public finances.	
Ireland	Upgrade to A1 (positive) from A2	May-22	Moody's	Increased economic resilience of Ireland: strong GDP growth, track record of growth and growth potential and a decline in Ireland's government debt.	2Q22
Croatia	Upgrade to BBB+ (stable) from BBB	Jul-22	Fitch	Approval to Croatia by Ecofin on 12 July to join the euro on 1 January 2023. Euro adoption is positive for the rating as it would provide the sovereign with reserve-currency status, reduced transaction costs and limit exchange rate-risk to corporates and households.	
Croatia	Upgrade to BBB+ (stable) from BBB-	Jul-22	S&P	Expected consistent economic growth over the coming two years, despite inflationary pressure and the economic consequences of the current Russia-Ukraine conflict. Expectation that the government remains committed to the reform program and receive significant EU financing, rebuilding the fiscal space lost in the aftermath of the pandemic.	3Q22
Croatia	Upgrade to Baa2 (stable) from Ba1	Jul-22	Moody's	Adoption of legal acts formalising Croatia's adoption of the euro by Ecofin on 12 July, with Croatia adopting the euro as its domestic currency from 1 January 2023, thereby eliminating any foreign currency risk for the government's largely euro-denominated debt burden and reducing the government liquidity risk.	
Portugal	Upgrade to BBB+ (stable) from BBB	Sep-22	S&P	Continued strong growth in Portugal despite higher energy costs and rising interest rates. The upgrade reflects the resilience of Portugal's economy, public finances, and largely foreign-owned financial sector to various external shocks.	
Cyprus	Upgrade to BBB (stable) from BBB-	Sep-22	S&P	Expected continued economic growth supported by the diversified structure of the Cypriot economy and resilience to heightened risks. Expected improvement of the government's fiscal position amid rising economic wealth levels and the ongoing recovery in the tourism sector	

Source: Fitch, Moody's, S&P

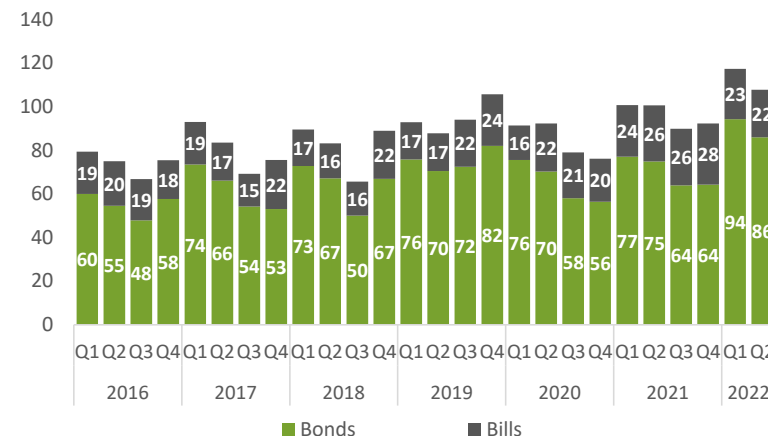
Secondary Market Trading Volumes and Turnover Ratios

Secondary Market Trading Volumes and Turnover Ratios

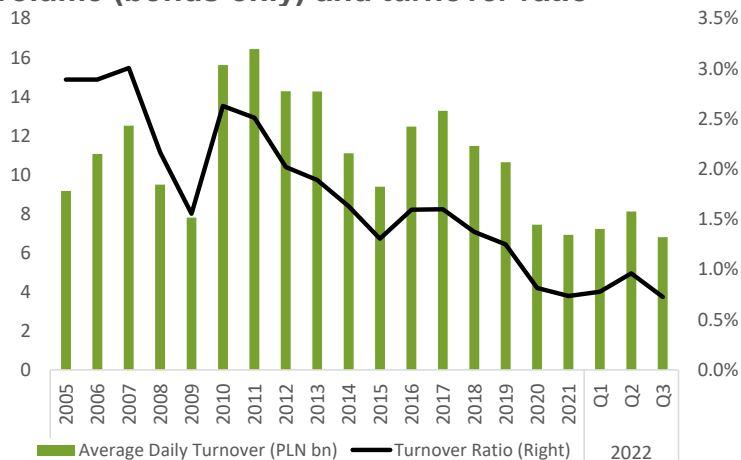
5.1 EU + UK: Average daily trading volumes (Government and sovereign bonds, EURbn)



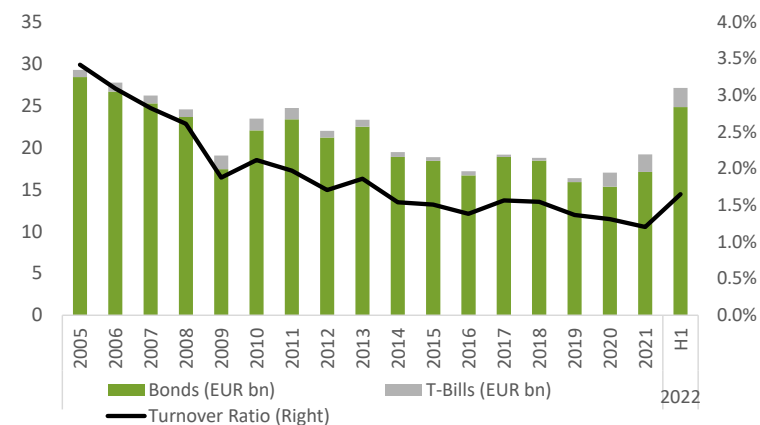
5.2 Eurozone: Average daily trading volume (bonds and bills, EURbn)



5.3 United Kingdom: Average daily trading volume (bonds only) and turnover ratio



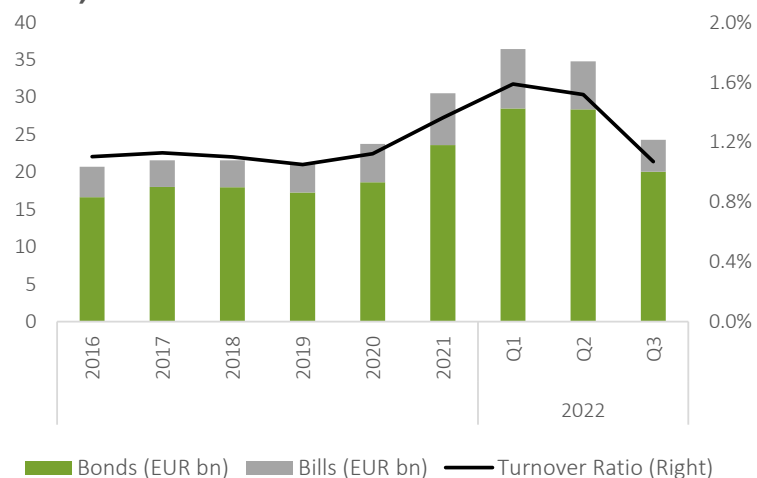
5.4 Germany: Average daily trading volume (aggregated bonds and bills) and turnover ratio



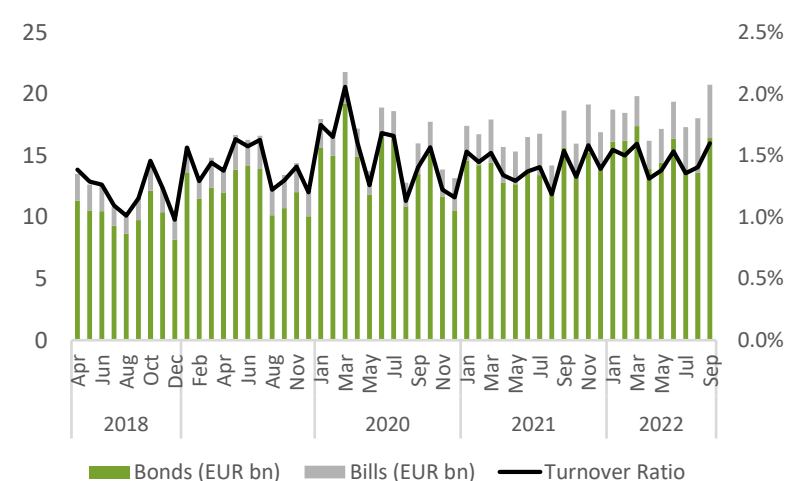
Source: TraX data from MarketAxess, EFC Sub-Committee on EDSM, UK Debt Management Office, Deutsche Finanzagentur, ECB. Individual country volumes do not sum to aggregated trading volume in Chart 5.1 EU+UK, given the differences in the aggregation basis across jurisdictions. The data is not fully comparable between countries. Full Methodology available on page 34 of this report.

Secondary Market Trading Volumes and Turnover Ratios

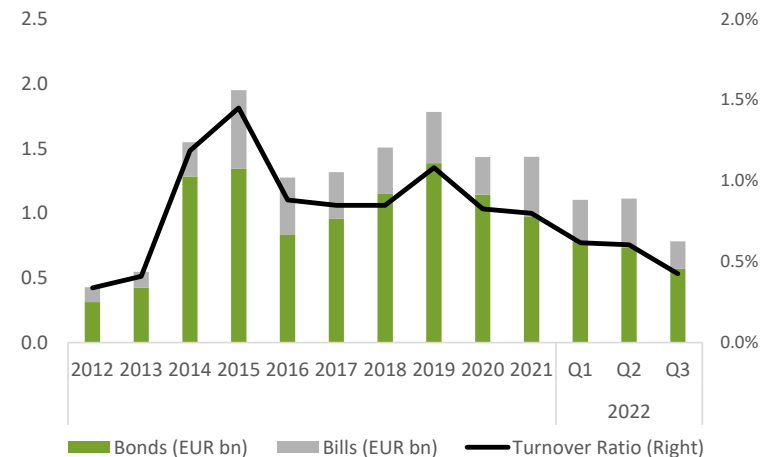
5.5 Italy: Average daily trading volume (bonds and bills) and turnover ratio



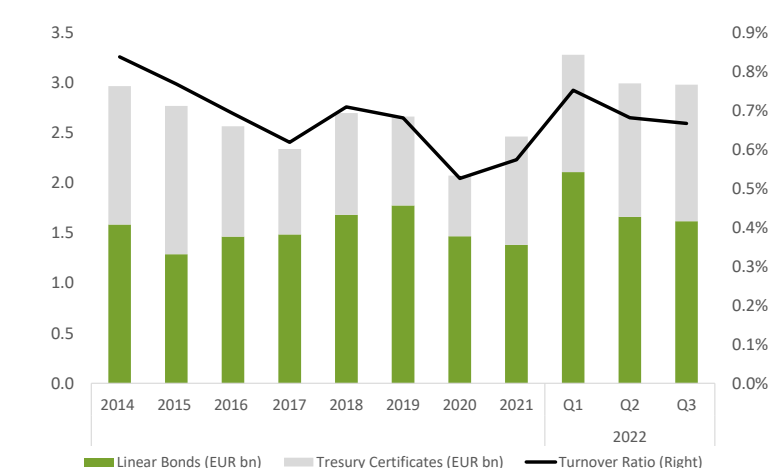
5.6 Spain: Average daily trading volume and turnover ratio



5.7 Portugal: Average daily trading volume and turnover ratio



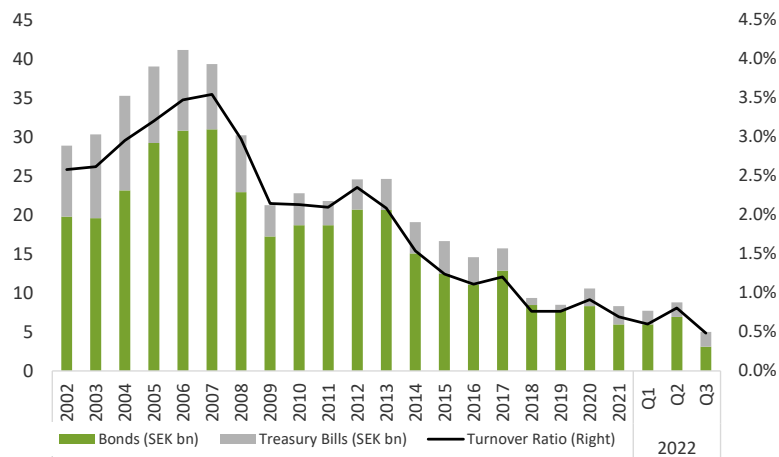
5.8 Belgium: Average daily trading volume and turnover ratio



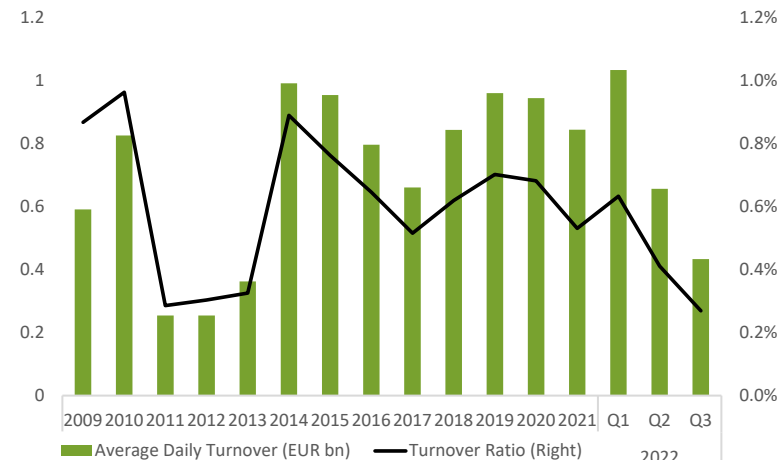
Source: ECB, Italian Dipartimento del Tesoro, BME Market Data and Tesoro Publico de Espana, Agência de Gestão da Tesouraria e da Dívida Pública (IGCP), ECB, Belgian Debt Agency. **Given the differences in the aggregation basis across jurisdictions, the data is not fully comparable between countries. Full Methodology available on page 34 of this report.**

Secondary Market Trading Volumes and Turnover Ratios

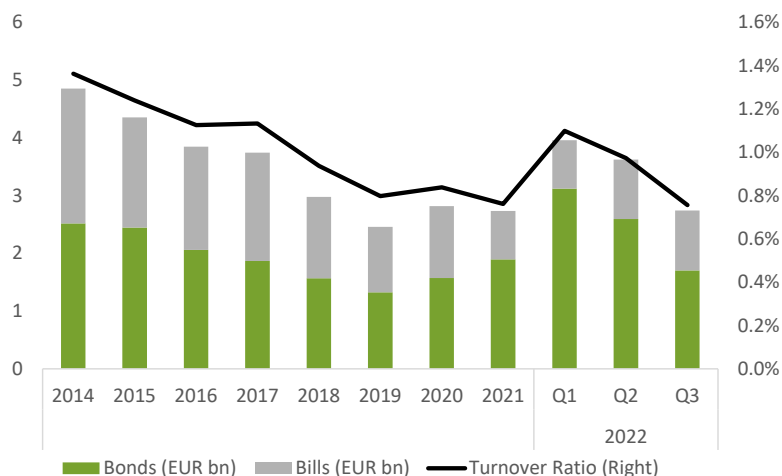
5.9 Sweden: Average daily trading volume and turnover ratio



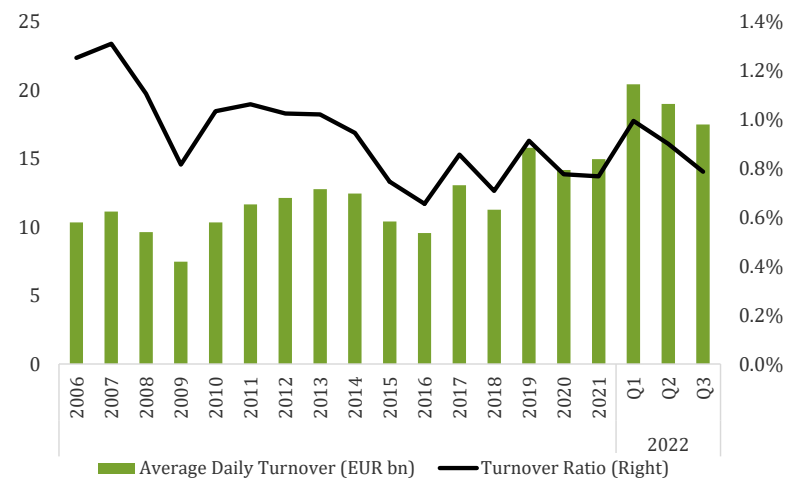
5.10 Ireland: Average daily trading volume (bonds only) and turnover ratio



5.11 Netherlands: Average daily trading volume and turnover ratio



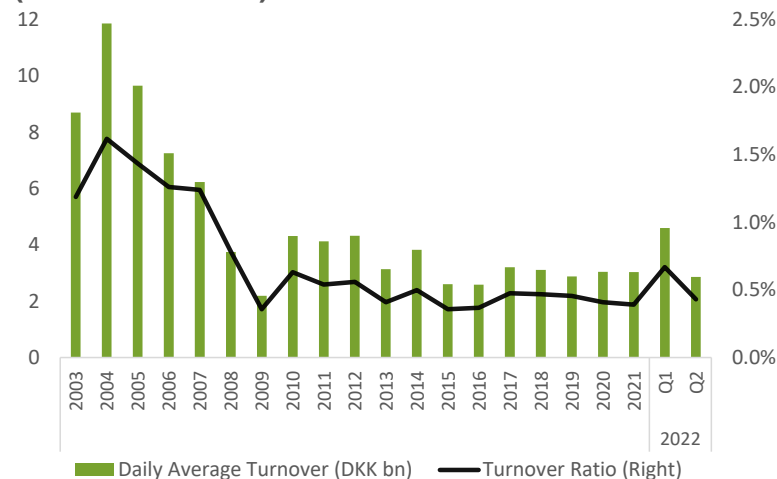
5.12 France: Average daily trading volume (bonds only) and turnover ratio



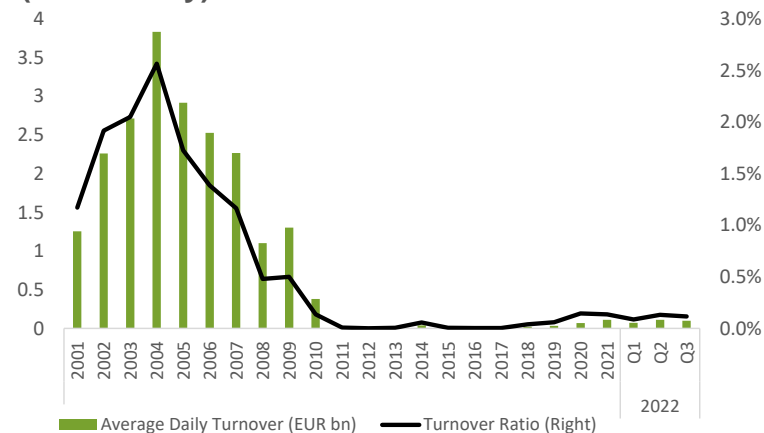
Source: ECB, Swedish National Debt Office (Riksgalden), Irish Stock Exchange, Ministerie van Financien, Agence France Tresor. **Given the differences in the aggregation basis across jurisdictions, the data is not fully comparable between countries. Full Methodology available on page 34 of this report.**

Secondary Market Trading Volumes and Turnover Ratios

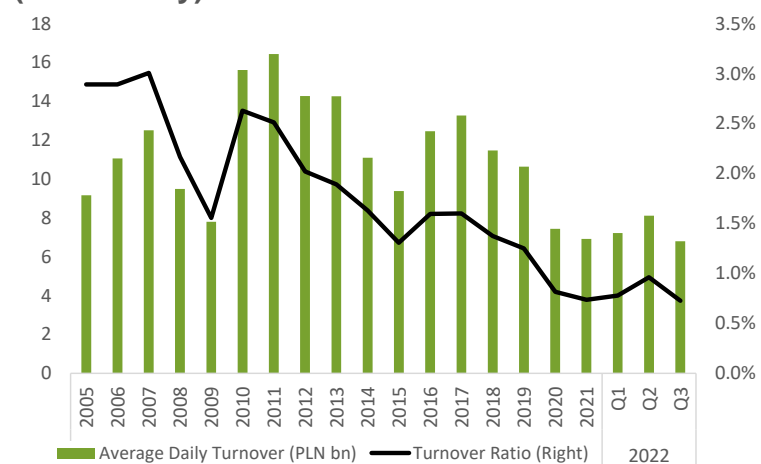
5.13 Denmark: Average daily trading volume (bonds and bills) and turnover ratio



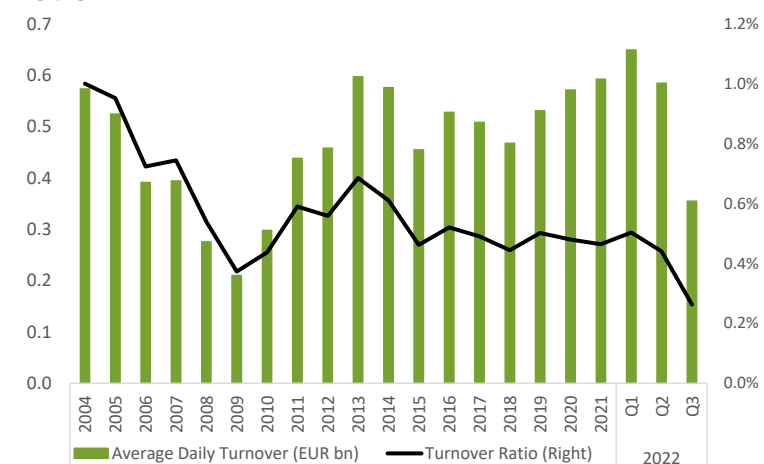
5.14 Greece: Average daily trading volume (bonds only) and turnover ratio



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



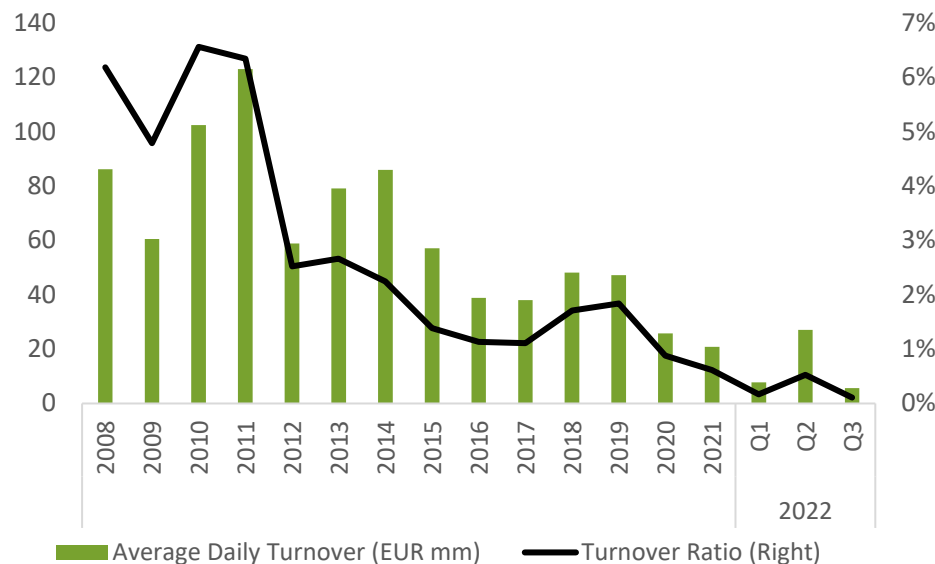
5.16 Finland: Average daily trading volume (aggregated bonds and bills) and turnover ratio



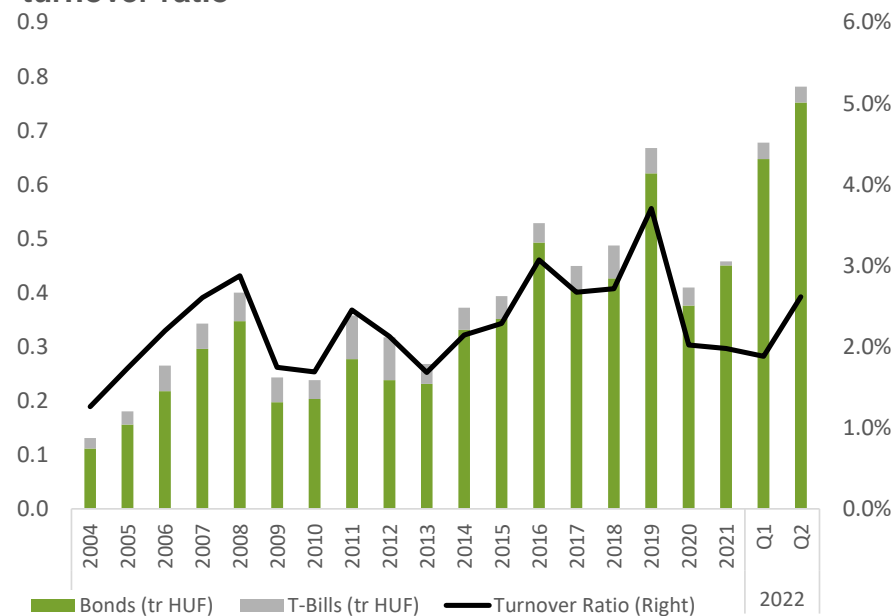
Source: Denmark's Nationalbank, Bank of Greece, ECB, National Depository for Securities (KDPW), WSE, Finland Valtiokonttori. **Given the differences in the aggregation basis across jurisdictions, the data is not fully comparable between countries. Full Methodology available on page 34 of this report.**

Secondary Market Trading Volumes and Turnover Ratios

5.17 Bulgaria: Average daily turnover volume and turnover ratio

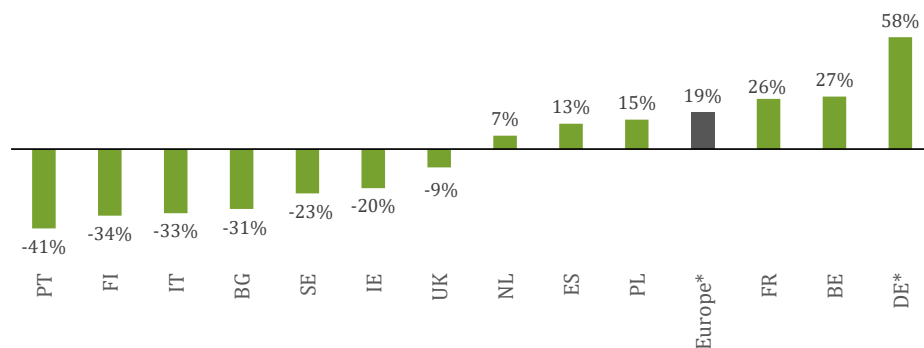


5.18 Hungary: Average daily turnover volume and turnover ratio

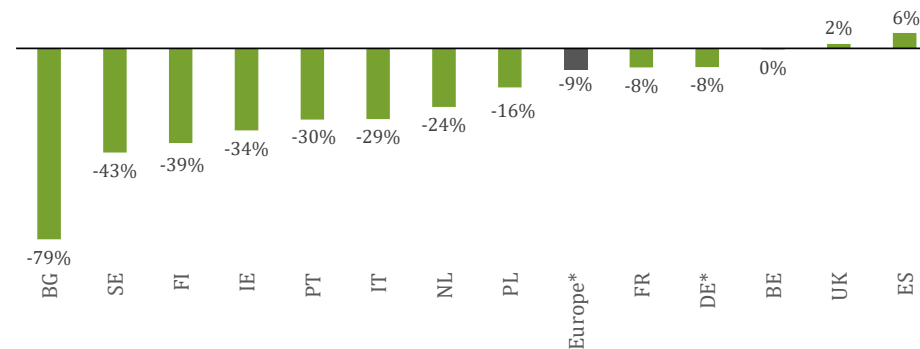


Source: ECB, AKK, Ministry of Finance of the Republic of Bulgaria, Ministerul Finantelor. **Given the differences in the aggregation basis across jurisdictions, the data is not fully comparable between countries. Full Methodology available on page 34 of this report.**

5.20 Annual change in average daily turnover volumes of European government bonds: 3Q21 to 3Q22



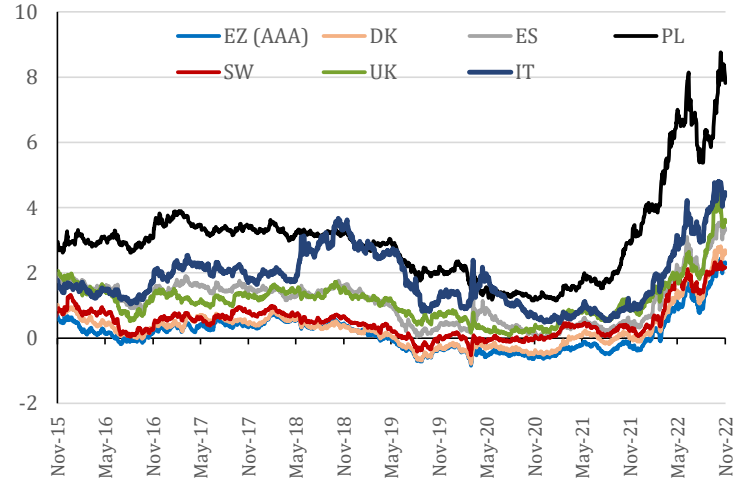
5.21 Quarterly change in average daily turnover volumes of European government bonds: 2Q22 to 3Q22



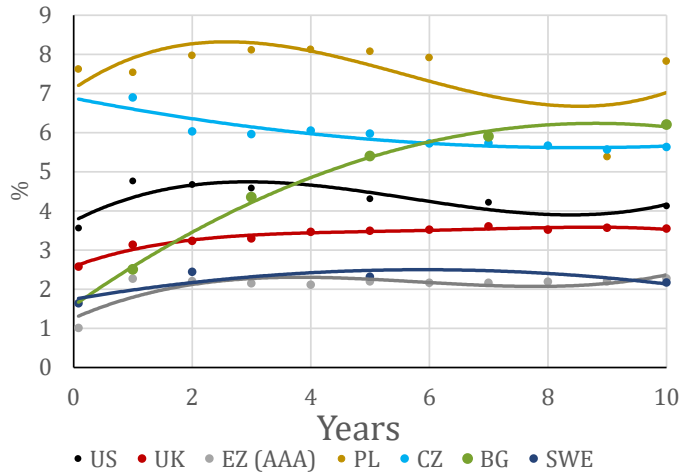
Source: AFME with information from European DMOs and other agency sources. See section 5 for details on aggregation basis and sources. *Europe (EU+UK) total and Germany is sourced from TraX data from MarketAxess, as the quarterly variation of average daily volumes of government and sovereign bonds.

Valuations

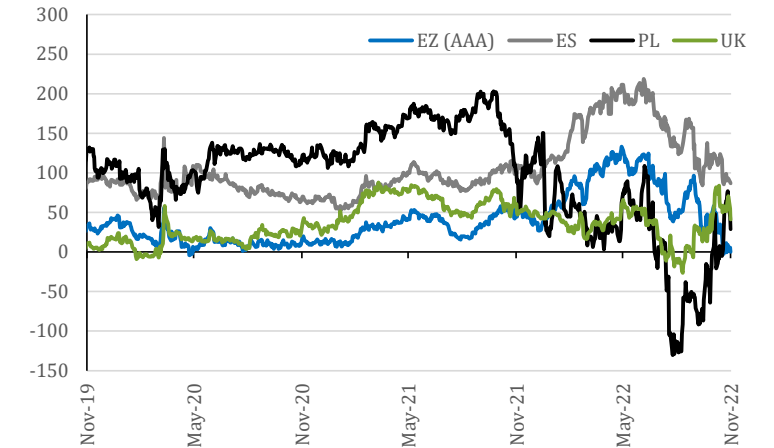
6.1 Selected European 10Y spot yields



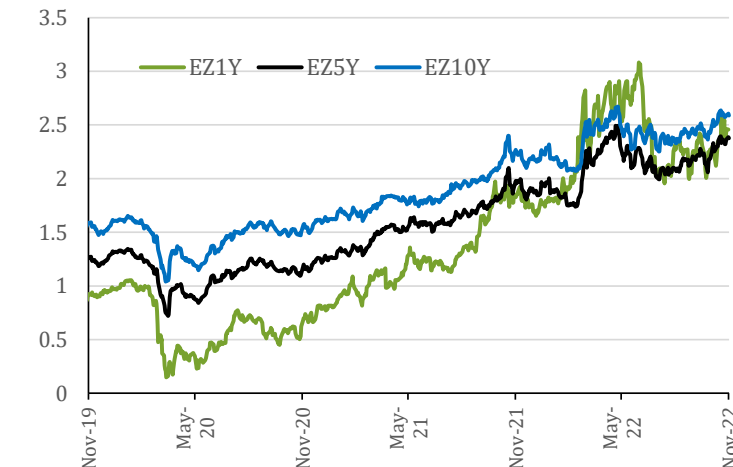
6.2 Sovereign spot yield curve of selected jurisdictions: 8 November 2022



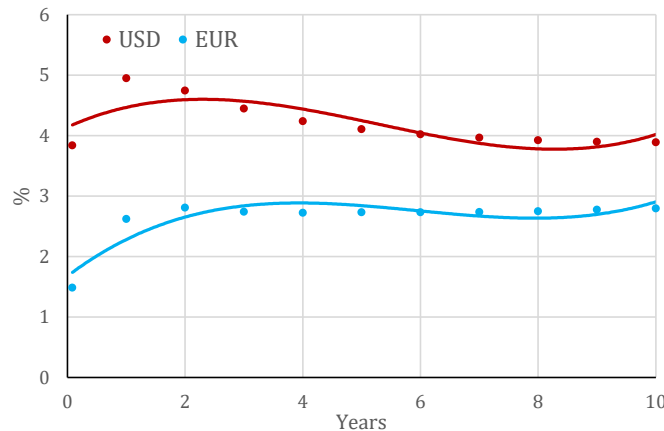
6.3 Slope: 1Y10Y spread (bps)



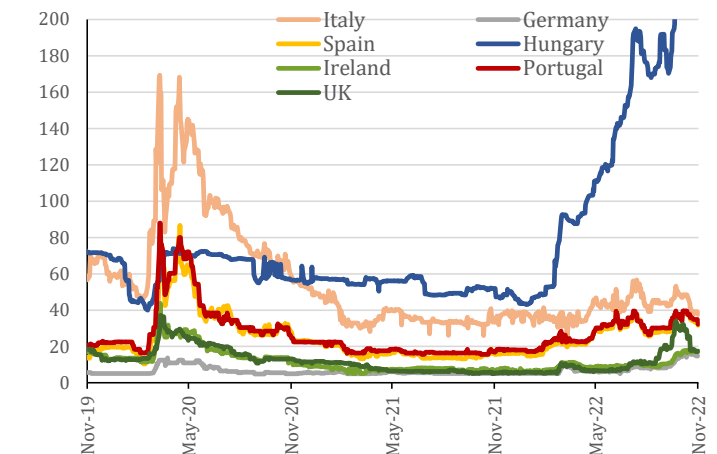
6.4 Market-implied inflation expectations (EuroZone)



6.5 Overnight index swap (OIS) yield curve: 8 November 2022



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



Source: ECB and Thomson Reuters Eikon

Methodology for Secondary Market Trading Volumes and Turnover Ratios in this report

Turnover ratios are calculated as the average daily trading volume relative to total outstandings. Cash trading only (excludes repo and derivatives transactions)

5.1 EU + UK: 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. Data sourced from Trax. The aggregation of Trax data is agnostic of platform (meaning the trades can be conducted via BBG, TRAX or others) as it is sourced from dealers middle offices, rather than the actual trading venues. The data include s both dealer to dealer activity and dealer to client activity. Data does not consider transaction volume between clients and therefore relies on the degree of dealer intermediation.

5.2 Eurozone: Data is published by EFC Sub-Committee on ESDM, and is based on turnover data reported in the Euro Market Activity Report (EMAR), including turnover on a trade by trade basis traded by reporting dealers. A comprehensive list of reporting dealers can be found in the EMAR reports on the website of the Economic and Financial Committee's Sub Committee on EU Sovereign Debt Markets

5.3 United Kingdom: Turnover data reported to the DMO by the Gilt-edged Market Makers (primary dealers).

5.4 Italy: Turnover on all trading venues and OTC as per data provided to the Italian Dipartimento Del Tesoro by Primary Dealers through HRF ('single counted' volumes).

5.5 Germany: 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. Includes Bubills, Schaetze, Bobls, Bunds and inflation-linked securities. Capital and coupon strips as well as US-dollar bonds are excluded.

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

5.7 Spain: Due to data reconciliation activities of the Bank of Spain, data from April 2018 is from BME Market Data, a subsidiary of Bolsas y Mercados Españoles. Turnover is derived from settlement data from Iberclear.

5.8 Finland: Turnover of customer trades, MTS Finland and Euro MTS.

5.9 Belgium: Turnover is total outright transactions.

5.10 Sweden: Turnover is total outright transactions

5.11 Ireland: Turnover on Irish Stock Exchange.

5.12 Netherlands: Turnover is customer and interdealer trading. Total outright transactions, including electronic and OTC trading.

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

5.14 Denmark: Turnover of MTS, TradeWeb, Bondvision and trades reported to Nasdaq OMX (including voice trading).

5.15 Greece: Turnover on Electronic Secondary Securities Market (HDAT).

5.16 Poland: 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.

5.17 Bulgaria: 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.

5.18 Hungary: Turnover on MTS Hungary and Keler OTC.

5.19 Romania: 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.

For a description of the methodology of this report please visit <https://www.afme.eu/reports/data/details/Summary-of-the-Methodologies>

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