

3Q 2021

Government Bond Data Report

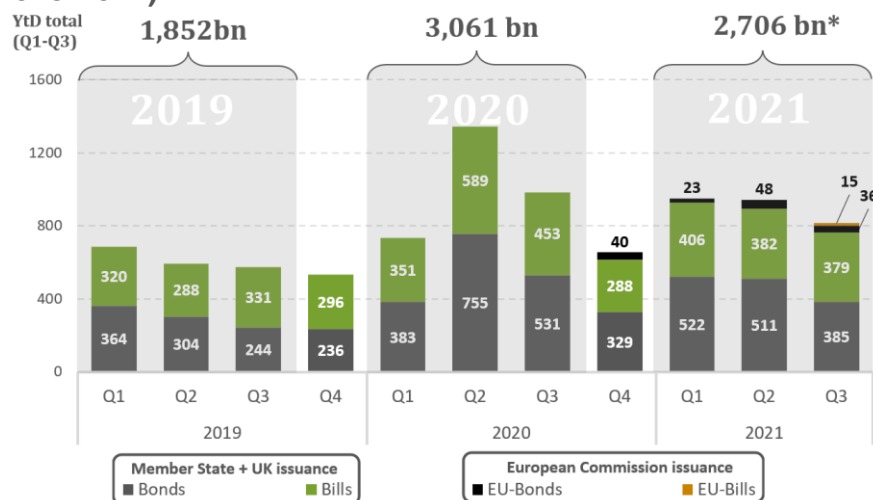
European market data update



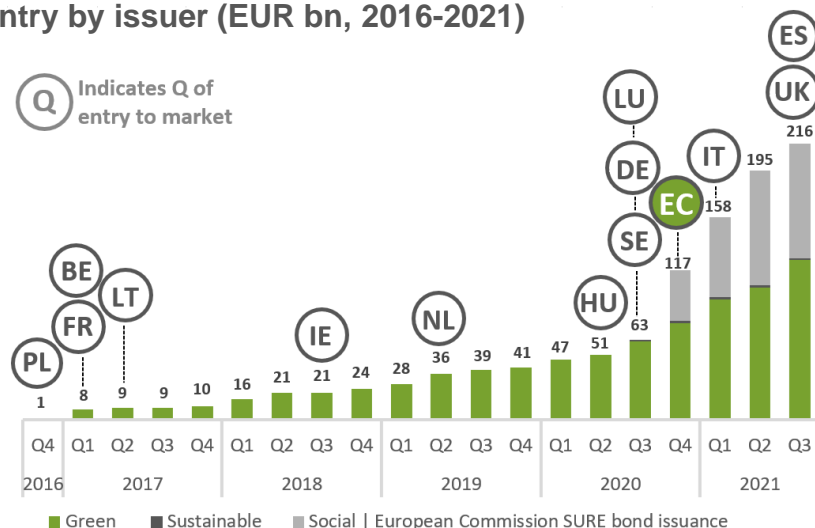
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Highlights and Market Environment

1. European (EU+UK) government bond and bill issuance (EUR bn, 2019-2021)



2. European outstanding ESG sovereign bonds and quarter of entry by issuer (EUR bn, 2016-2021)



Source: *YtD (Q1-Q3) total includes European Commission issuance. ECB, National Debt Management Offices and UK Debt Management Office [chart 1]. Thomson Reuters Eikon and European Commission [chart 2].

European (EU+UK) government bond and bill issuance in 3Q21 falls 13.3% (QoQ) and 17.1% (YoY) but remains above pre-pandemic levels

EU bonds and bills issuance continue above pre-pandemic levels with EUR 763.6 bn issued by EU Member States and the UK throughout 3Q21 with an additional EUR 51.5 bn issued by the European Commission. Whilst issuance fell 13.3% (QoQ) and 17.1% (YoY) quarterly volumes remain high by historical standards and are up 41.6% compared to 3Q19 (pre-pandemic) (see chart 1).

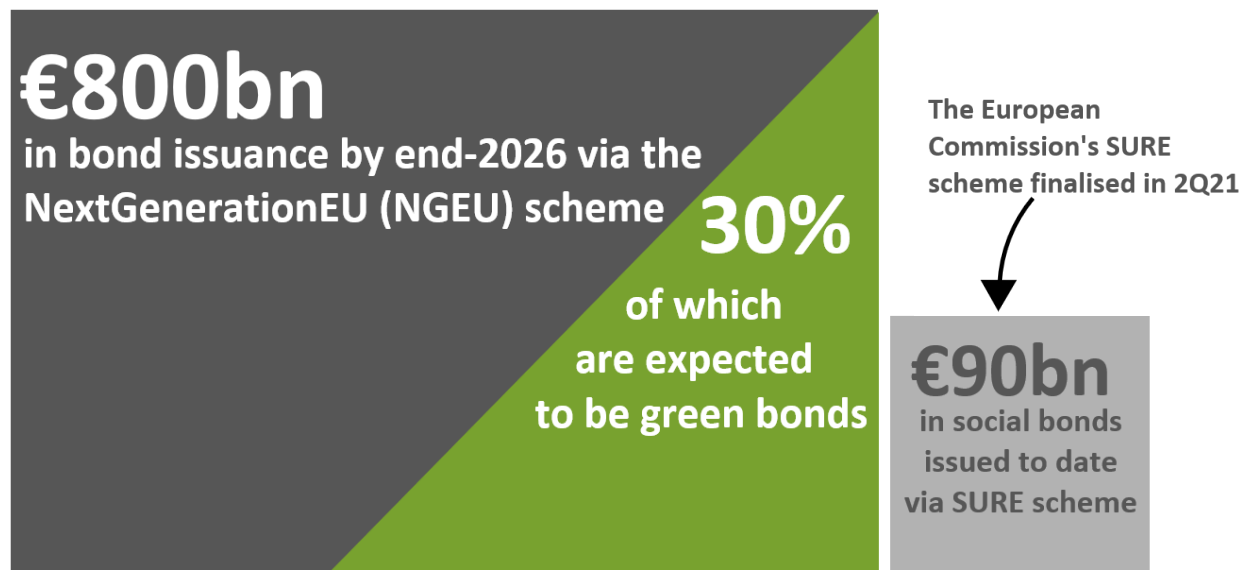
In terms of YtD (Q1-Q3) volumes, EU+UK bond and bill issuance is down 11.6% (YoY) but up 46.1% compared to 2019.

Outstanding balance of European sovereign ESG bonds surpass EUR 216 bn in record quarter including highest quarterly green government bond issuance ever with EUR 22 bn issued during 3Q21

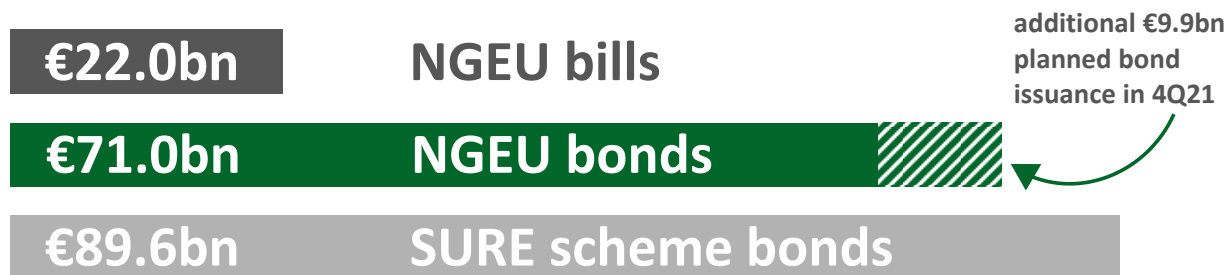
Outstanding volumes of European green government bonds reached EUR 125.0 bn during 3Q21 (see chart 2). During 3Q21 the UK and Spain both issued inaugural green bonds, with volumes of GBP 10.0 bn (EUR 11.7 bn) and EUR 5.0 bn respectively, increasing the total number of ESG issuers in European sovereign markets to 14. Germany also issued a new green bund (EUR 3.5 bn) during 3Q21 (which has been tapped for an additional EUR 3.0 bn of issuance in 4Q21 to date).

Most recently in 4Q21 to date, the European Commission issued an inaugural green bond, raising EUR 12.0 bn under the NextGeneration EU (NGEU) scheme. The issue represented the world's largest green bond issuance ever and was more than 11x oversubscribed. Additionally, the UK issued a second green Gilt (GBP 6.0 bn) which contributed to a further expansion in outstanding European green government bonds in 4Q21.

3. Treemap of planned European Commission bond issuance



4. Outstanding bonds and bills issued by the European Commission (as of 24 November 2021 and including 4Q21 issuance to date)



Source: European Commission

NextGenerationEU programme set to significantly increase official sector issuance in coming years

The European Commission's NextGenerationEU scheme , which commenced in June 2021, has issued EUR 93 bn to date during 2021 (as of 24 November 2021), of this, EUR 71 bn has been raised in long-term funding via bond issuance, including EUR 12 bn earmarked for specifically green expenditure. In addition, a further EUR 22 bn has been issued via EU-bills.

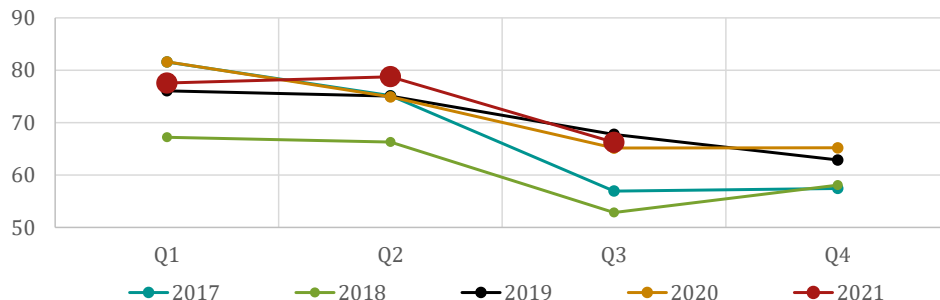
European Commission bond issuance set to reach EUR 890bn by end-2026

In total, the NextGenerationEU programme is set to raise EUR 800 bn until end-2026, of which 30%, or EUR 250 bn, is intended to be raised via specifically green bond issues. The significant future expansion in green bond issuance will mean the European Commission will remain a dominant player in sovereign ESG debt markets in Europe in years to come. As of 3Q21, the Commission accounted for 41.4% of outstanding ESG bonds in Europe, after EUR 89.6 bn in social bonds were issued from 4Q20 to 2Q21 via the Commission's SURE scheme, which finalised in May 2021.

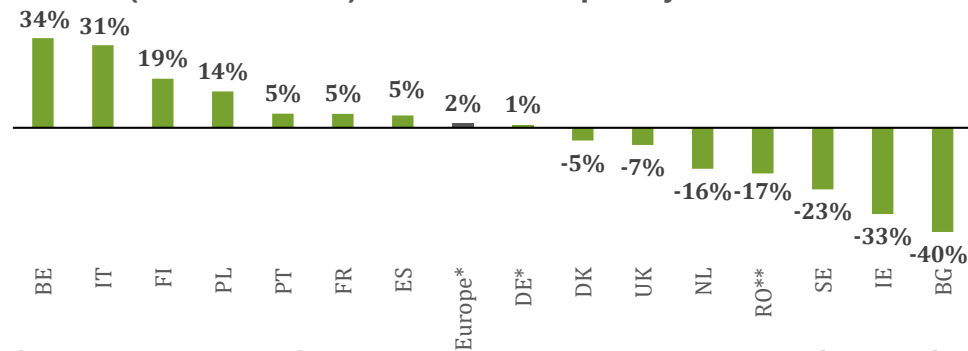
The large funding requirement of the NGEU scheme will require the European Commission to borrow roughly EUR 150 bn per year from capital markets. In 2021, the Commission plans to raise EUR 80 bn in total in long-term bonds, with an additional syndicated issue planned in 4Q21. EU-bills are intended to compliment the European Commission's funding mix with issuance for 2021 expected to be in the tens of billions.

Highlights and Market Environment

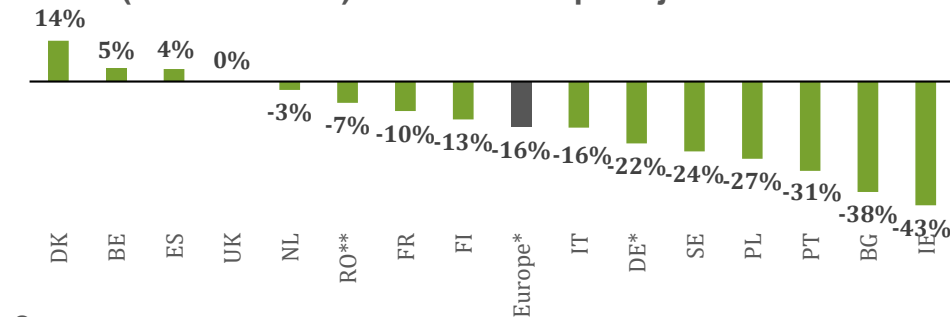
5. Seasonality of European government bond trading (quarterly trading volumes, average daily, EUR bn)



6. Annual changes in Government Bond average daily trading volumes (3Q21 vs 3Q20) Selected European jurisdictions



7. Quarterly change in Government Bond average daily trading volumes (3Q21 vs 2Q21) Selected European jurisdictions



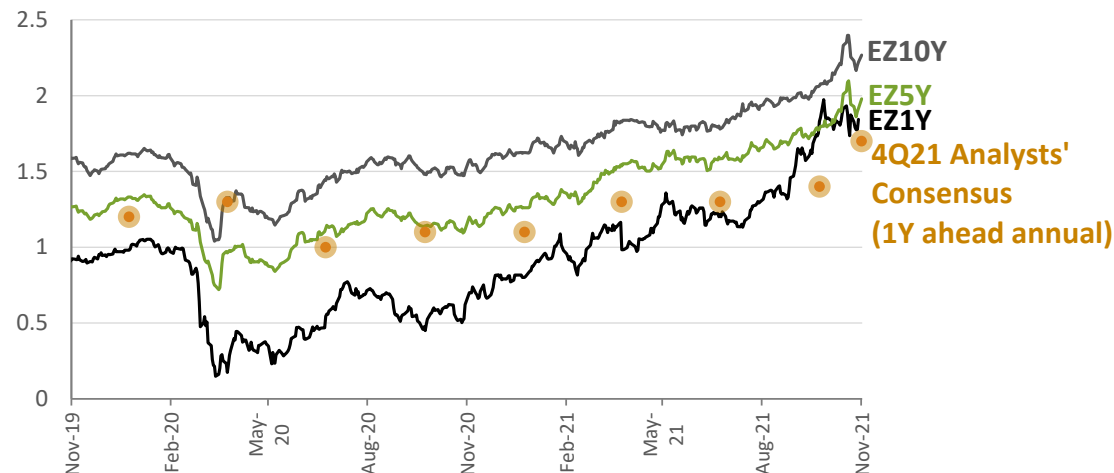
Source: AFME with information from European DMOs and other agency sources and Trax, a MarketAxess subsidiary. *Europe (EU+UK) total and German turnover is sourced from Trax Facts as the quarterly variation of average daily volumes of government and sovereign bonds. **Romanian turnover volume calculated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

European government bond trading increased 1.7% YoY and decreased 15.9% QoQ in 3Q21

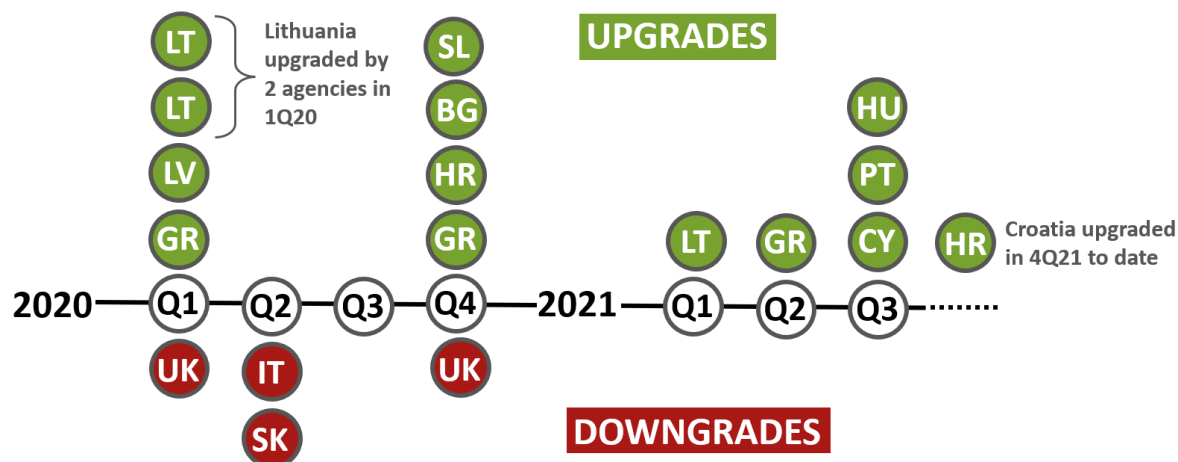
Average daily trading volumes of European government bonds increased by 1.7% YoY during 3Q21 (see chart 5), driven by a significant increase in trading in Belgium (34% YoY), Italy (31% YoY), Finland (19% YoY) and Poland (14% YoY). There was a decrease in trading in Bulgaria (-40% YoY), Ireland (-33% YoY), Sweden (-23% YoY), the Netherlands (-16% YoY) and Romania (-17% YoY) (see charts 6 and 7).

Year to date European government bond trading (YtD; Q1-Q3) during 2021 is down 1.6% compared to 2020, but up 1.6% compared to 2019 (see chart 5).

8. Eurozone 1Y, 5Y and 10Y market-implied inflation expectations



9. European rating actions on long-term sovereign credit ratings (2020-2021YtD)



Source: Thomson Reuters Eikon [Chart.8]. Fitch, Moody's, S&P [Chart.9].

Market-implied Eurozone inflation expectations continue to rise during 3Q21

Eurozone inflation expectations continue to rise on the back of higher energy prices, supply chain frictions, and the general economic recovery. Eurozone 1Y market-implied inflation expectations were 1.8% in November 2021 and analysts' consensus (according to Eikon) estimates a 1Y ahead annual inflation at 1.7% for 4Q21. (see chart.8).

Resilience in credit quality of sovereign issuers with 3 upgrades and no downgrades in long-term credit ratings for European countries during 3Q21

This follows 1 upgrade and no downgrades in 1Q21, 1 upgrade and no downgrades in 2Q21, bringing the year-to-date total to 6 upgrades and no downgrades (there was 1 further upgrade in 4Q21 to date) (see chart.9).

The impact of the pandemic on credit quality seems contained to rating actions in 2020 with no downgrades recorded in 2021 to date.

Major upcoming regulatory, legislative and policy initiatives

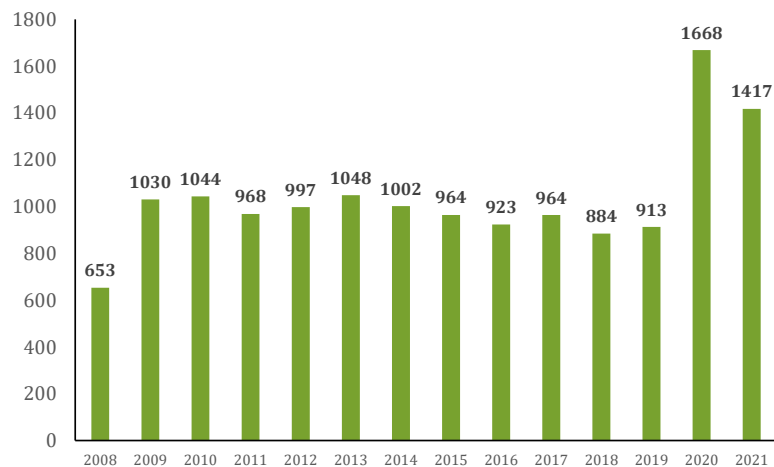
There are several regulatory initiatives currently being considered at the European and national level with expected impact on the government bond markets. Some of the key initiatives recently implemented or soon to be applied include:

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

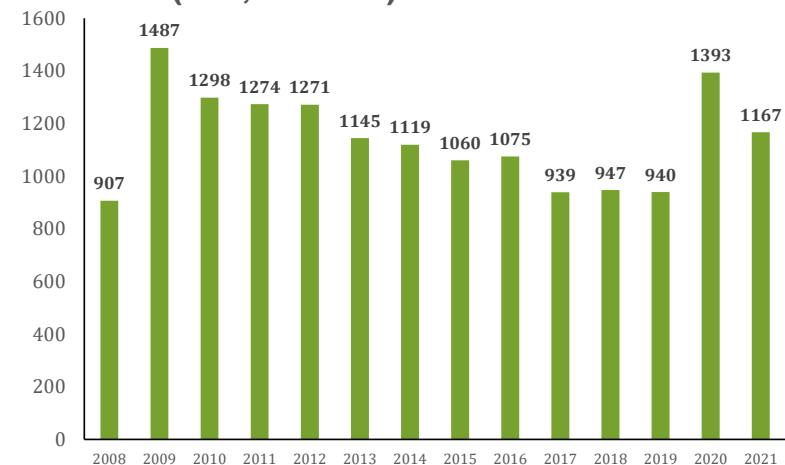
AFME and its members actively contribute on all of these and other initiatives.

Issuance

1.1 European (EU+UK) Government Bond gross issuance year-to-date (YtD, EUR bn)



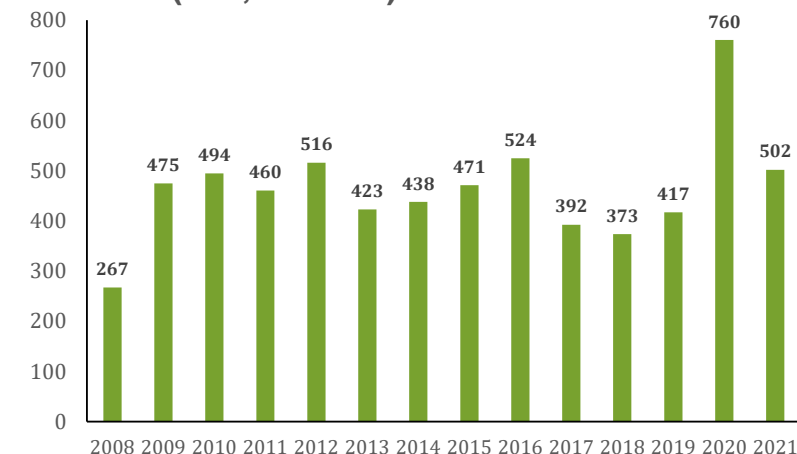
1.2 European (EU+UK) Treasury Bills gross issuance (YtD, EUR bn)



1.3 Eurozone bonds and bills gross issuance year-to-date (YtD, EUR bn)

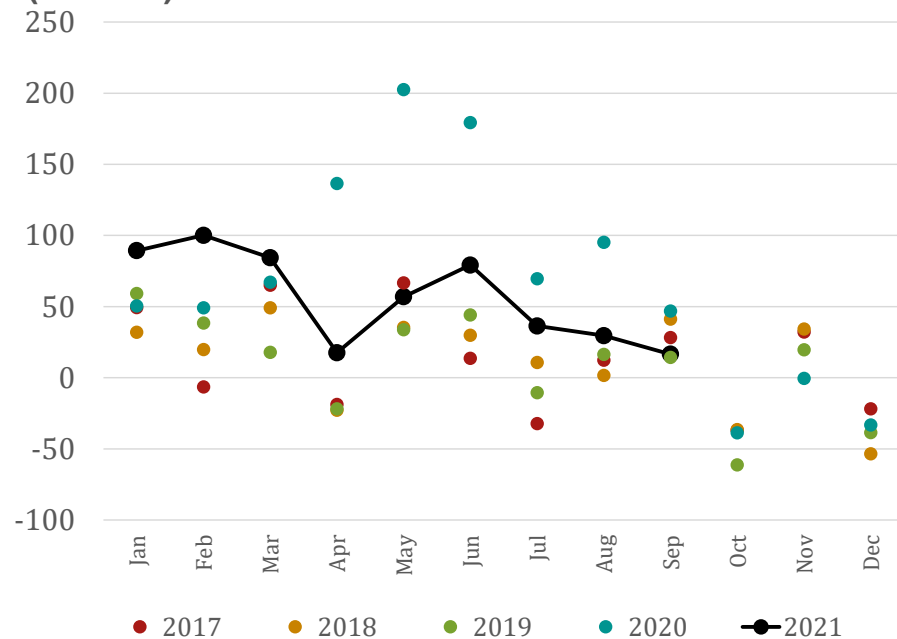


1.4 Non-Eurozone bonds and bills gross issuance (YtD, EUR bn)

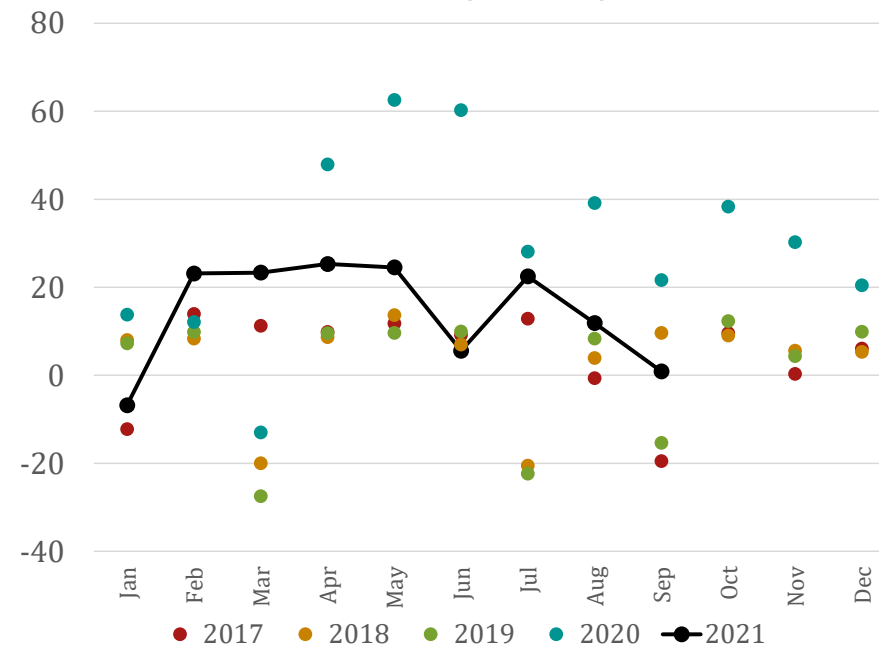


Source: ECB, National Debt Management Offices and UK Debt Management Office. YtD implies issuance throughout Q1 to Q3. Data on this page excludes EU Commission issuance (ie. NGEU, SURE) and includes debt issued from EU Member States and the UK only.

1.5 Euro area net sovereign debt issuance (EUR bn)



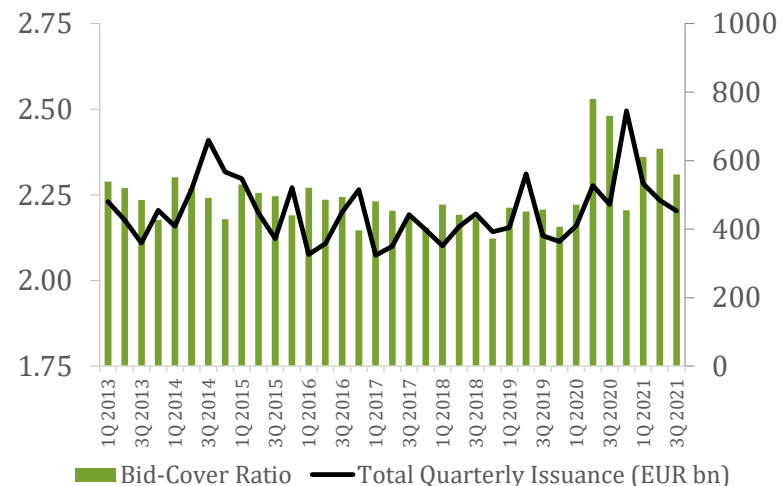
1.6 UK Gilts net issuance (GBP bn)



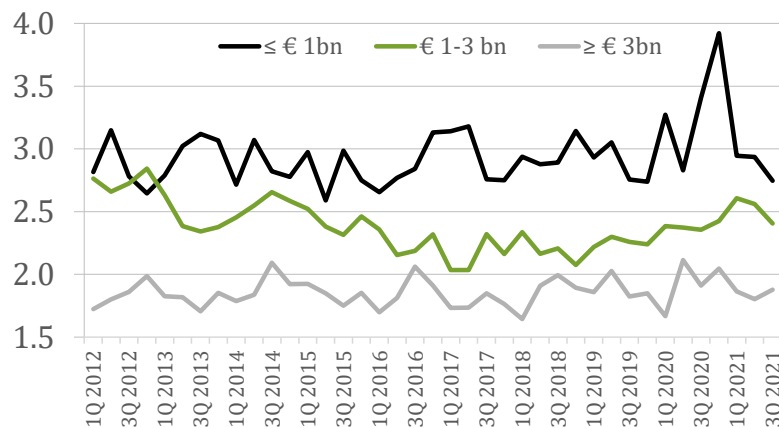
Source: ECB and UK Debt Management Office

Recent Auctions and Primary Dealers

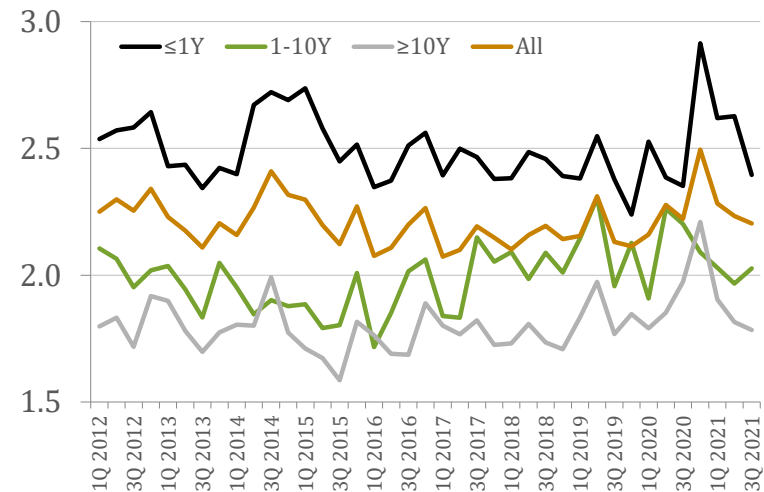
2.1 Average bid-cover ratios and issued volumes in selected jurisdictions (EUR bn)



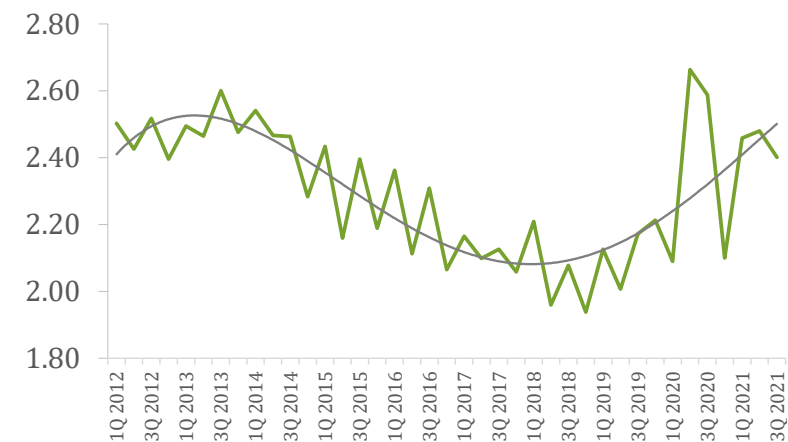
2.3 Average bid-cover ratios by size of issued instruments



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

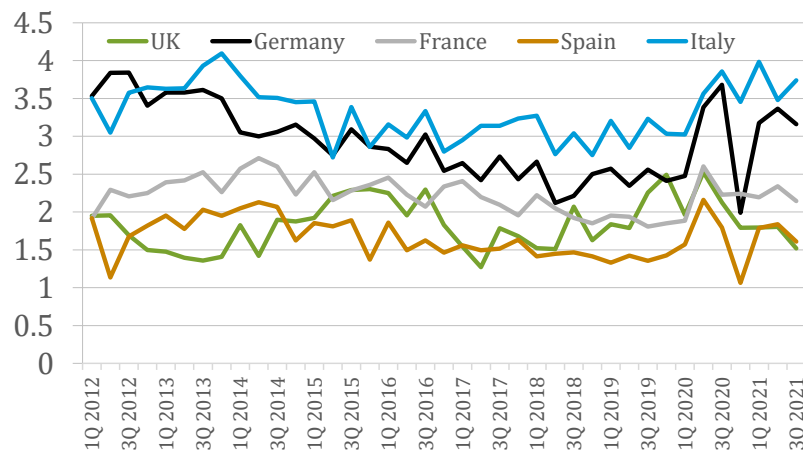


2.4 Average auction size in selected European jurisdictions (EUR bn)

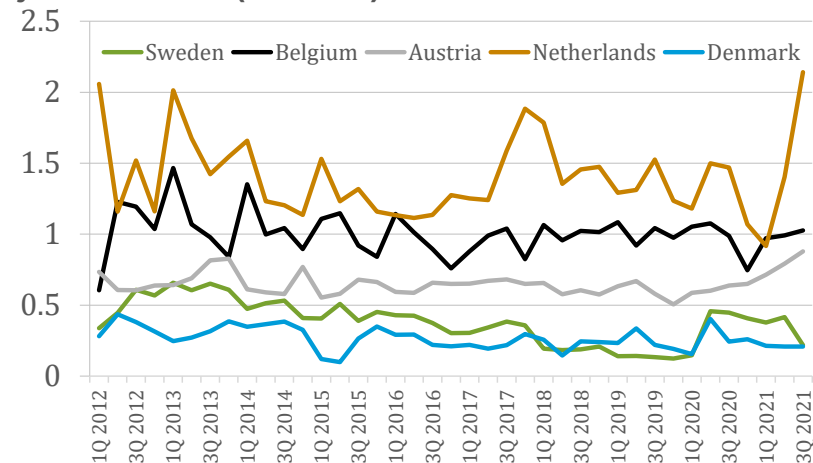


Source: Thomson Reuters Eikon. Weighted Average of UK, DE, FR, ES, IT, BE, SE, NL, DK and AT bonds and bills. In chart 2.4 polynomial trendline shown in grey.

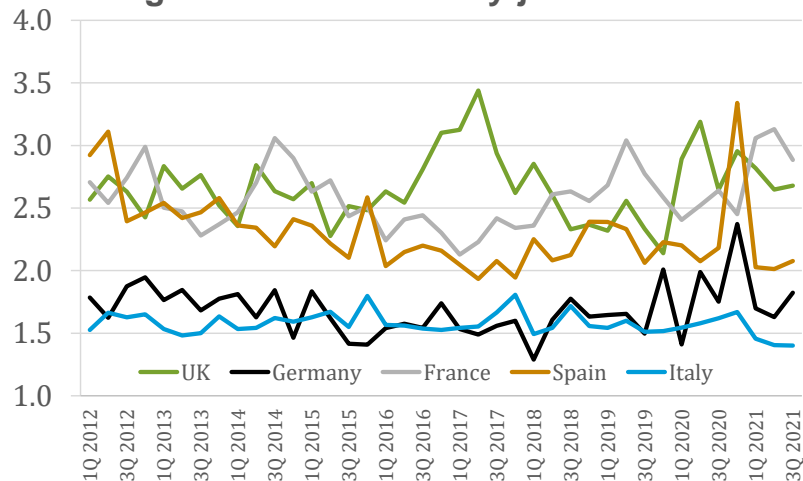
2.5 Average auction size in selected jurisdictions (EUR bn)



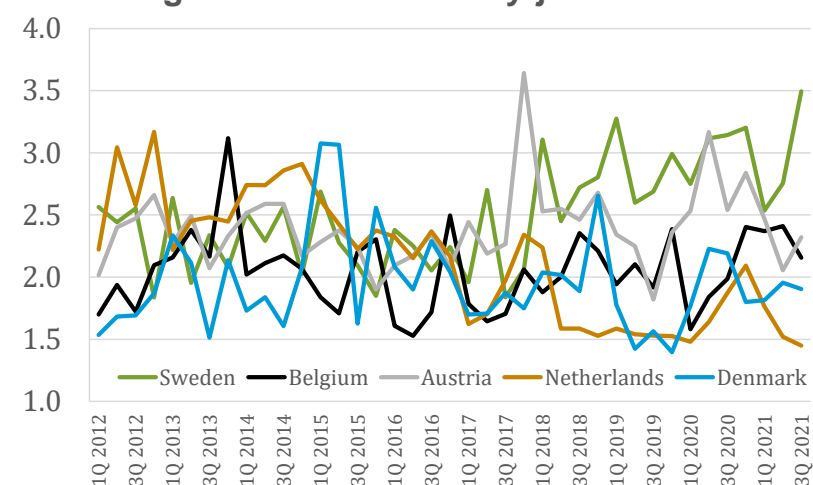
2.6 Average auction size in selected jurisdictions (EUR bn)



2.7 Average bid-cover ratios by jurisdictions

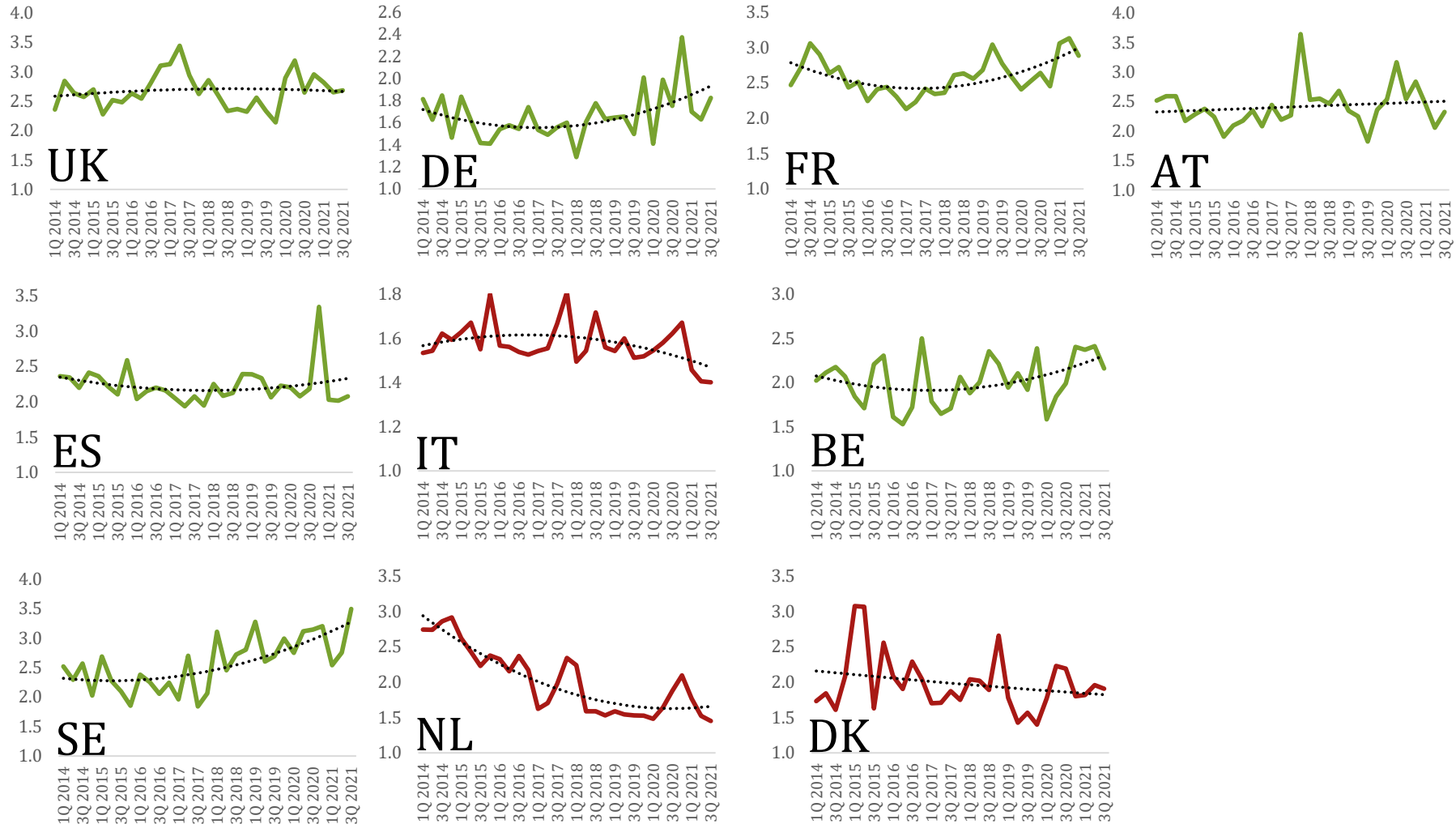


2.8 Average bid-cover ratios by jurisdictions



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

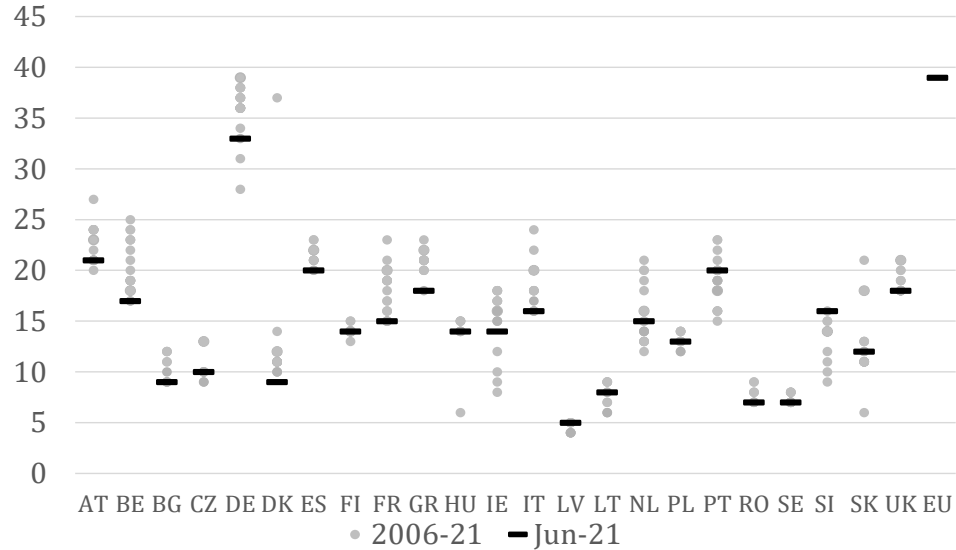
2.9 Average bid-cover ratios in selected jurisdictions: 2013-21



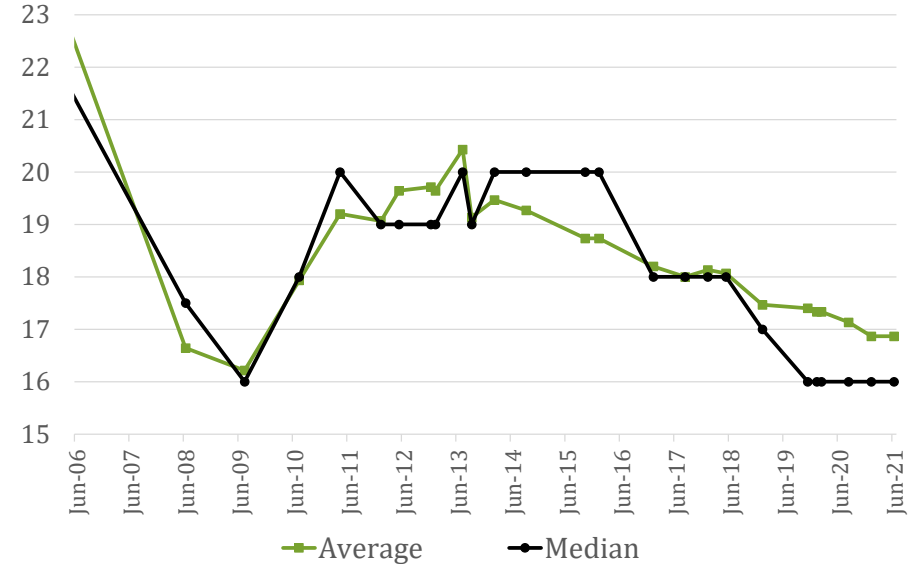
Source: Thomson Reuters Eikon. **Green** indicates end value of trendline above starting value, **red** indicates end value of trendline below starting value

Primary Dealers: European countries and EU

2.10 Number of primary dealers relative to historic number

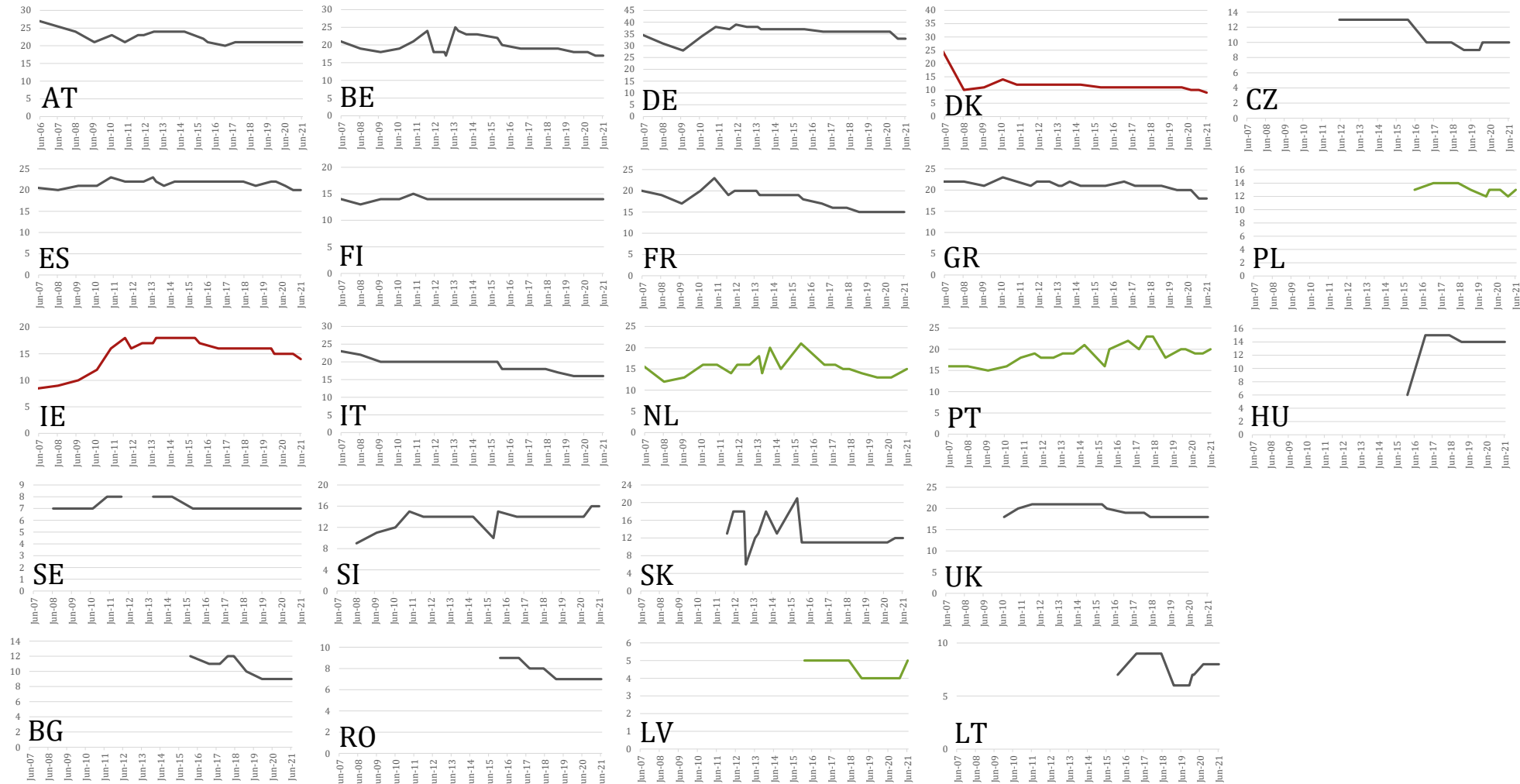


2.11 Average and median number of primary dealers in selected European countries



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 June 2021.

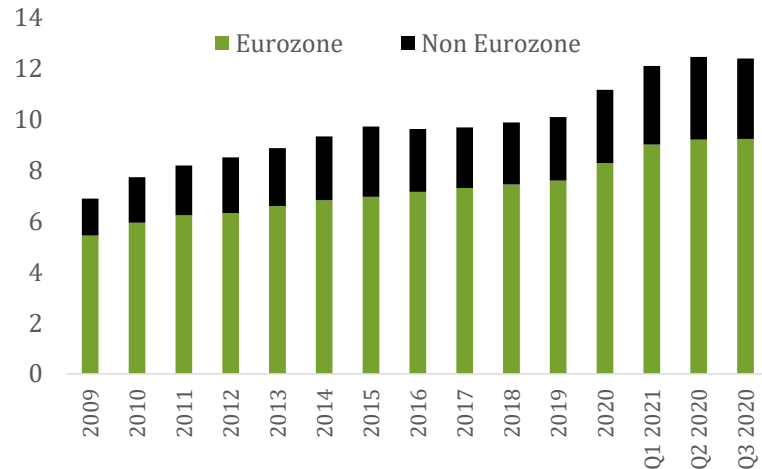
2.12 Number of primary dealers in Europe by country: 2006-21



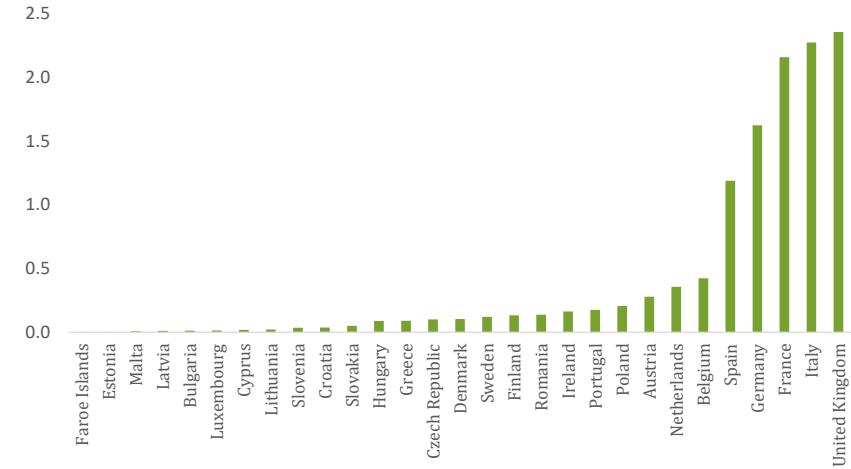
Source: AFME HRF Table and National DMOs. The gap in the line for Sweden indicates data was not recorded in the relevant period. **Chart colour indicates net change in PDs since January 2021.** **Green** indicates an increase; **red** indicates a decrease and **grey** indicates no change. Latest data as of June 2021.

Outstandings

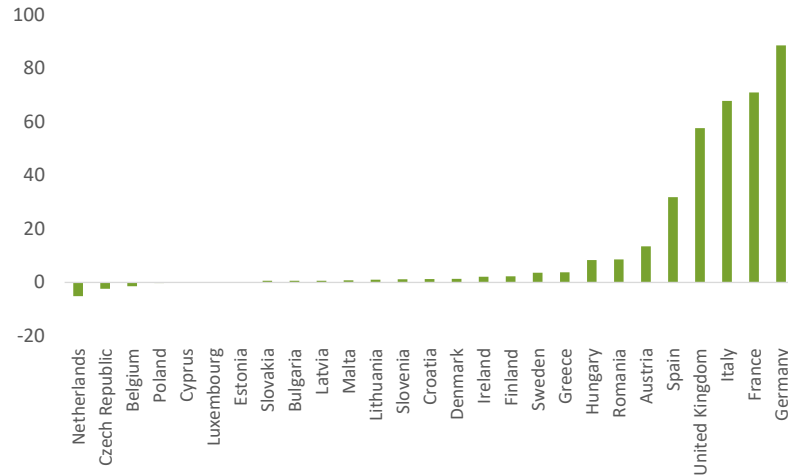
3.1 Outstanding debt securities issued by Central Governments (Nominal, EUR tn)



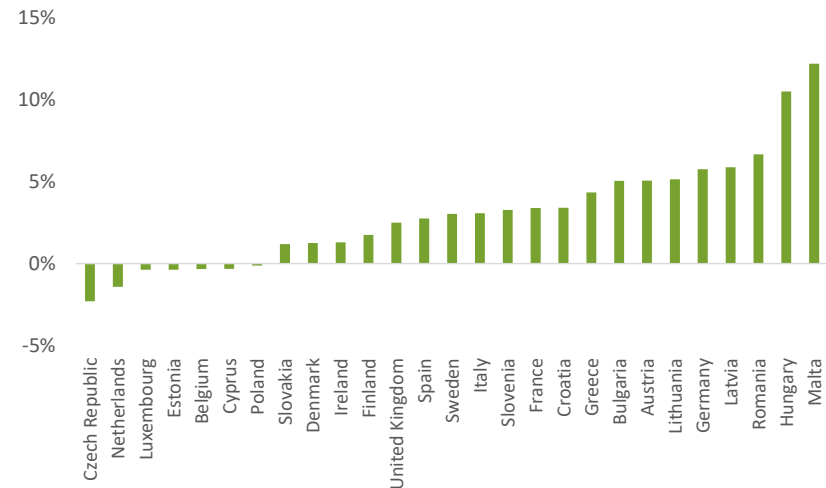
3.2 European government bonds outstanding by country (EUR tn)



3.3 Change in outstandings 2Q21 to 3Q21 (EUR bn)



3.4 Change in outstandings from 2Q21 to 3Q21 (%)

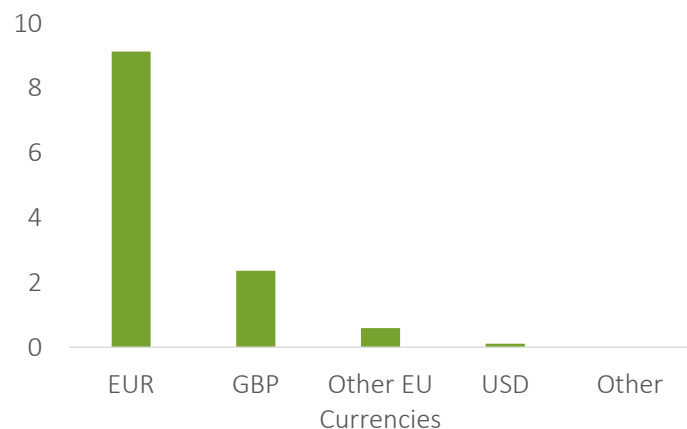


Source: ECB, Thomson Reuters Eikon and UK DMO.

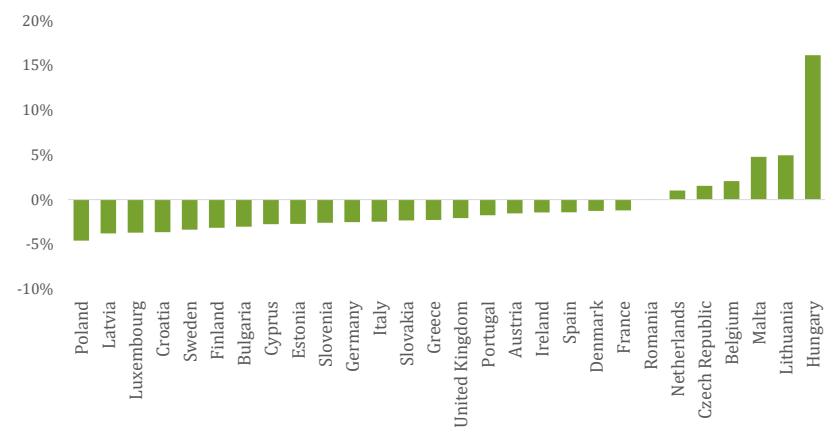
3.5 Average years to maturity for outstanding government bonds in European (EU+UK) countries



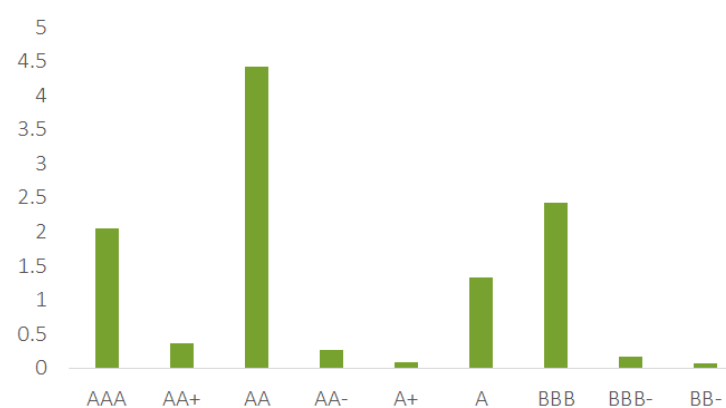
3.7 European government bonds outstanding by currency (EUR tn)



3.6 Quarterly change in weighted average years to maturity for outstanding government bonds 2Q21 to 3Q21



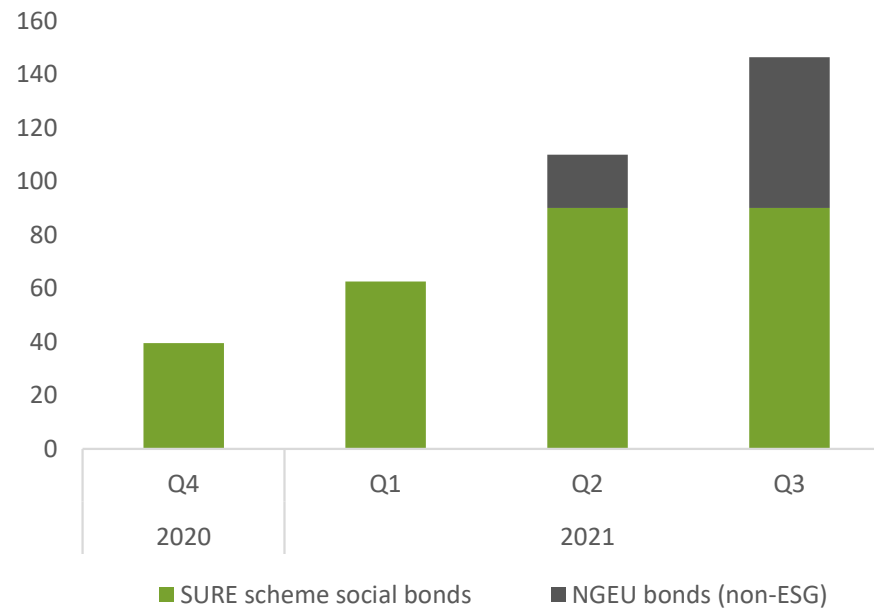
3.8 European government bonds outstanding by current rating of issuer (EUR tn)



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

Outstandings: European Commission bonds

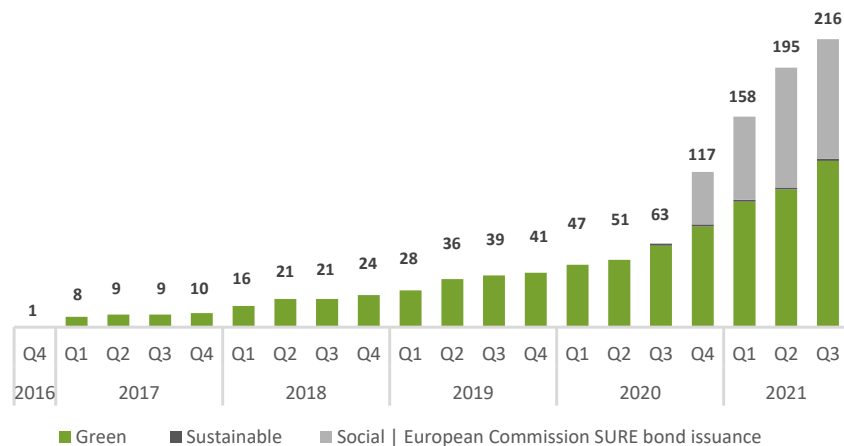
3.9 Outstanding debt securities issued by the European Commission (EUR bn)



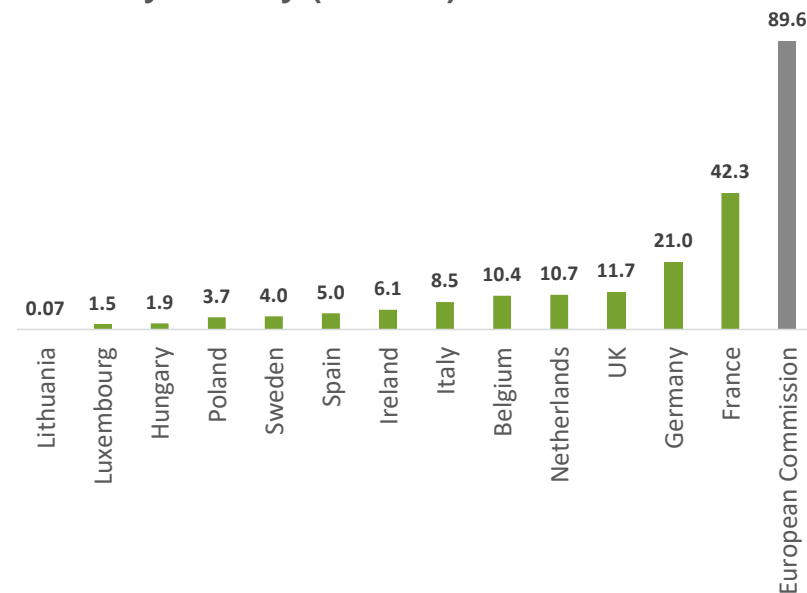
Source: European Commission. **NGEU** refers to bond issuance by the European Commission under the NextGenerationEU scheme. Chart 3.9 does not include the inaugural EUR 12.0 bn green bond issued by the European Commission under the NGEU scheme which took place in 4Q21.

Outstandings: ESG Bonds

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



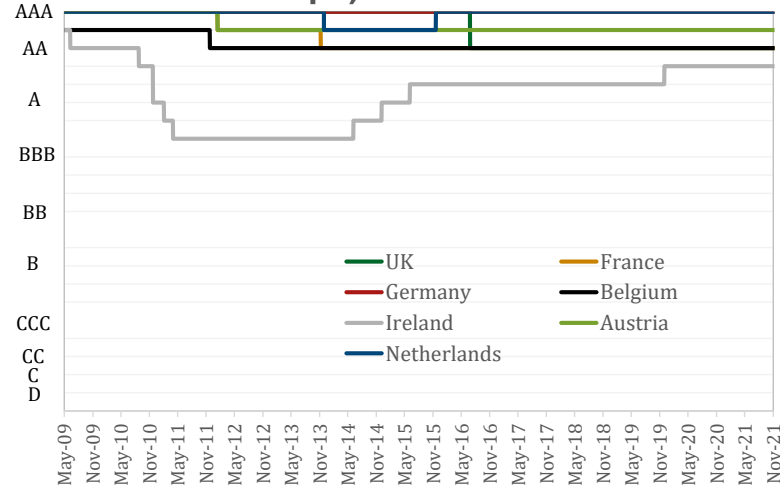
3.10 European outstanding ESG government bonds by country (EUR bn)



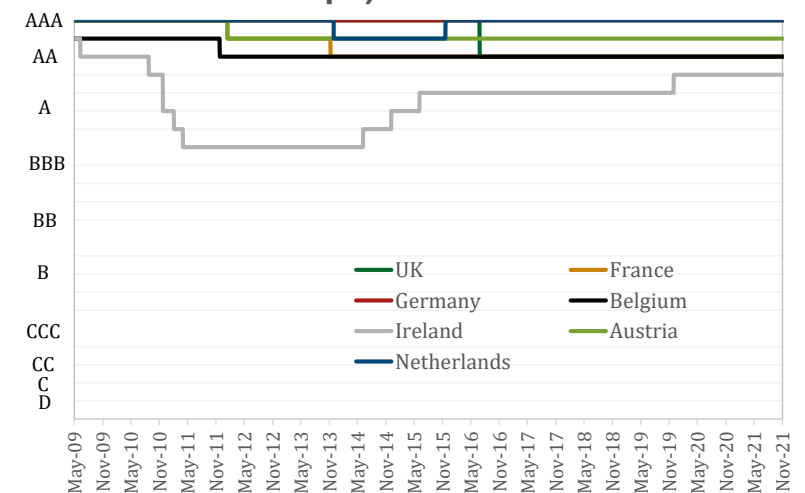
Source: Thomson Reuters Eikon, European Commission. All outstanding social bond volumes in Chart 3.9 are issued by the European Commission.

Credit Quality

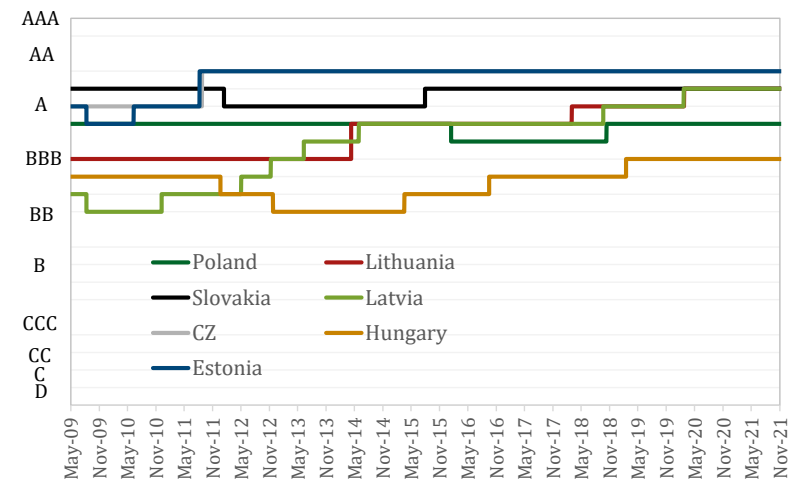
4.1 Long-term sovereign credit rating (Central and Northern Europe)



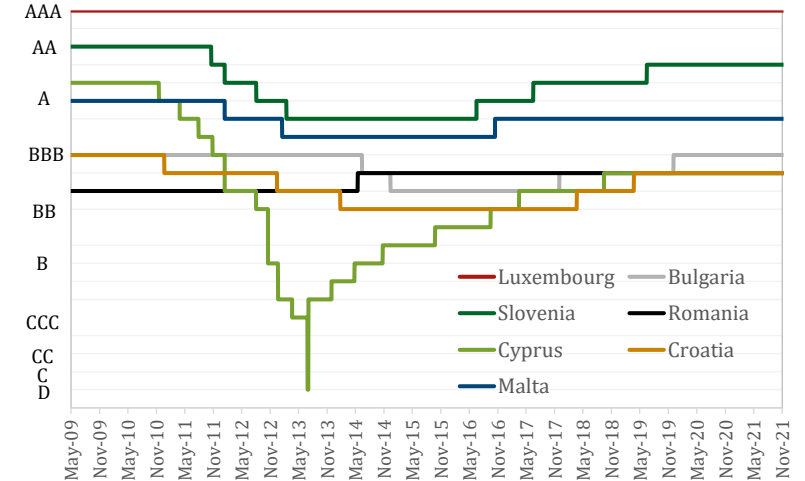
4.2 Long-term sovereign credit rating (Nordics and Southern Europe)



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



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



Source: Thomson Reuters Eikon

4.5 European rating actions on long-term sovereign credit ratings (2021 YtD)

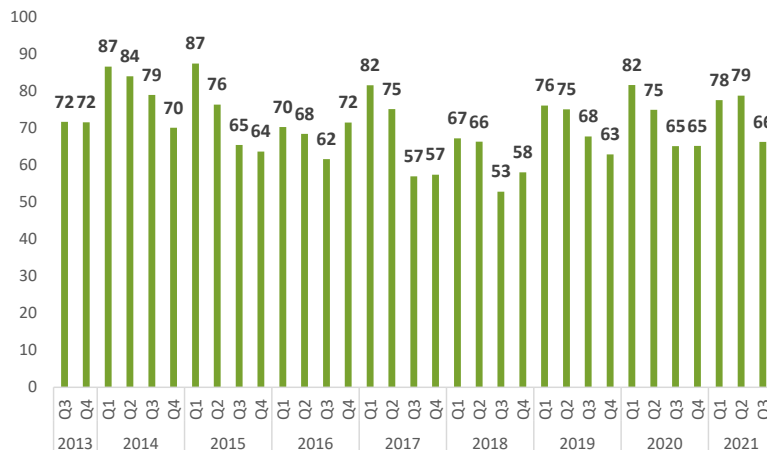
Issuer	Rating Action	Date	Rated by	Rationale
Lithuania	Upgrade to A2 (positive) from A3	Feb-21	Moody's	Strong medium-term growth prospects, supported by increased EU-funded investment and structural reforms to raise productivity growth
Greece	Upgrade to BB (positive) from BB-	Apr-21	S&P	Expectation of rapid improvement in Greece's economic and budgetary performance as the adverse impacts of the COVID-19 pandemic subside
Cyprus	Upgrade to Ba1 (stable) from Ba2	Jul-21	Moody's	Improvement in the underlying credit strength of the domestic banking system and limited impact of the pandemic on supply side due to national support measures and sizeable EU funding limit
Portugal	Upgrade to Baa2 (stable) from Baa3	Sep-21	Moody's	Improved expectations in longer-term growth prospects and confidence the debt burden will decline in coming years due to stronger economic growth and fiscal policy making
Hungary	Upgrade to Baa2 (positive) from Baa3	Sep-21	Moody's	Economic resilience underpinned by strong growth rebound throughout H1 2021, helped by effective fiscal and monetary policies, further complimented by a strong medium-term outlook building on robust investment.
Croatia	Upgrade to BBB (positive) from BBB-	Nov-21	Fitch	Expectation of Croatia adopting the Euro in January 2023, ahead of previous expectations of 2024. Direct positive impacts of euro adoption such as reserve currency flexibility improve the sovereign rating model output.

Source: Fitch, Moody's, S&P

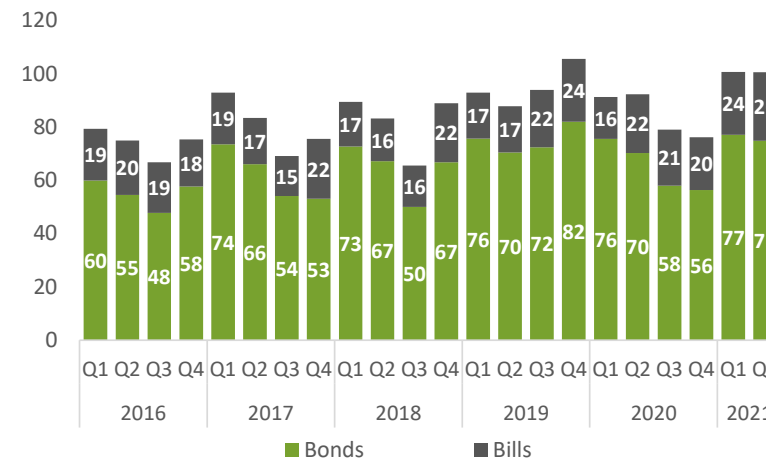
Secondary Market Trading Volumes and Turnover Ratios

Secondary Market Trading Volumes and Turnover Ratios

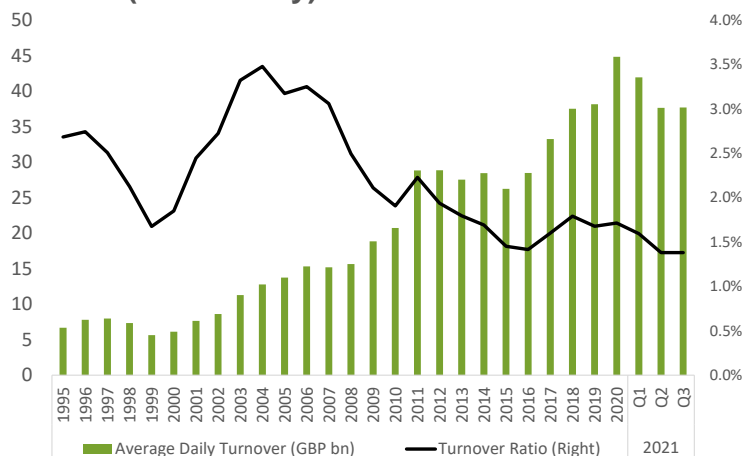
5.1 EU + UK: Average daily trading volumes (Government and sovereign bonds, EURbn)



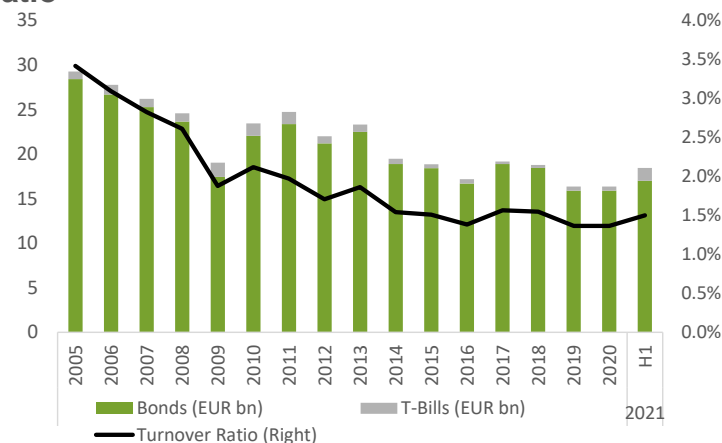
5.2 Eurozone: Average daily trading volume (bonds and bills, EURbn)



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



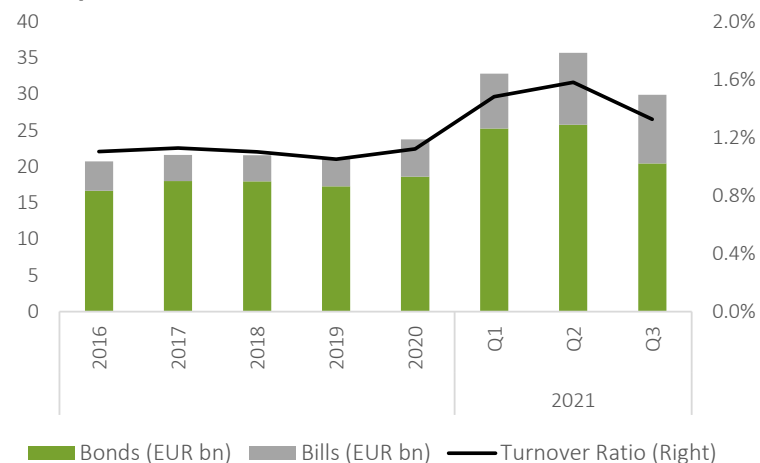
5.4 Germany: Average daily trading volume (aggregated bonds and bills) and turnover ratio



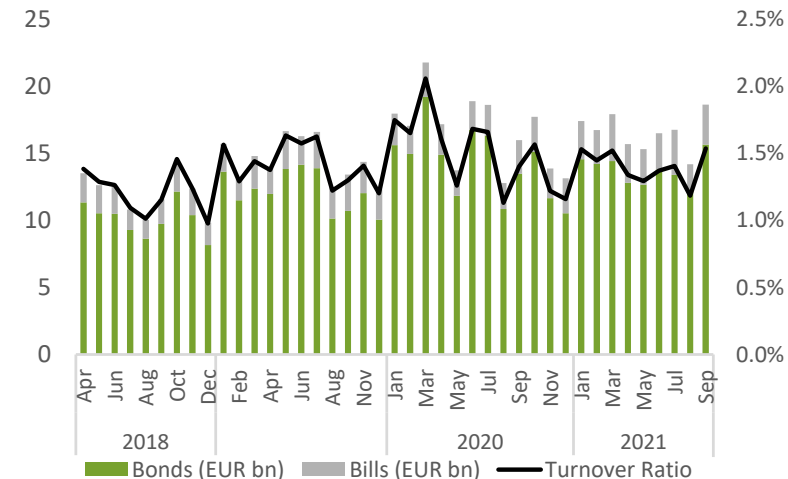
Source: Trax, a MarketAxess subsidiary, EFC Sub-Committee on EDSM, UK Debt Management Office, Deutsche Finanzagentur, ECB. Individual country volumes do not sum to aggregated trading volume in Chart 5.1 EU+UK, given the differences in the aggregation basis across jurisdictions. The data is not fully comparable between countries. Full Methodology available on page 33 of this report.

Secondary Market Trading Volumes and Turnover Ratios

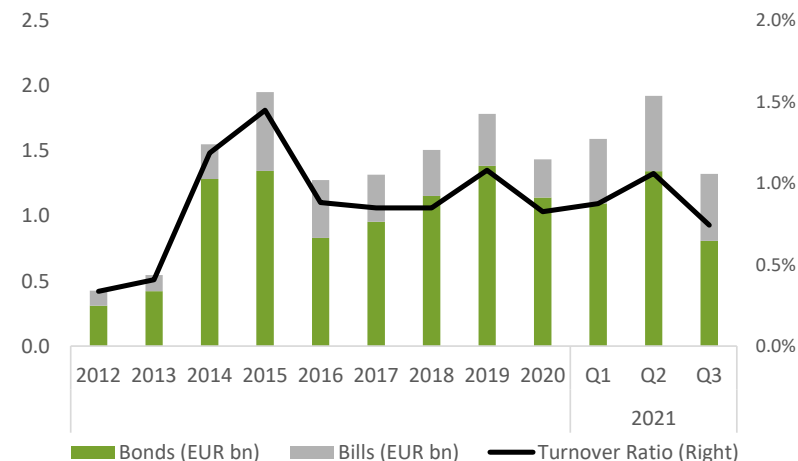
5.5 Italy: Average daily trading volume (bonds and bills) and turnover ratio



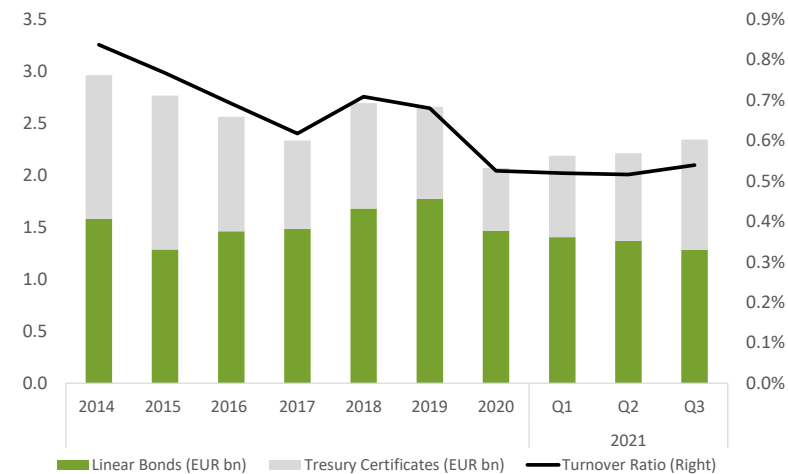
5.6 Spain: Average daily trading volume and turnover ratio



5.7 Portugal: Average daily trading volume and turnover ratio



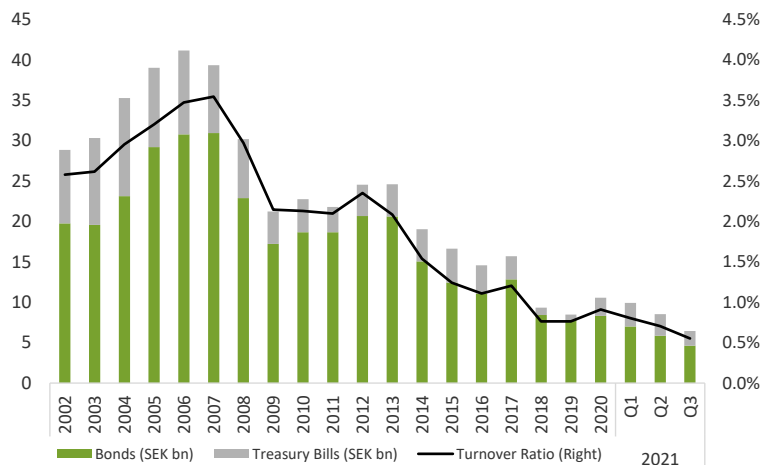
5.8 Belgium: Average daily trading volume and turnover ratio



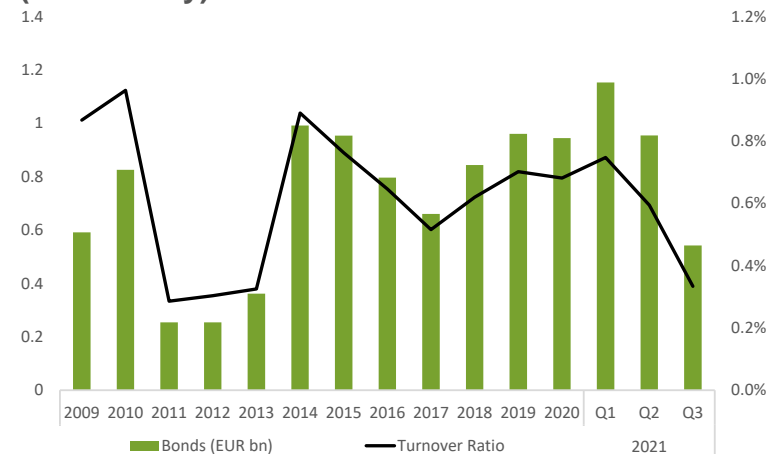
Source: ECB, Italian Dipartimento del Tesoro, BME Market Data and Tesoro Publico de Espana, Agência de Gestão da Tesouraria e da Dívida Pública (IGCP), ECB, Belgian Debt Agency. **Given the differences in the aggregation basis across jurisdictions, the data is not fully comparable between countries. Full Methodology available on page 33 of this report.**

Secondary Market Trading Volumes and Turnover Ratios

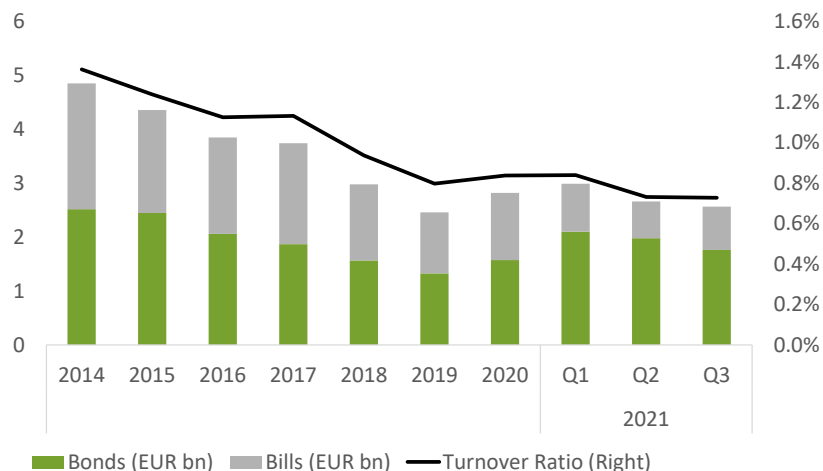
5.9 Sweden: Average daily trading volume and turnover ratio



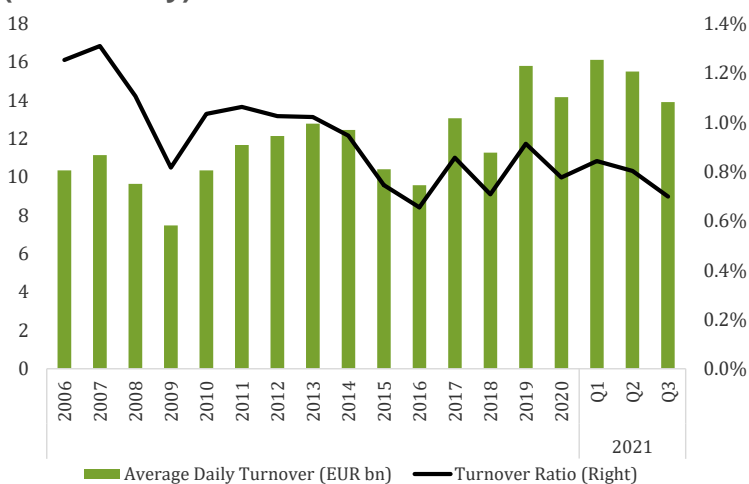
5.10 Ireland: Average daily trading volume (bonds only) and turnover ratio



5.11 Netherlands: Average daily trading volume and turnover ratio



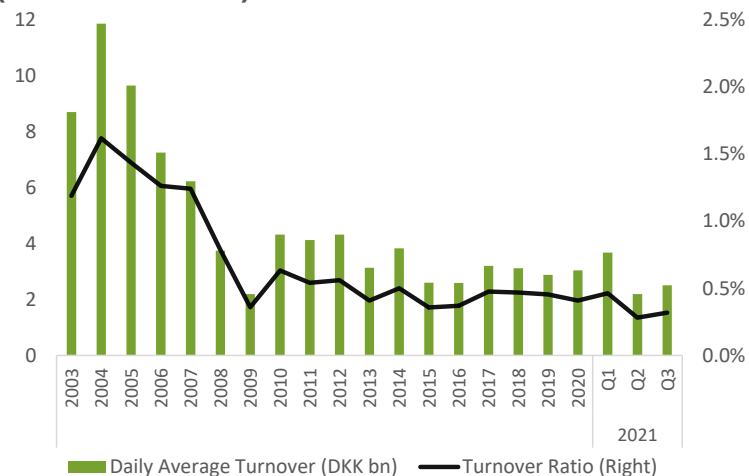
5.12 France: Average daily trading volume (bonds only) and turnover ratio



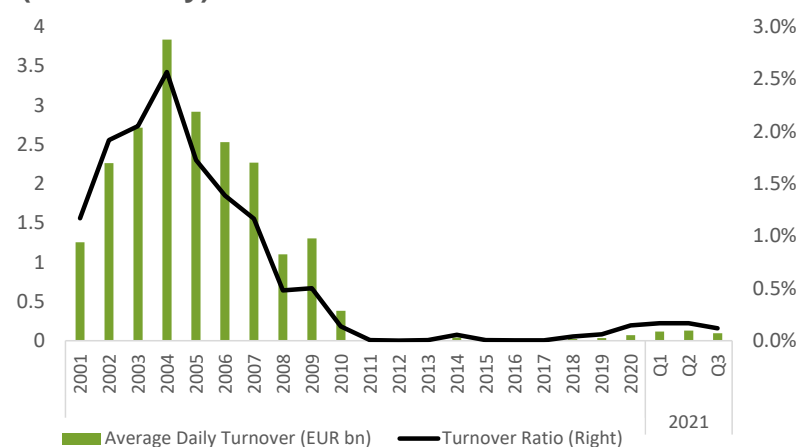
Source: ECB, Swedish National Debt Office (Riksgalden), Irish Stock Exchange, Ministerie van Financien, Agence France Tresor. **Given the differences in the aggregation basis across jurisdictions, the data is not fully comparable between countries. Full Methodology available on page 33 of this report.**

Secondary Market Trading Volumes and Turnover Ratios

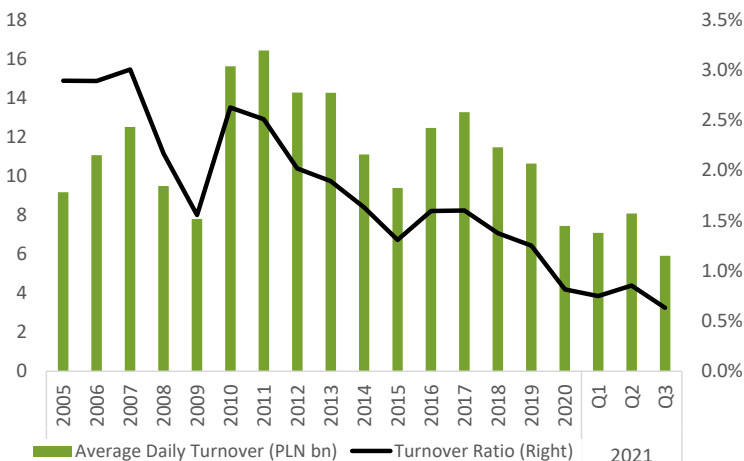
5.13 Denmark: Average daily trading volume (bonds and bills) and turnover ratio



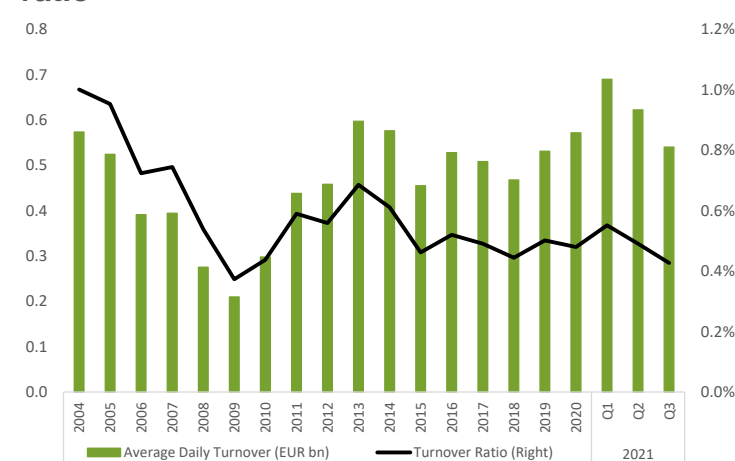
5.14 Greece: Average daily trading volume (bonds only) and turnover ratio



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



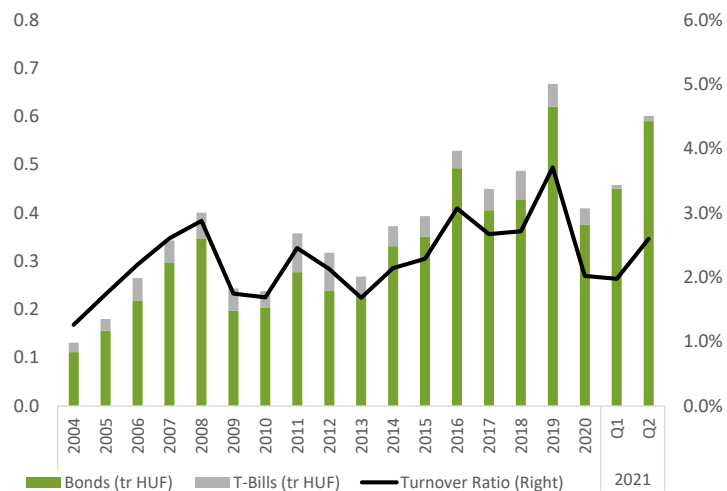
5.16 Finland: Average daily trading volume (aggregated bonds and bills) and turnover ratio



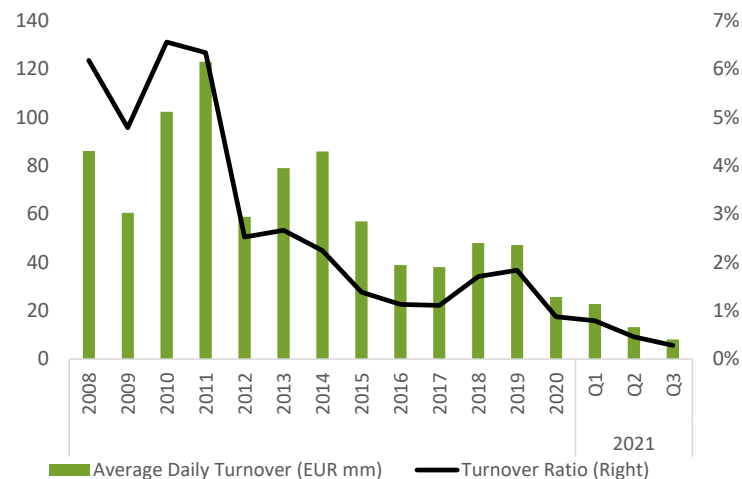
Source: Denmark's Nationalbank, Bank of Greece, ECB, National Depository for Securities (NDS), VSE, Finland Valtiokonttori. **Given the differences in the aggregation basis across jurisdictions, the data is not fully comparable between countries. Full Methodology available on page 33 of this report.**

Secondary Market Trading Volumes and Turnover Ratios

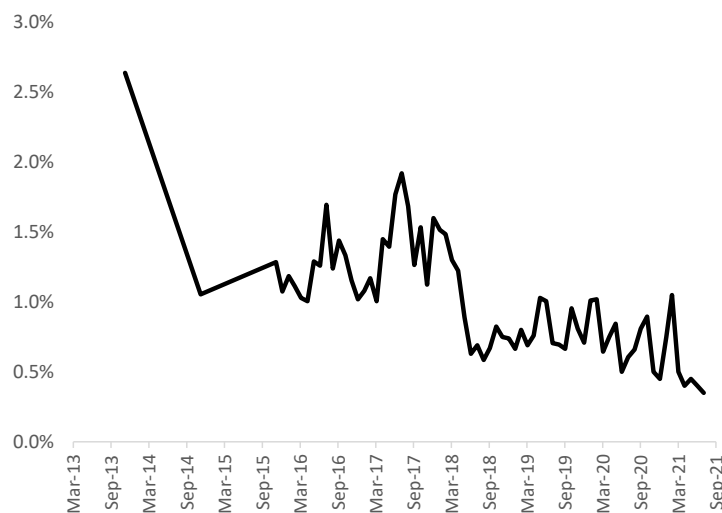
5.17 Hungary: Average daily trading volume and turnover ratio



5.18 Bulgaria: Average daily turnover volume and turnover ratio

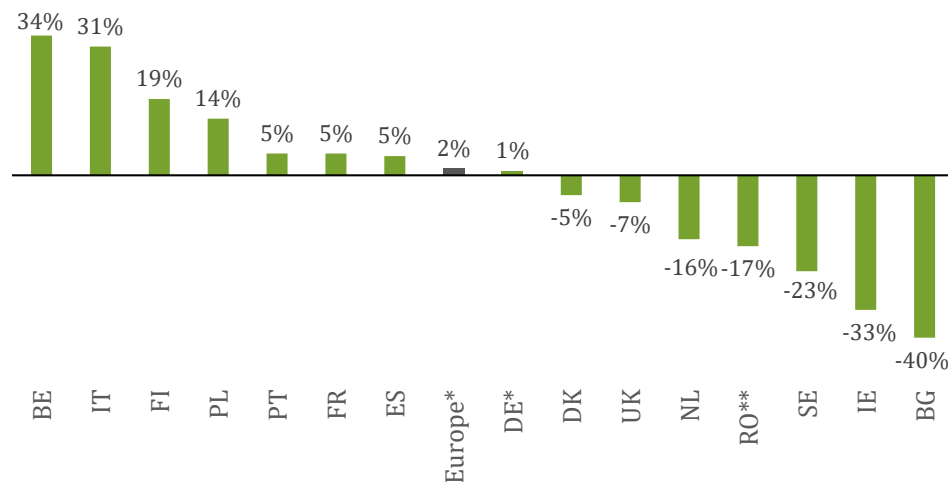


5.19 Romania: Average daily turnover ratio

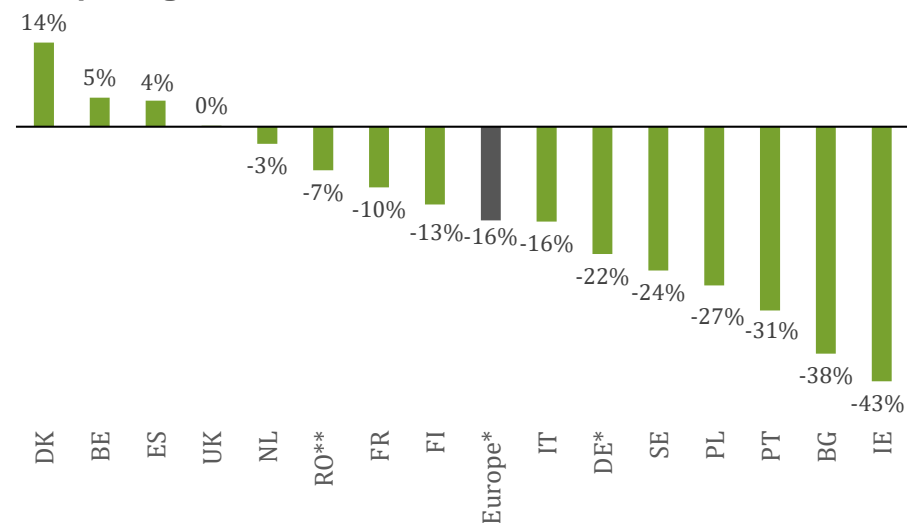


Source: ECB, AKK, Ministry of Finance of the Republic of Bulgaria, Ministerul Finantelor. **Given the differences in the aggregation basis across jurisdictions, the data is not fully comparable between countries. Full Methodology available on page 33 of this report.**

5.20 Annual change in average daily turnover volumes of European government bonds: 3Q20 to 3Q21



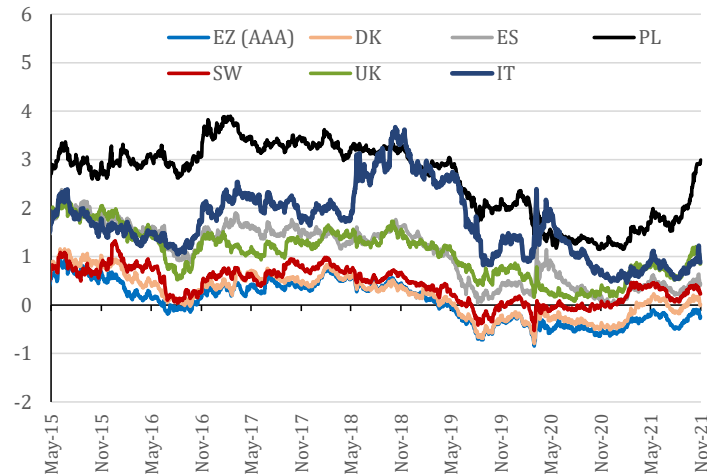
5.21 Quarterly change in average daily turnover volumes of European government bonds: 2Q21 to 3Q21



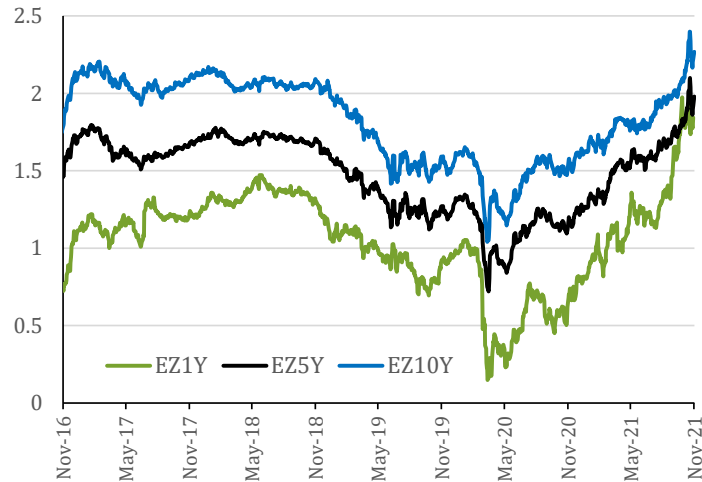
Source: AFME with information from European DMOs and other agency sources. See section 5 for details on aggregation basis and sources. *Europe (EU+UK) total and Germany is sourced from Trax Facts as the quarterly variation of average daily volumes of government and sovereign bonds. **Romanian turnover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

Valuations

6.1 Selected European 10Y spot yields

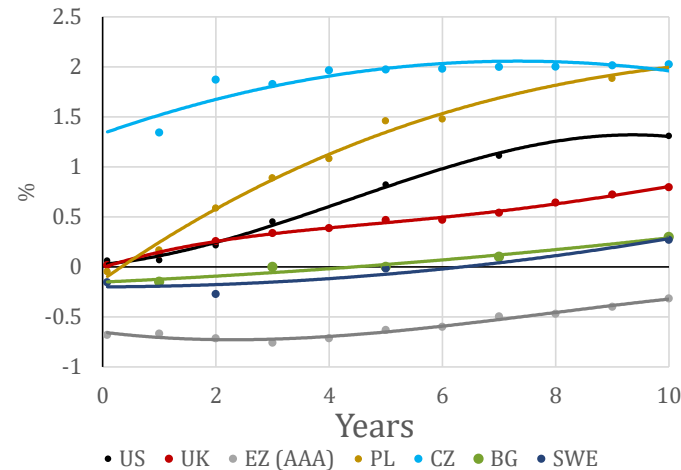


6.4 Market-implied inflation expectations (EuroZone)

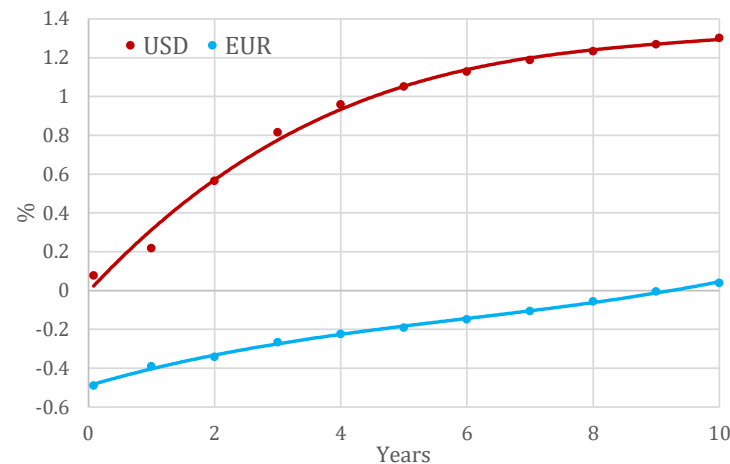


Source: ECB and Thomson Reuters Eikon

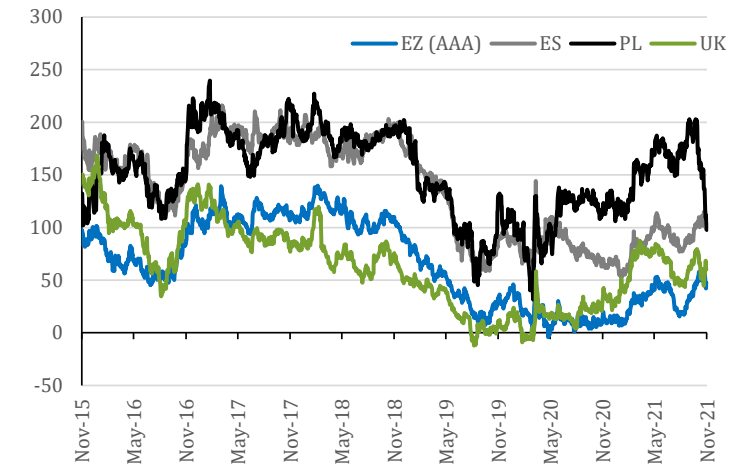
6.2 Sovereign spot yield curve of selected jurisdictions: 8 November 2021



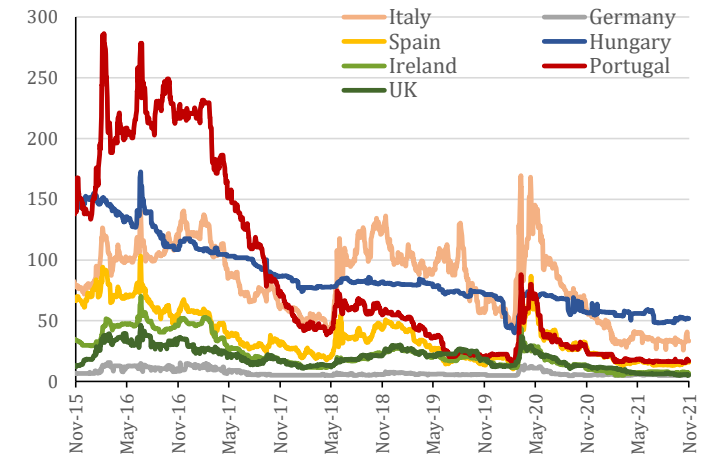
6.5 Overnight index swap (OIS) yield curve: 8 November 21



6.3 Slope: 1Y10Y spread (bps)



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



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 Hungary: Turnover on MTS Hungary and Keler OTC.

5.18 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.

5.19 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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