

Q3 2023

# Government Bond Data Report

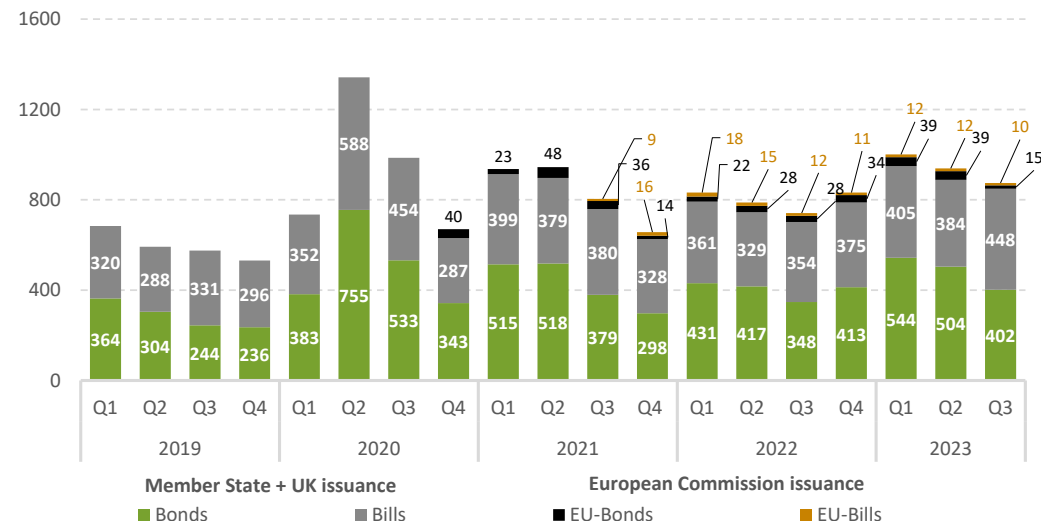
European market data update



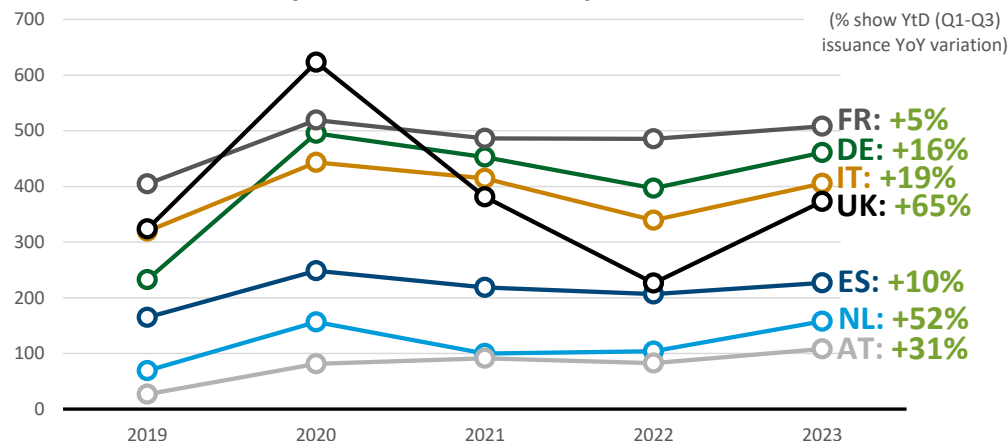
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# Highlights and Market Environment

## 1. European (EU+UK) government bond and bill issuance (EUR bn, 2019-2023YtD)



## 2. YtD (Q1-Q3) total (bond and bill) government issuance in selected countries (EUR bn, 2019-2023)



Source: ECB, National Debt Management Offices and UK Debt Management Office

<sup>1</sup>Total EU+UK bond and bill issuance and percentage changes may show minor variations, including to that shown in Chart.1, due to rounding.

**EUR 875 bn bonds and bills issued in Q3 2023 as European quarterly issuance volumes increase 18% (YoY)**

Total quarterly gross issuance in Europe (EU Member States, UK and EU Commission) was EUR 875 bn during Q3 2023, up 18% compared to Q3 2022 (YoY) and down 7% from Q2 2023 (QoQ) (see Chart 1).

Excluding institutional issuance from the EU Commission, EU Member States and the UK issued EUR 850 bn in bonds and bills during 3Q23<sup>1</sup>, representing an increase of 21% (YoY) and a decrease of 4% (QoQ).

The EU Commission issued an additional EUR 15 bn in EU-bonds and EUR 10 bn in EU-bills during Q3 2023, which represented 2.8% of total European sovereign issuance in Q3 2023, down from 5.4% in Q2 2023.

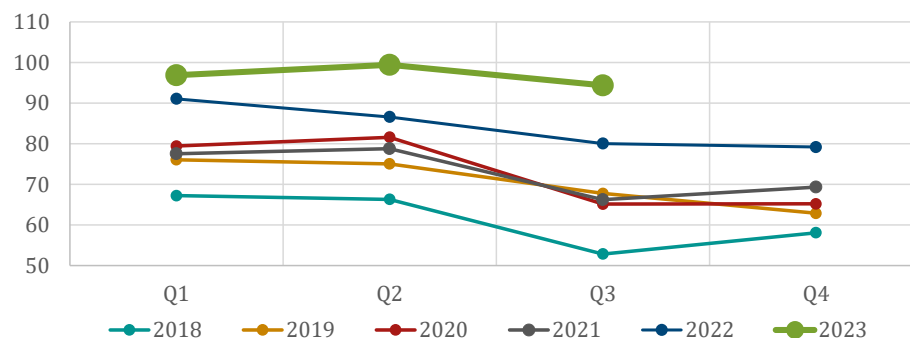
In 2023 year-to-date, most major sovereign markets have seen double digit growth in nominal gross issuance. See Chart 2.

In the Netherlands, total (bond and bill) issuance in 2023 year-to-date represents the highest Q1-Q3 issued volume since 2013, with issuance up 52% compared to the same period in 2022. In Austria, issuance in 2023 represents the highest volumes issued in Q1-Q3 of any year to date, exceeding the previous high recorded in Q1-Q3 2020.

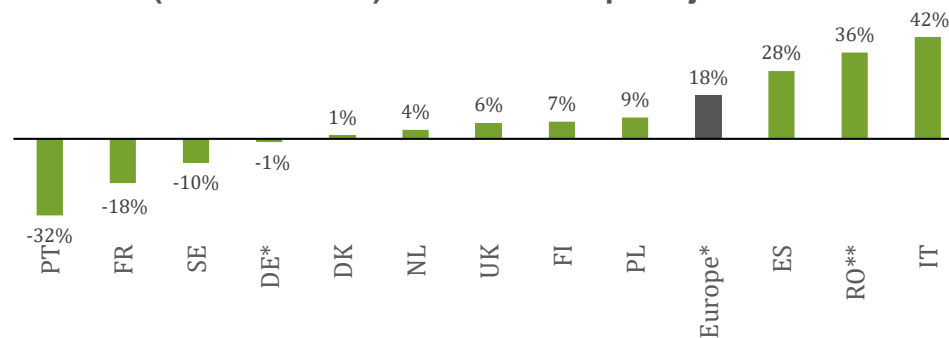
In the UK, year-to-date volumes were up 65% YtD as of September 2023, compared to the first three quarters of last year. Despite the large issued amount, the average bid-cover ratio for UK auctions has not materially changed and was at 3.1 for Q3 2023, up slightly from 2.9 in both Q2 2023 and 2022FY.

## Highlights and Market Environment

### 3. European Government bond average daily trading volumes (EUR bn)



### 4. Annual changes in Government Bond average daily trading volumes (2Q23 vs 2Q22) Selected European jurisdictions



### 5. Quarterly changes in Government Bond average daily trading volumes (3Q23 vs 2Q23) Selected European jurisdictions



Source: AFME with information from European DMOs and other agency sources and MarketAxess TraX. \*Europe (EU+UK) total and German turnover is sourced from MarketAxess TraX as the quarterly variation of average daily volumes of government and sovereign bonds.

## Average daily trading volume in European (EU+UK) government bonds remains elevated during Q3 2023

According to MarketAxess TraX, trading volumes remained strong during Q3 2023, increasing 18% (YoY) and decreasing 5% (QoQ).

Elevated levels of sovereign bond trading, as recorded by MarketAxess TraX, have continued throughout 2023 with the top 3 quarters for highest average daily trading volumes (since 2014) all taking place in 2023 year-to-date (see Chart 3).

Average daily trading volumes of European government bonds were supported by a significant increase in trading in Bulgaria (2895% YoY – not shown in Chart.4 as to not distort axis), Italy (42% YoY), Romania (36% YoY), Spain (28% YoY), Poland (9% YoY) and Finland (7% YoY) and the UK (6% YoY). There was a decrease in trading in Portugal (-32% YoY), France (-18%) and Sweden (-10% YoY) (see Chart 4).

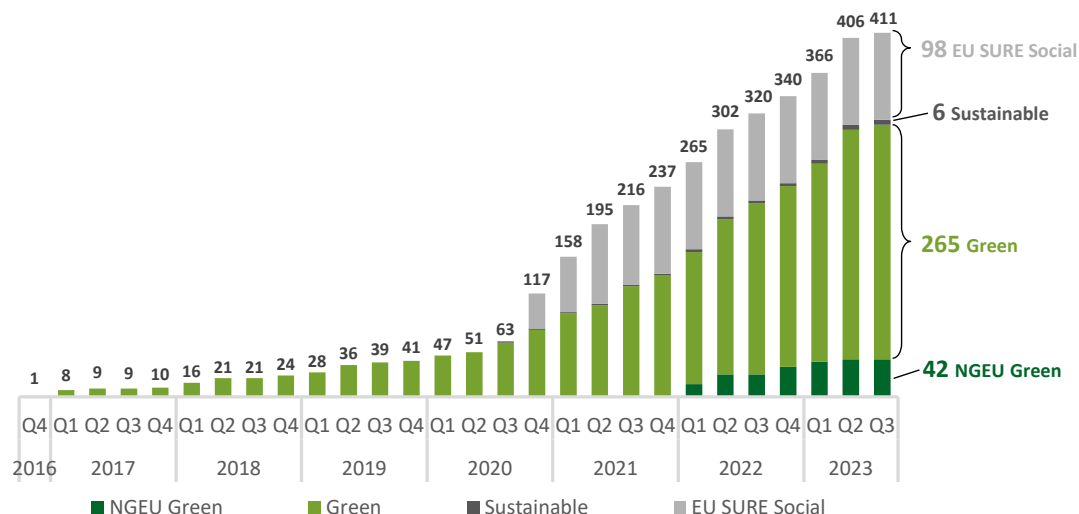
In Italy, trading volumes increased 42% YoY and 3% QoQ during 3Q23, which represented the highest quarterly trading volume for Italian bonds and bills for a third-quarter. This was driven by highest monthly turnover volume on record being traded in September 2023 (AFME records begin in Jan-2016).

Trading volumes continued to surge in Bulgaria, with volumes in 3Q23 up 2895% (YoY) and 76% (QoQ) following the second-highest monthly turnover volume on record being traded in July 2023, which coincided with the formation of the current government (see Chart 5).

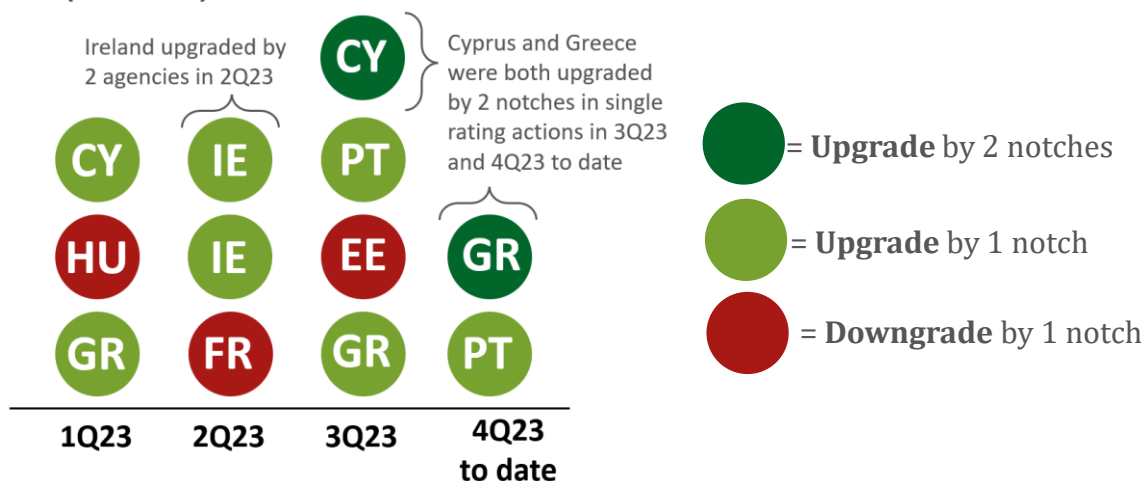


## Highlights and Market Environment

### 6. European outstanding ESG sovereign bonds (EUR bn, 2016-2023)



### 7. European rating actions on long-term sovereign credit ratings (2023YtD)



Source: Refinitiv Eikon [Chart 6]. Fitch, Moody's, S&P [Chart 7].

### Outstanding amount of European government ESG bonds surpass EUR 411 bn as issuance slows during Q3 2023.

Outstanding amount of ESG government bonds reached EUR 411 bn during 3Q23 (see Chart 6), with volumes driven by tap issuance by the UK (EUR 3.1 bn), Germany (EUR 1.5 bn) and France (EUR 1.0 bn), in their respective green bond programmes. Austria issued an additional EUR 1.5 bn in green bills during 3Q23, as volumes maturing were rolled over into new issuance as part of its short-term green issuance programme. The outstanding volume of ESG sovereign bonds grew by 1% in Europe as of September 2023, after subdued new issuance during 3Q23. This follows a record quarter in 2Q23 when the outstanding volume of European sovereign ESG bonds increased by 11%.

Most recently in 4Q23 to date, the European Commission has issued EUR 4.7 bn via tap issuance of existing green references, following no green issuance during 3Q23. The UK and Spain have also tapped their green bonds issuing an additional EUR 2.3 bn and EUR 1.9 bn respectively.

### During 3Q23 there were 3 upgrades and 1 downgrade in long-term credit rating changes for European nations

This follows 2 upgrades and 1 downgrade in both 1Q23 and 2Q23, bringing the 2023 year-to-date total to 9 upgrades and 3 downgrades (there were 2 further upgrades and no downgrade in 4Q23 to date).

Cyprus, and most recently Greece, have both been upgraded by 2 notches in single rating actions, with improvements in credit rating driven by encouraging progress in ongoing economic and fiscal reforms (see Chart 7).

Notably, in Greece the upgrade has increased the credit rating of the country to investment grade, representing the first time since 2010 Greece has achieved this category of credit profile by one of the main credit rating agencies.

## Major upcoming regulatory, legislative and policy initiatives

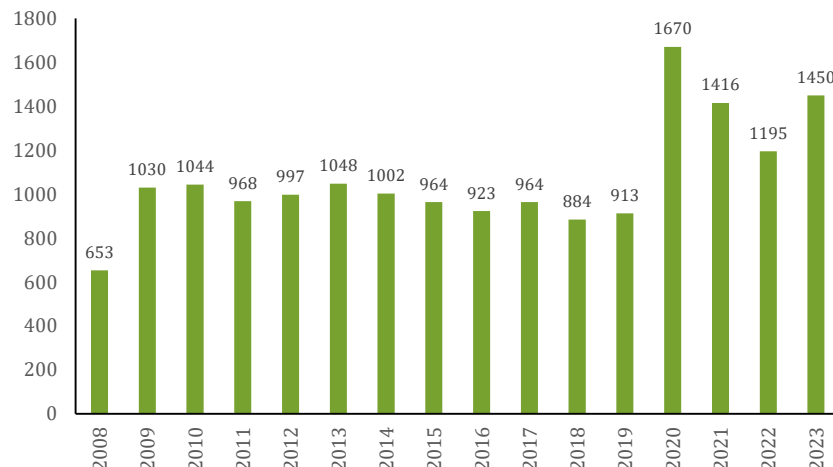
There are several regulatory initiatives currently being considered at the European and national level with expected impact on the government bond markets. Some of the key initiatives recently implemented or soon to be applied include:

- MIFIR Level 2 Changes
- Basel III
- CSDR
- Fundamental Review of the Trading Book (FRTB)
- Prospectus Regulation

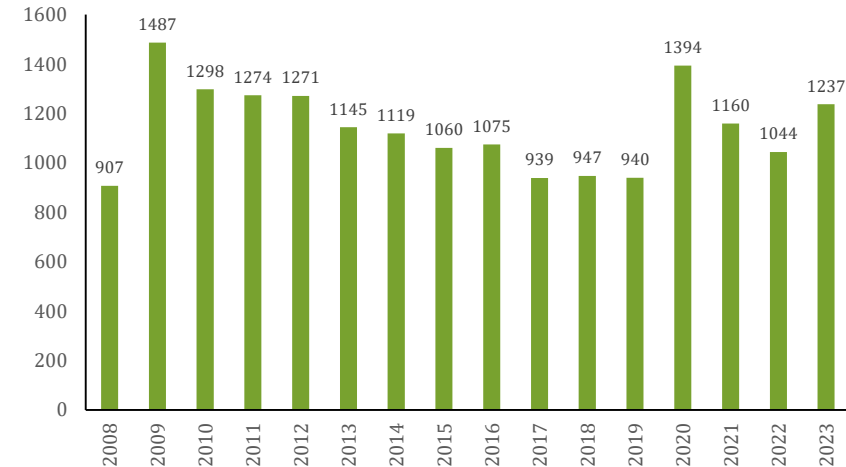
AFME and its members actively contribute on all of these and other initiatives.

# Issuance

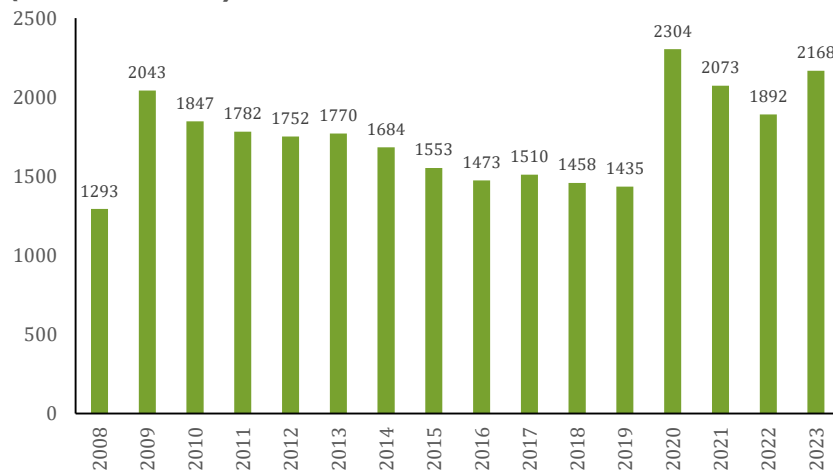
## 1.1 European (EU+UK) Government Bond gross issuance (YtD, EUR bn)



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



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



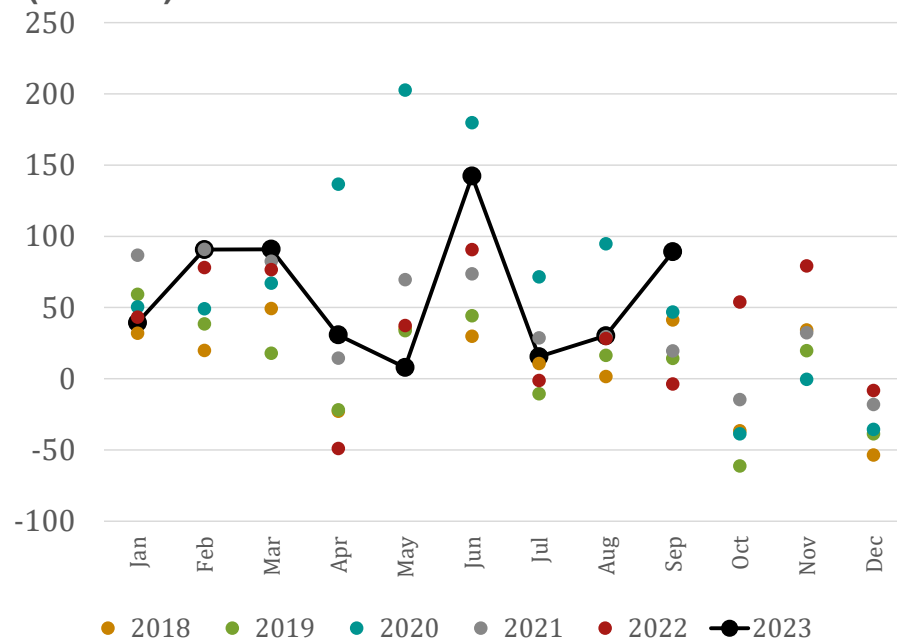
## 1.4 Non-Eurozone bonds and bills gross issuance (YtD, EUR bn)



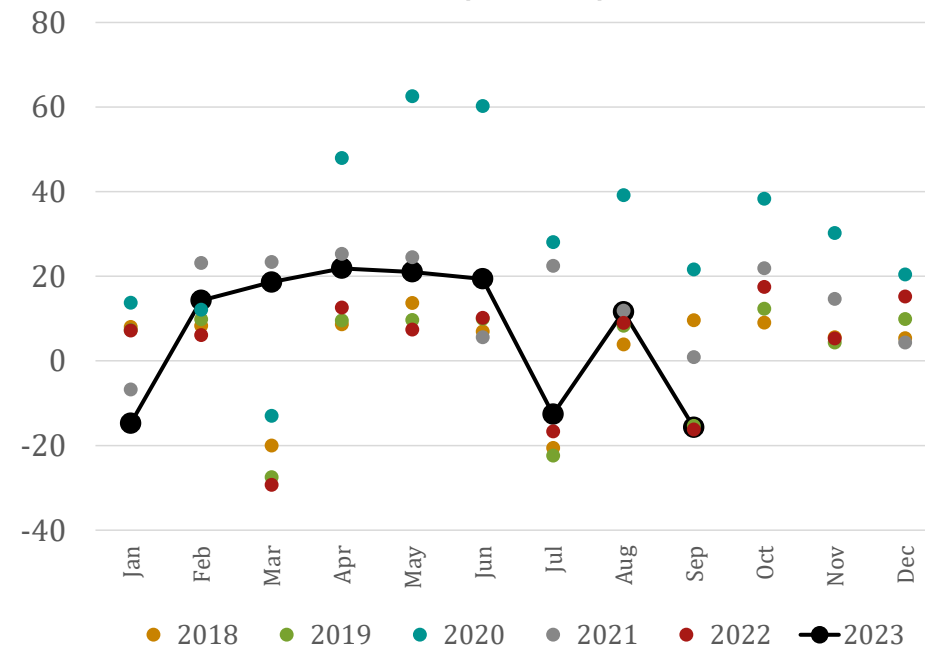
Source: ECB, National Debt Management Offices and UK Debt Management Office. YtD implies Q1-Q3.  
Data on this page excludes EU Commission issuance (ie. NGEU, SURE) and includes debt issued from EU Member States and the UK only.



**1.5 Euro area net sovereign debt issuance (EUR bn)**



**1.6 UK Gilts net issuance (GBP bn)**

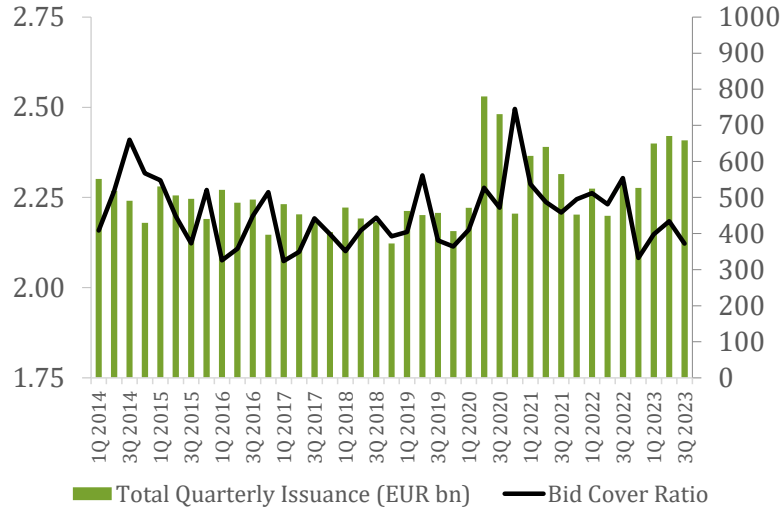


Source: ECB and UK Debt Management Office.

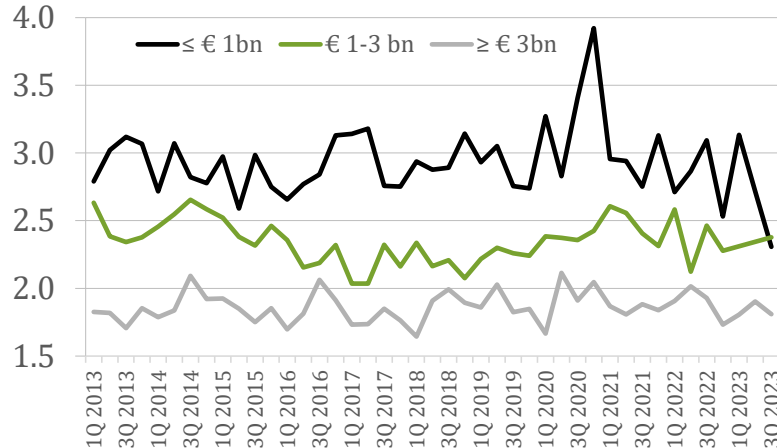
# Recent Auctions and Primary Dealers

# Recent Auctions

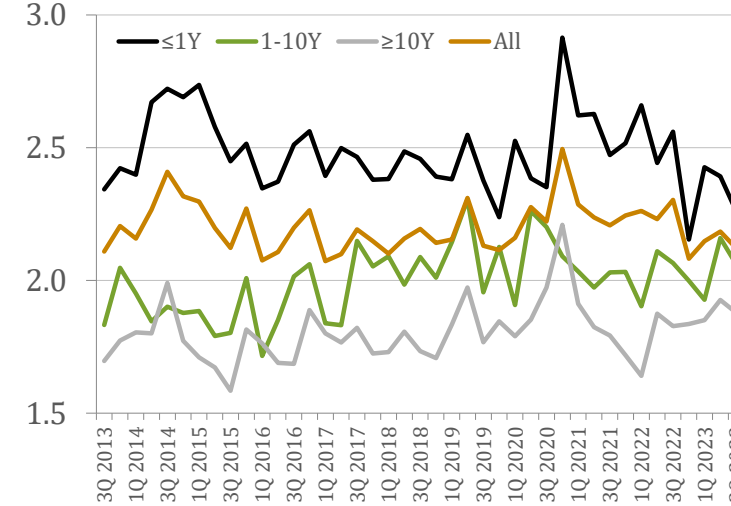
**2.1 Average bid-cover ratios and issued volumes in selected jurisdictions (EUR bn)**



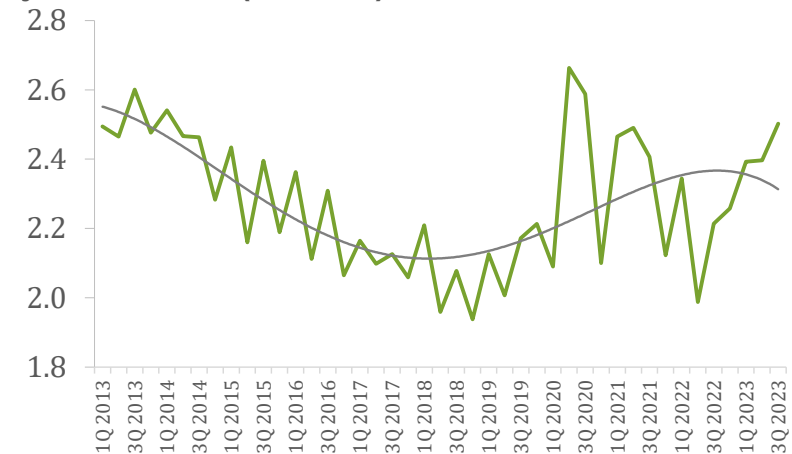
**2.3 Average bid-cover ratios by size of issued instruments**



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

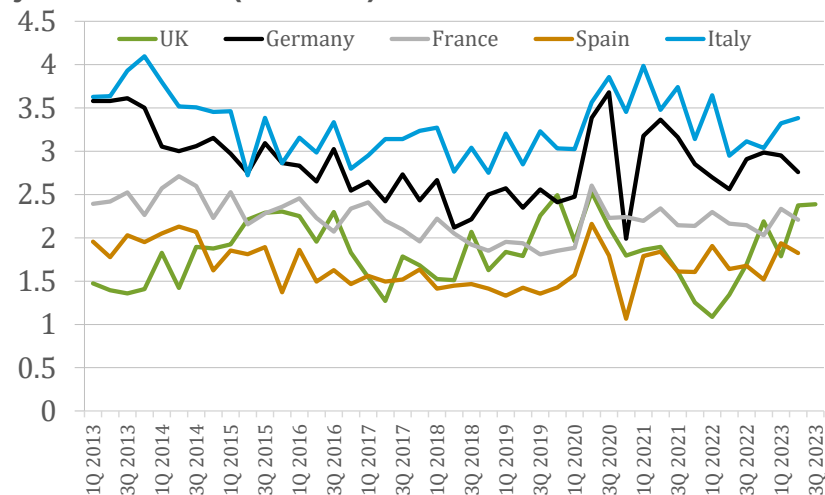


**2.4 Average auction size in selected European jurisdictions (EUR bn)**

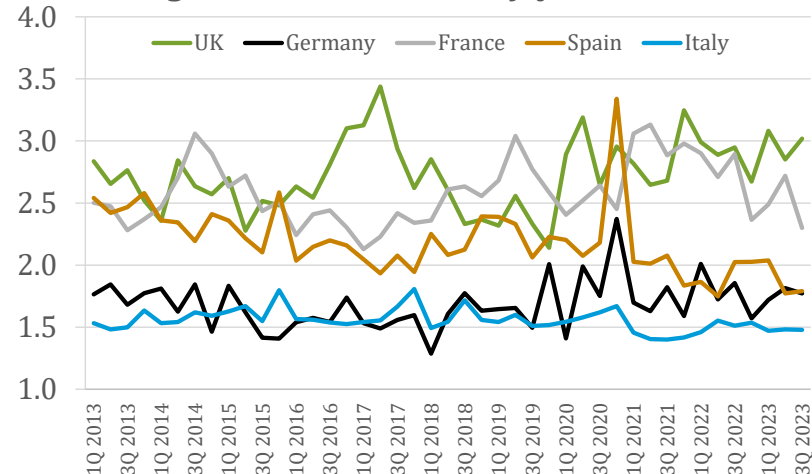


Source: Refinitiv Eikon. Weighted Average of UK, DE, FR, ES, IT, BE, SE, NL, DK and AT bonds and bills. In chart 2.4 polynomial trendline shown in grey.

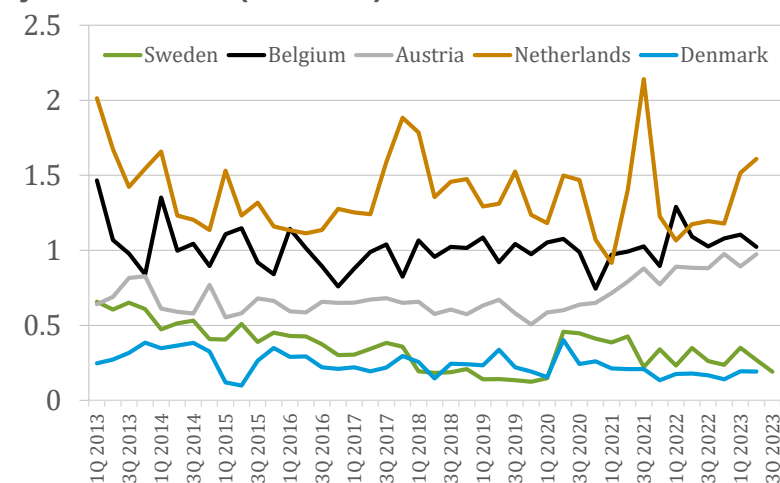
**2.5 Average auction size in selected jurisdictions (EUR bn)**



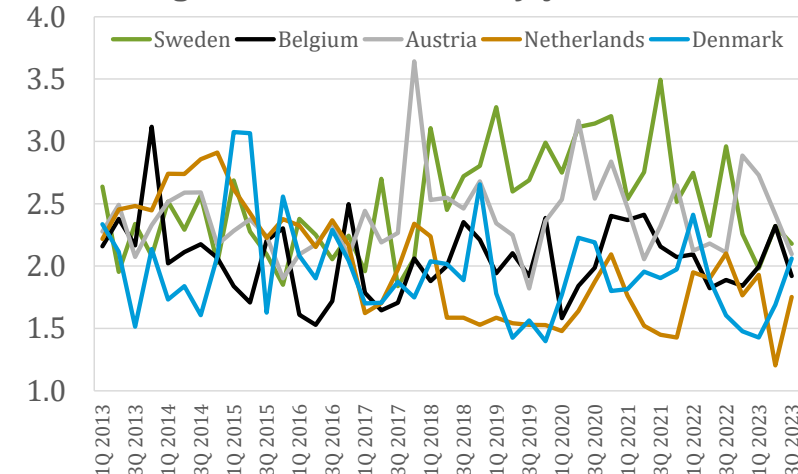
**2.7 Average bid-cover ratios by jurisdictions**



**2.6 Average auction size in selected jurisdictions (EUR bn)**

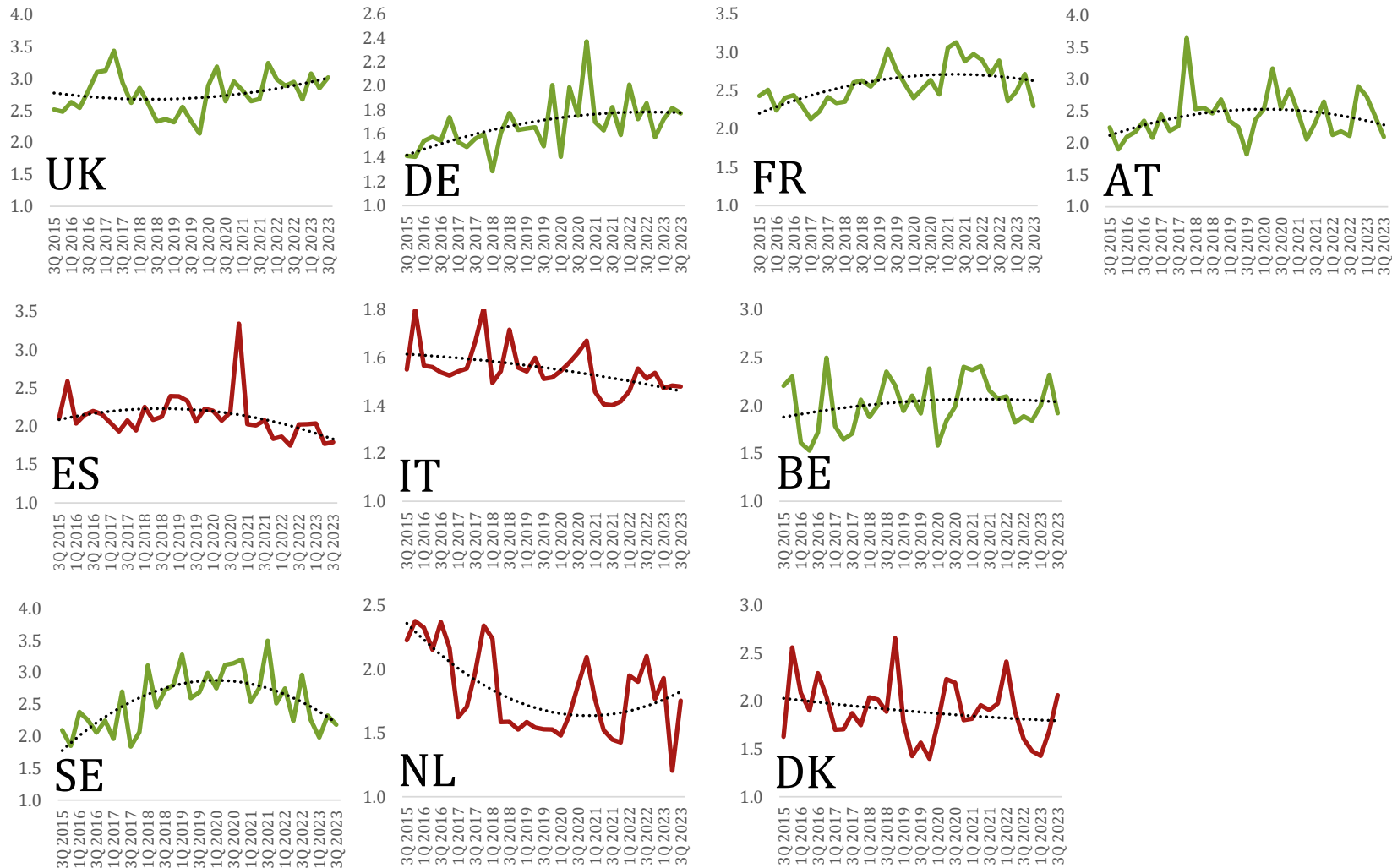


**2.8 Average bid-cover ratios by jurisdictions**



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

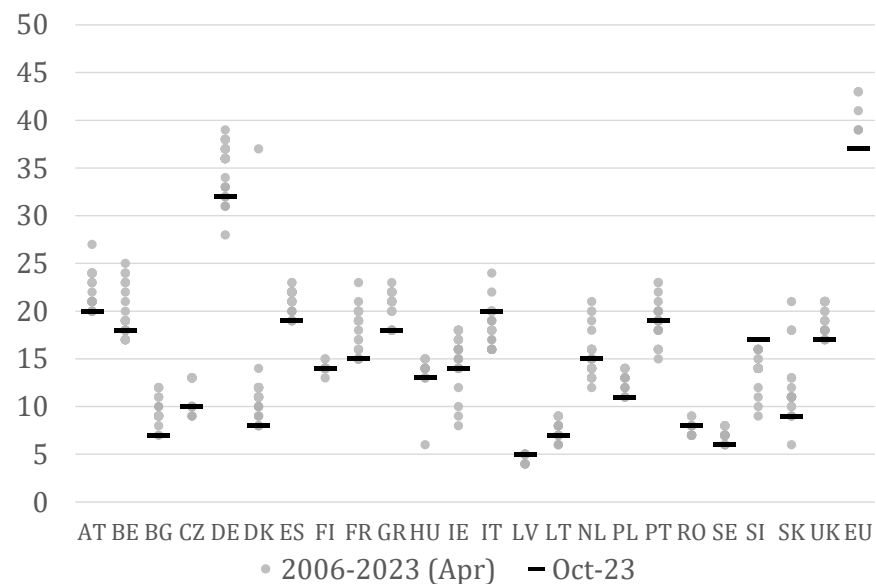
## 2.9 Average bid-cover ratios in selected jurisdictions: 2015-23



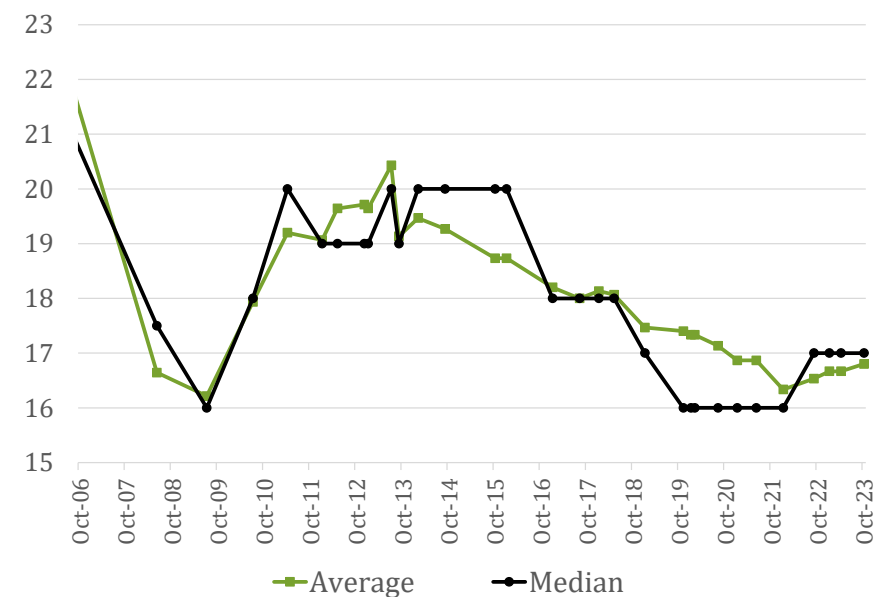
Source: Refinitiv Eikon. **Green** indicates end value of trendline above starting value, **red** indicates end value of trendline below starting value

# Primary Dealers: European countries and EU

**2.10 Number of primary dealers relative to historic number**



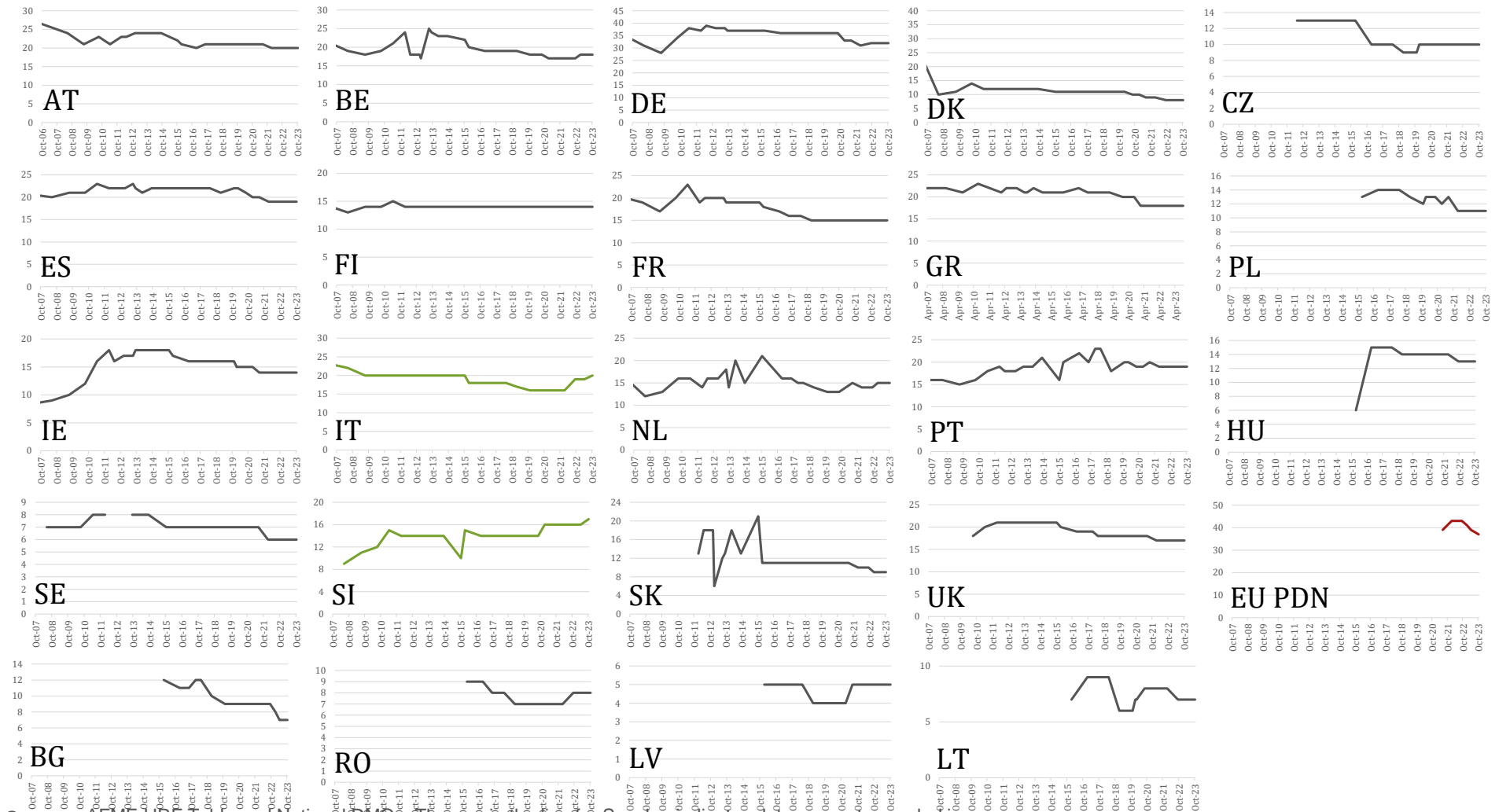
**2.11 Average and median number of primary dealers in selected European countries**



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 October 2023.



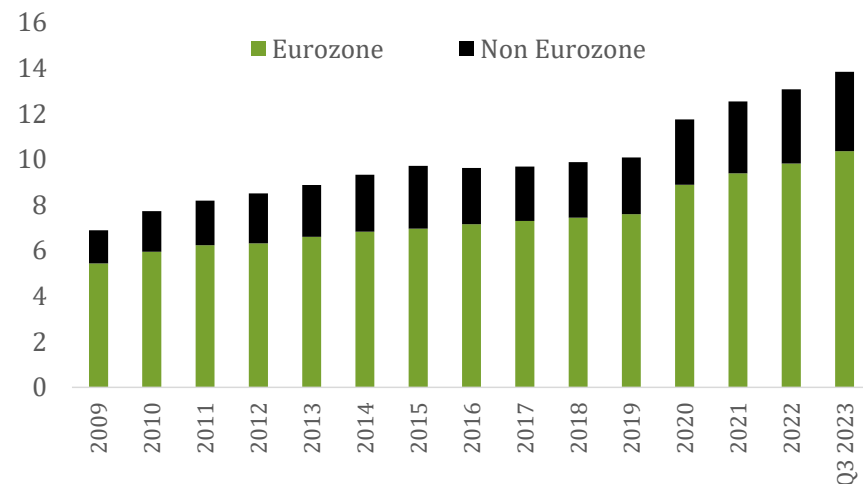
## 2.12 Number of primary dealers in Europe by country: 2006-23



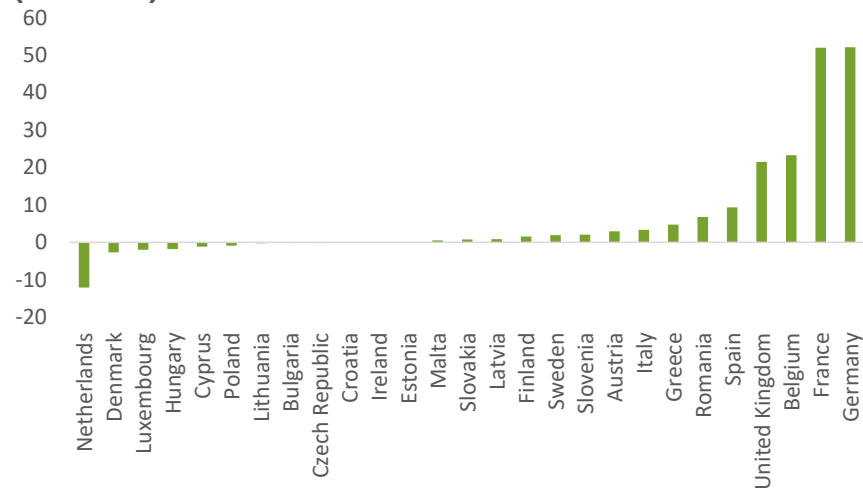
Source: AFME HRF Table and National DMOs. The gap in the line for Sweden indicates data was not recorded in the relevant period. **Chart colour indicates net change in PDs since April 2023.** **Green** indicates an increase; **red** indicates a decrease and **grey** indicates no change. Latest data as of October 2023.

# Outstandings

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



### 3.3 Change in outstandings 2Q23 to 3Q23 (EUR bn)

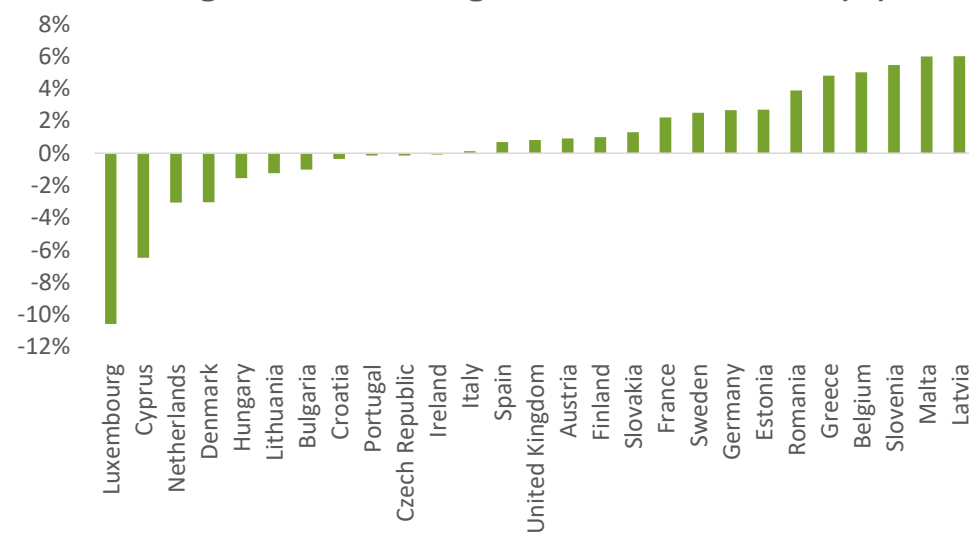


Source: ECB, Refinitiv Eikon and UK DMO.

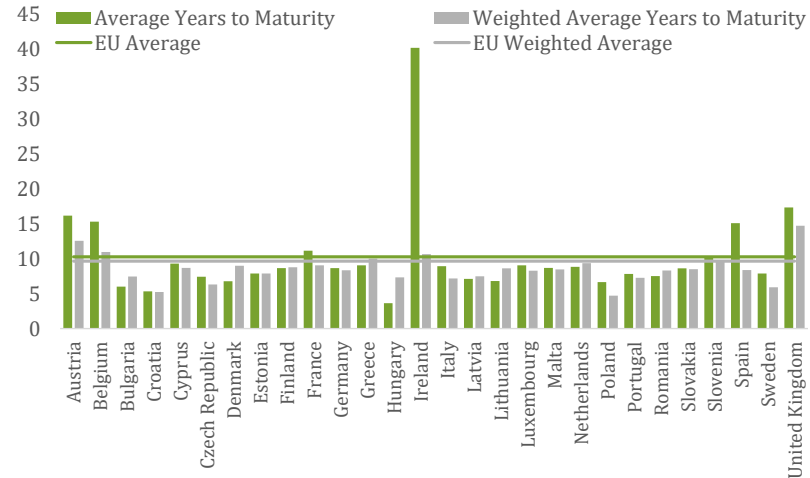
### 3.2 European government bonds outstanding by country (EUR tn)



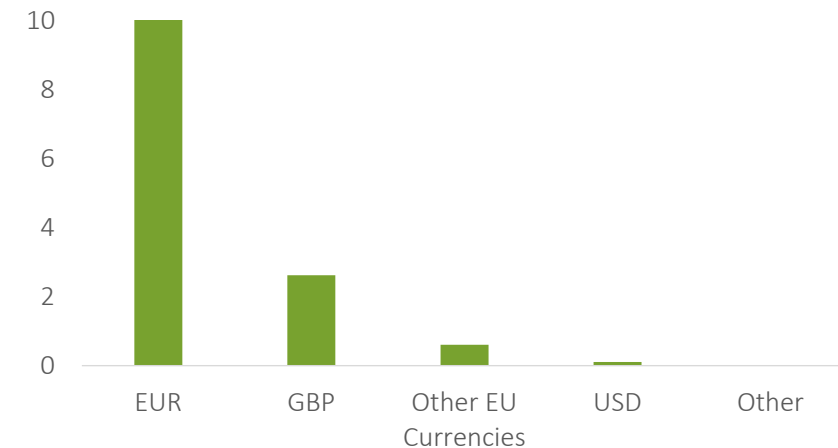
### 3.4 Change in outstandings from 2Q23 to 3Q23 (%)



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



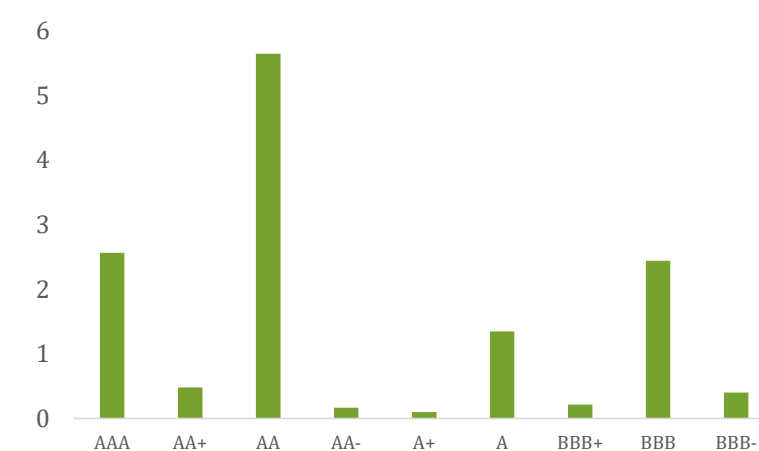
### 3.7 European government bonds outstanding by currency (EUR tn)



### 3.6 Quarterly change in weighted average years to maturity for outstanding government bonds 2Q23 to 3Q23



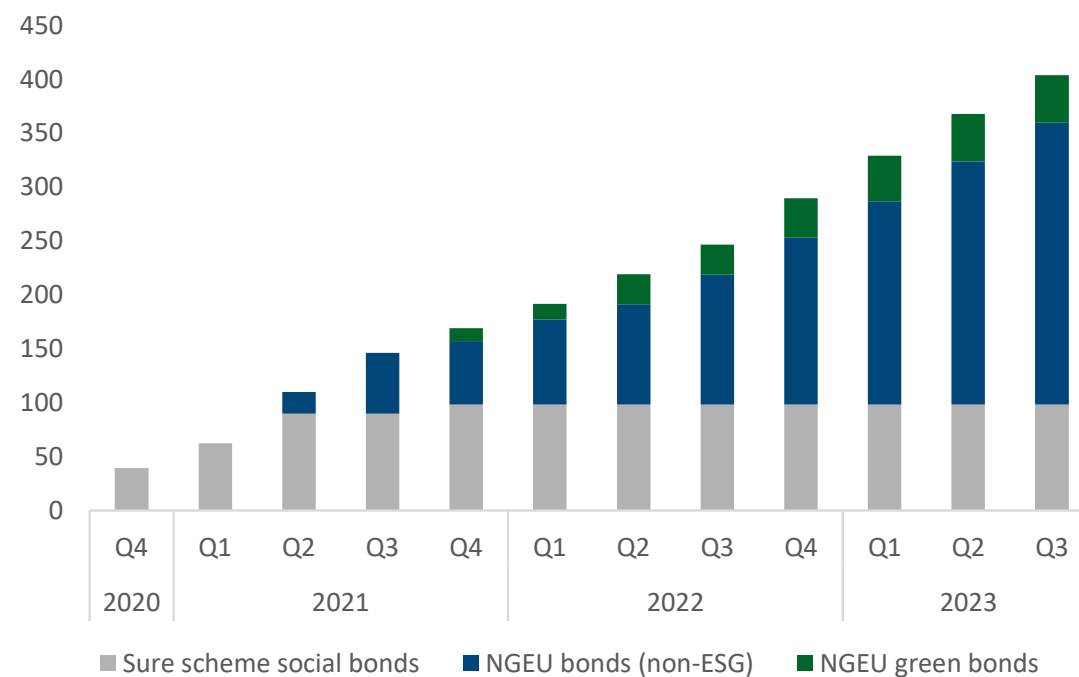
### 3.8 European government bonds outstanding by current rating of issuer (EUR tn)



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

# Outstandings: European Commission bonds

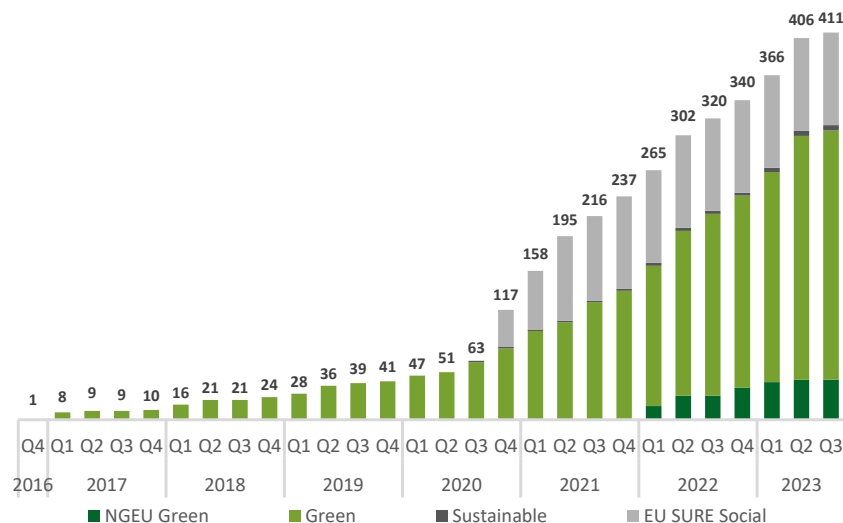
## 3.9 Outstanding bonds issued by the European Commission (EUR bn)



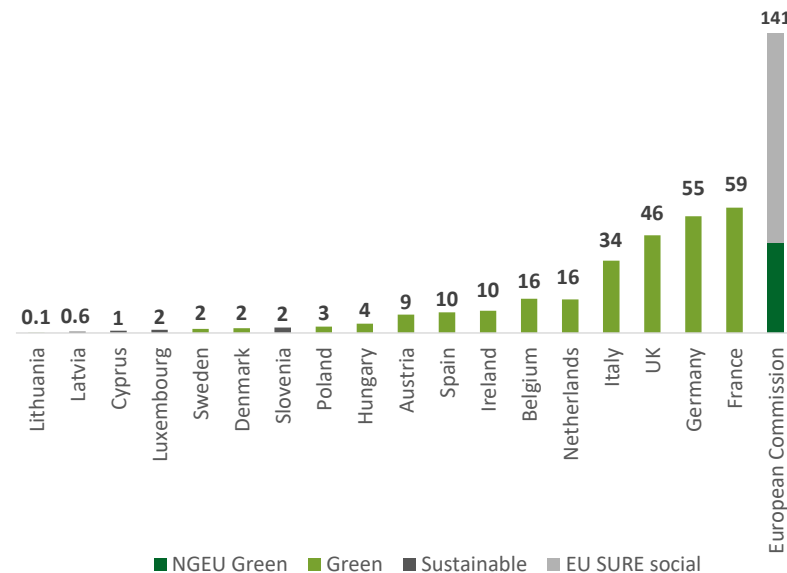
Source: European Commission. **NGEU** refers to bond issuance by the European Commission under the NextGenerationEU scheme.

# 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)**

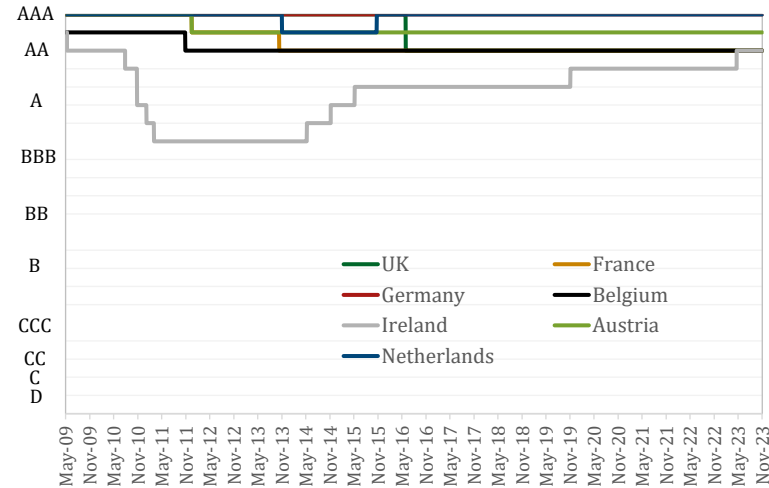


Source: Refinitiv Eikon, European Commission. All outstanding social bond volumes in Chart 3.9 are issued by the European Commission.

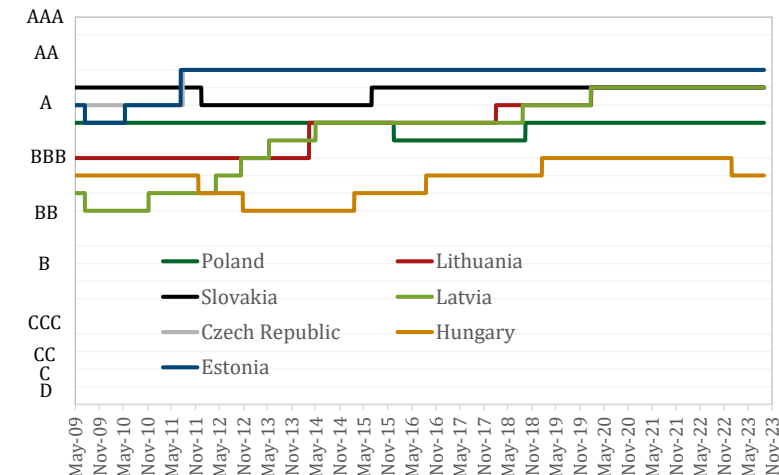


# Credit Quality

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

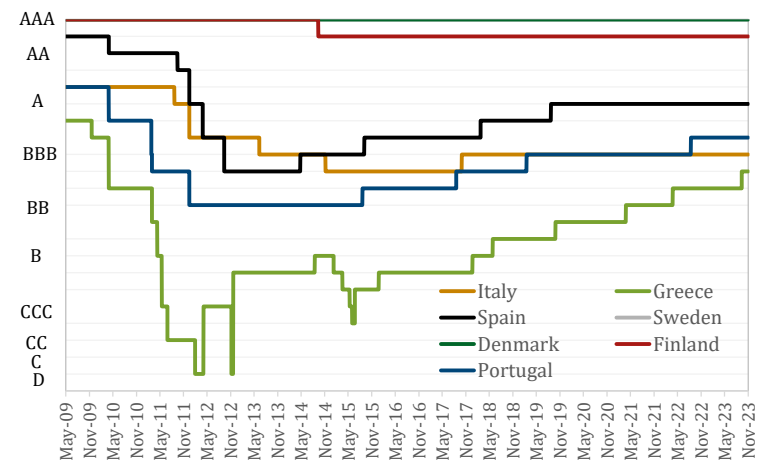


#### 4.3 Long-term sovereign credit rating (Visegrad 4 and Baltic states)

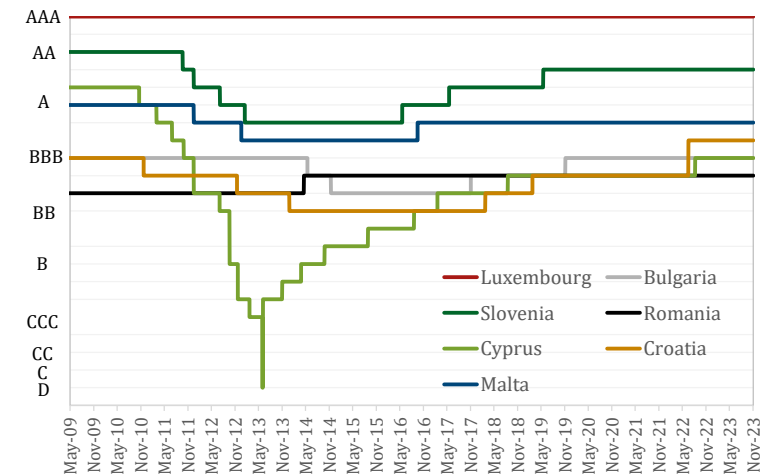


Source: Refinitiv Eikon

#### 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 (2023 YtD)

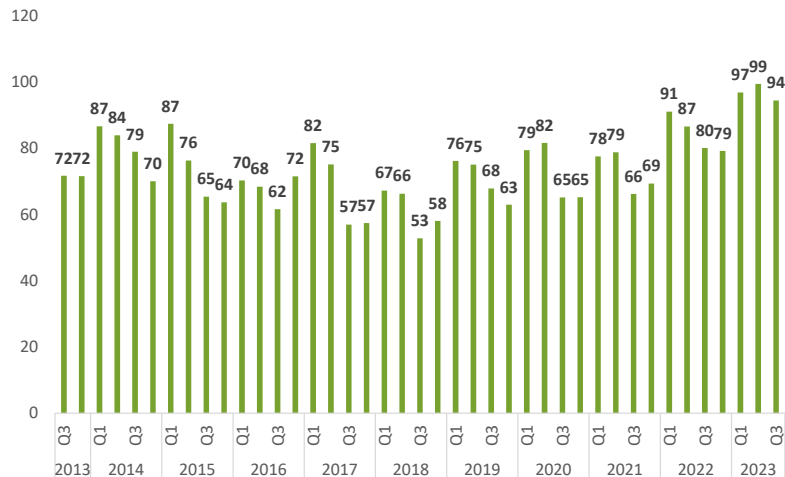
<b>Greece</b>	Upgrade to BB+ (stable) from BB	Jan-23	Fitch	Expected better deficit and debt outturns and projections in 2022-24, thanks to stronger nominal growth, budget over-execution and favourable debt-servicing structure, and an improvement in primary balance implied by the narrowing of the general government deficit.	1Q23
<b>Hungary</b>	Downgrade to BBB- (stable) from BBB	Jan-23	S&P	Persistently high inflation, exchange rate volatility and external pressures such as high energy prices, an uncertain economic outlook and rising interest costs against an already high stock of public debt posing challenges to the Hungarian government's consolidation plans.	
<b>Cyprus</b>	Upgrade to BBB (stable) from BBB-	Mar-23	Fitch	Significant improvement in public finances, with the general government balance turning from a deficit to surplus in 2022, beating forecasts. Public expenditure as a percentage of GDP has declined sharply due to the discontinuation of Covid-19 support measures while revenues rose at a faster pace than nominal GDP.	
<b>France</b>	Downgrade to AA- (stable) from AA	Apr-23	Fitch	Weak fiscal metrics due to relatively large fiscal deficits and only modest progress with fiscal consolidation. Expenditure pressures will remain high in the short term, due to being indexed to inflation and uncertainty surrounds the revenue trajectory which could be driven by temporary factors, including the economic rebound and high inflation	2Q23
<b>Ireland</b>	Upgrade to Aa3 (stable) from A1	Apr-23	Moody's	Significant improvement in key fiscal and debt metric and greater resilience to potential shocks. Expected solid economic growth and continued robust improvements in fiscal metrics. Expectation that risks to Ireland's credit profile from domestic, geopolitical and banking sector sources will be contained over the near to medium term.	
<b>Ireland</b>	Upgrade to AA (stable) from AA-	May-23	S&P	Solid tax revenue helping Ireland's post budgetary surpluses through 2026 despite spending pressure, continuing to put the government's net debt burden on a steep downward path. Despite being set to decelerate during 2023, the Irish economy is expected to outperform peers while avoiding a technical recession	
<b>Estonia</b>	Downgrade to A+ (stable) from AA-	Jul-23	Fitch	Deterioration in public finances with general government debt forecast to rise to 21.1% of GDP at end-2023 and remain on an upward path in the medium term, despite fiscal consolidation measures introduced in June. This reflects a loosening of the historically tight fiscal stance, aggravated by the war in Ukraine and the pandemic.	3Q23
<b>Greece</b>	Upgrade to Ba1 (stable) from Ba3	Sep-23	Moody's	A significant improvement in GDP growth, driven by investment and consumption, and high degree of political and policy certainty over the coming years, as a result of a large parliamentary majority held by the government, fostering the ongoing implementation of past reforms and the design of further structural reforms.	
<b>Portugal</b>	Upgrade to A- (stable) from BBB+	Sep-23	Fitch	Sustained fall in debt, which is expected to remain on a sharp downward trend with a high degree of commitment to fiscal consolidation from the current Portuguese government. Overperformance in fiscal metrics as a result of faster-than-expected reduction in spending as a proportion of GDP.	
<b>Cyprus</b>	Upgrade to Baa2 (stable) from Ba1	Sep-23	Moody's	Broad-based, sustained improvements in its credit profile because of past and ongoing economic, fiscal, and banking reforms. Significant private and public investments in combination with the implementation of further structural reforms in the context of NextGenerationEU (NGEU) support a solid medium-term growth outlook. Improvement in fiscal strength with an expected decline in debt burden in the next few years.	
<b>Greece</b>	Upgrade to BBB- (stable) from BB+	Oct-23	S&P	Improvement in Greece's public finances as a result of budgetary consolidation efforts and significant progress in addressing economic and fiscal imbalances since the debt crisis in 2009-2015. Expected structural economic and budgetary reforms, coupled with large EU funds, will support robust economic growth underpinning a continued reduction in government debt.	4Q23 QtD
<b>Portugal</b>	Upgrade to A3 (stable) from Baa2	Nov-23	Moody's	Sustained positive credit effects over the medium term of a series of economic and fiscal reforms, private sector deleveraging and ongoing strengthening of the banking sector. Portugal's medium-term outlook is supported by significant private and public investments as well as the implementation of further structural reforms, both linked to the country's National Recovery and Resilience Plan (NRRP).	

Source: Fitch, Moody's, S&P

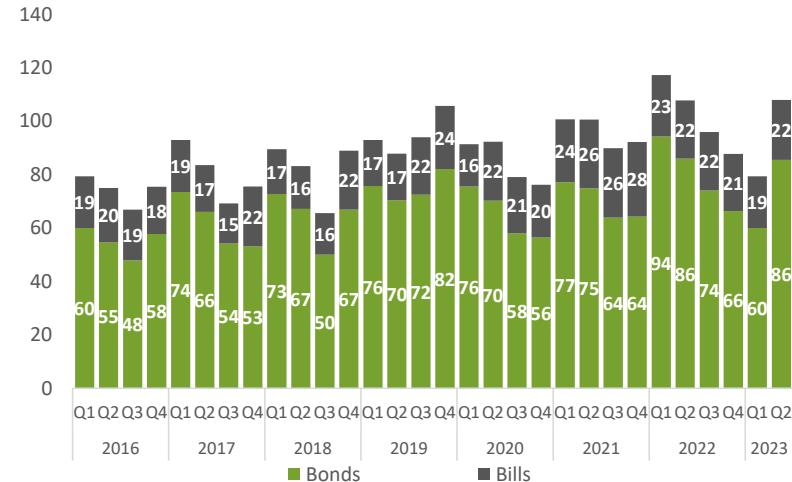
# Secondary Market Trading Volumes and Turnover Ratios

# Secondary Market Trading Volumes and Turnover Ratios

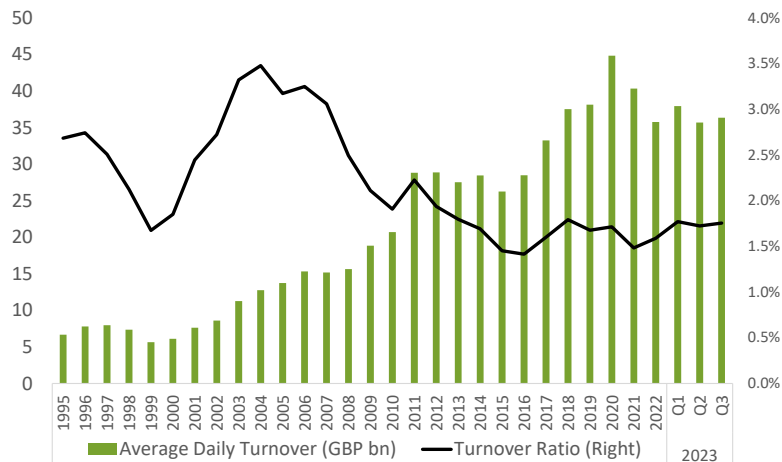
## 5.1 EU + UK: Average daily trading volumes (Government and sovereign bonds, EURbn)



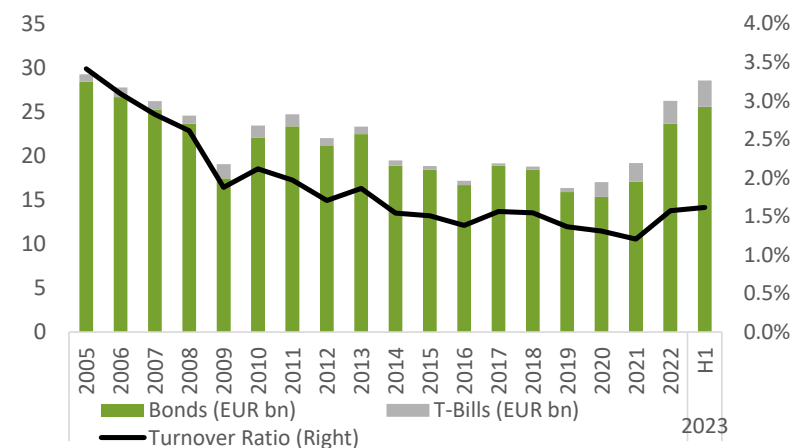
## 5.2 Eurozone: Average daily trading volume (bonds and bills, EURbn)



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



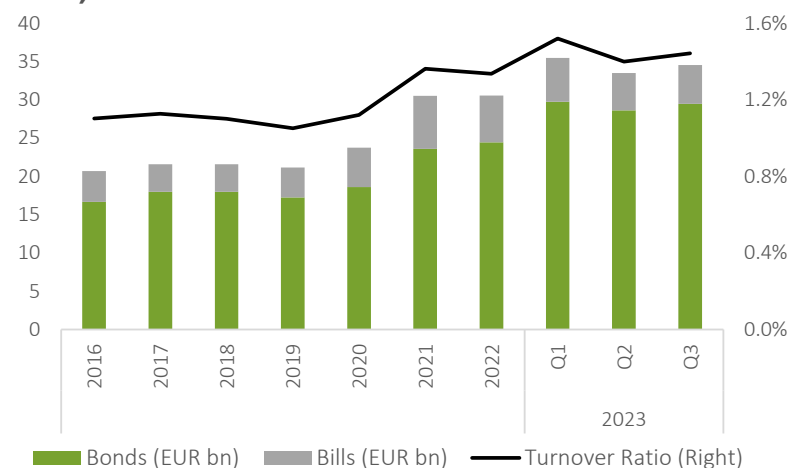
## 5.4 Germany: Average daily trading volume (aggregated bonds and bills) and turnover ratio



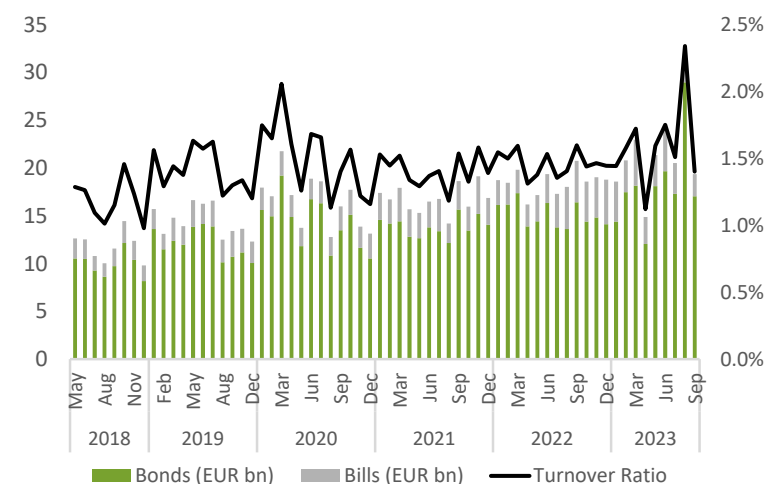
Source: TraX data from MarketAxess, EFC Sub-Committee on ESDM, UK Debt Management Office, Deutsche Finanzagentur, ECB. Individual country volumes do not sum to aggregated trading volume in Chart 5.1 EU+UK, given the differences in the aggregation basis across jurisdictions. The data is not fully comparable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

# Secondary Market Trading Volumes and Turnover Ratios

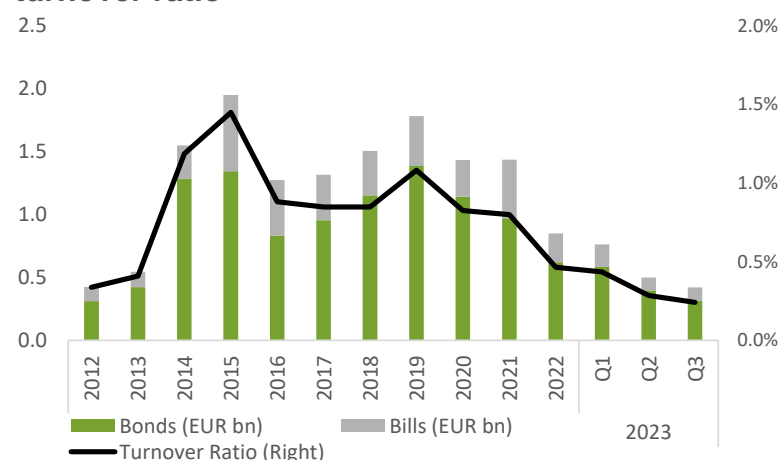
**5.5 Italy: Average daily trading volume (bonds and bills) and turnover ratio**



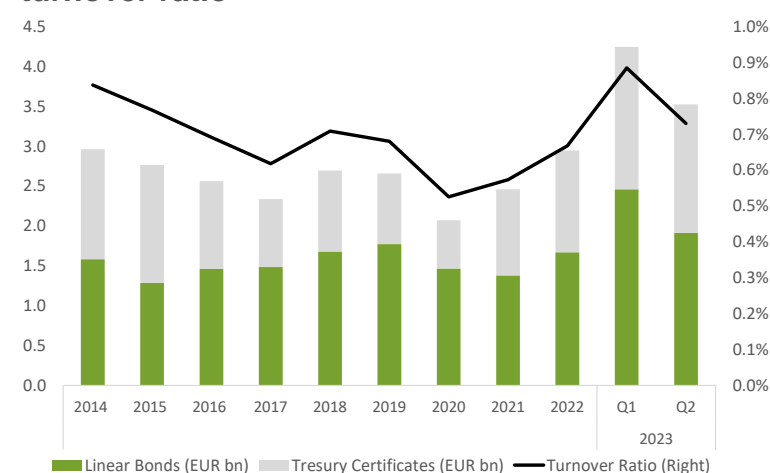
**5.6 Spain: Average daily trading volume and turnover ratio**



**5.7 Portugal: Average daily trading volume and turnover ratio**



**5.8 Belgium: Average daily trading volume and turnover ratio**

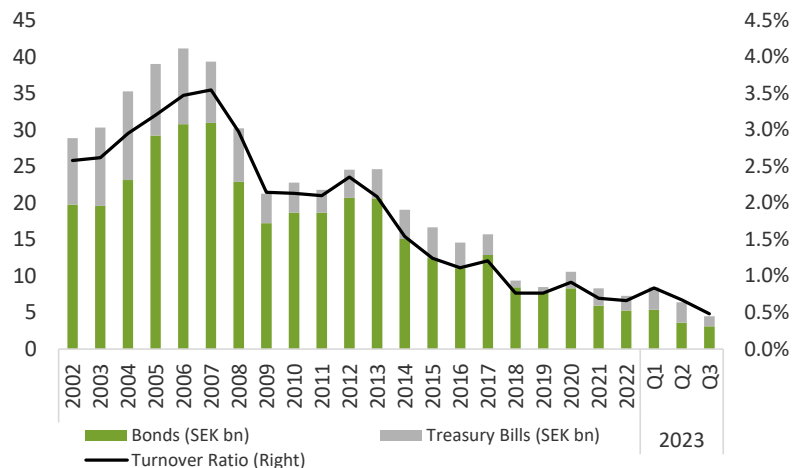


Source: ECB, Italian Dipartimento del Tesoro, BME Market Data and Tesoro Publico de Espana, Agência de Gestão da Tesouraria e da Dívida Pública (IGCP), ECB, Belgian Debt Agency. **Given the differences in the aggregation basis across jurisdictions, the data is not fully comparable between countries.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

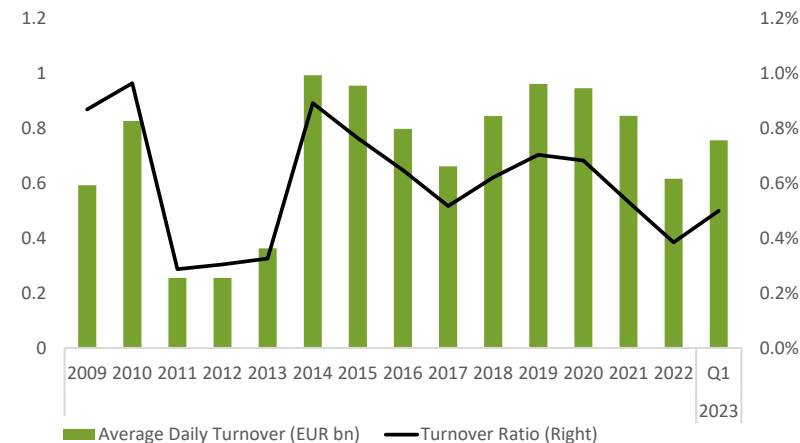


# Secondary Market Trading Volumes and Turnover Ratios

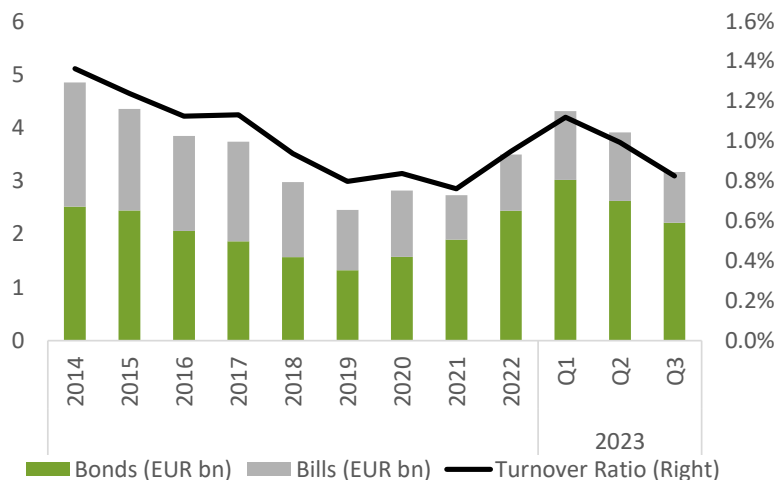
**5.9 Sweden: Average daily trading volume and turnover ratio**



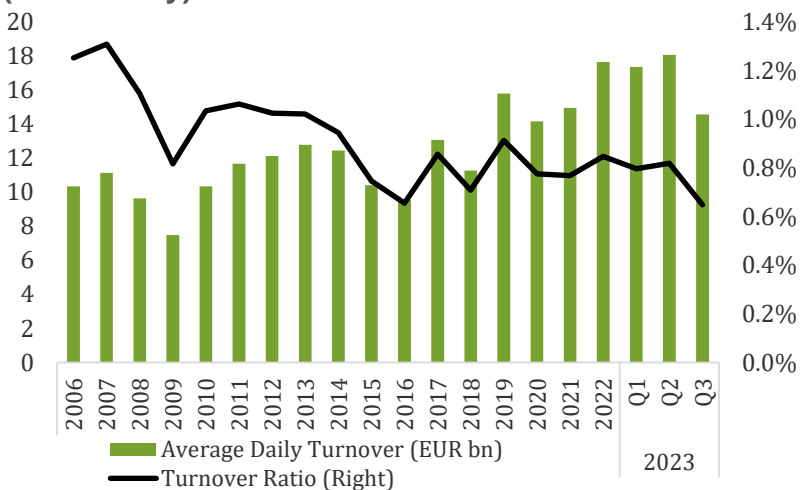
**5.10 Ireland: Average daily trading volume (bonds only) and turnover ratio**



**5.11 Netherlands: Average daily trading volume and turnover ratio**



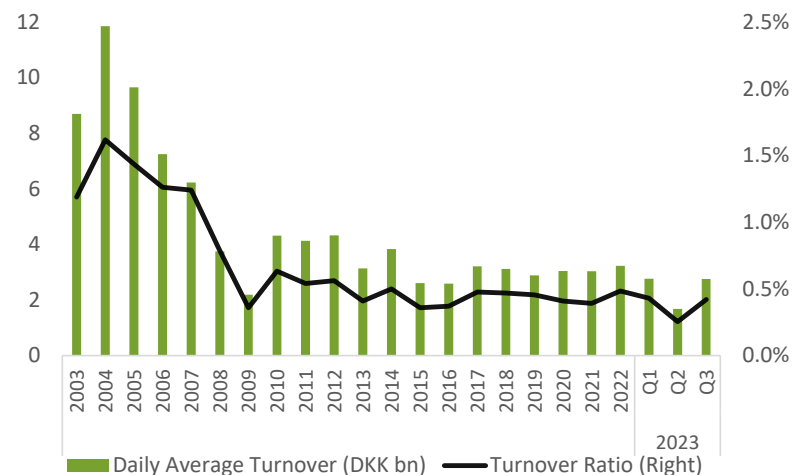
**5.12 France: Average daily trading volume (bonds only) and turnover ratio**



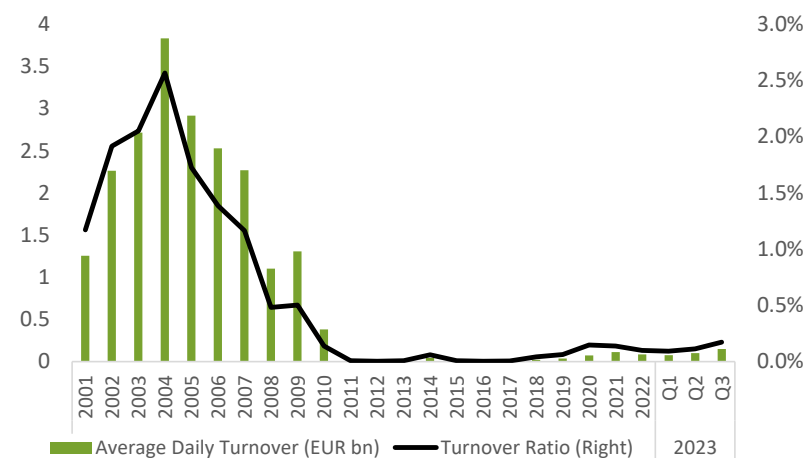
Source: ECB, Swedish National Debt Office (Riksgalden), Irish Stock Exchange, Ministerie van Financien, Agence France Tresor. **Given the differences in the aggregation basis across jurisdictions, the data is not fully comparable between countries. Full Methodology available on page 34 of this report.**

# Secondary Market Trading Volumes and Turnover Ratios

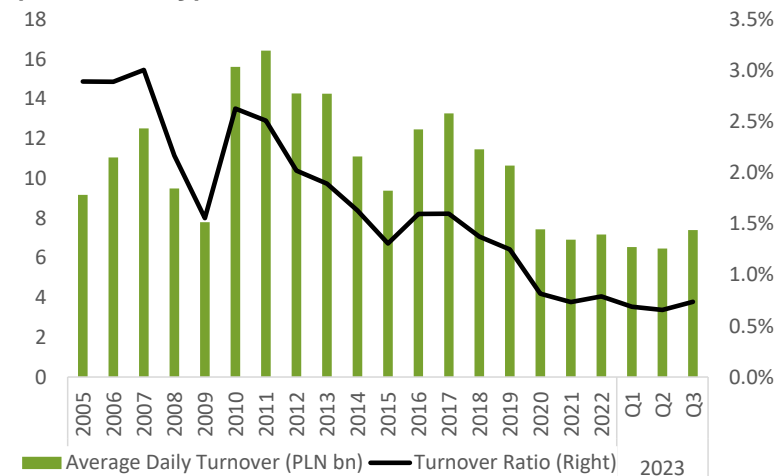
**5.13 Denmark: Average daily trading volume (bonds and bills) and turnover ratio**



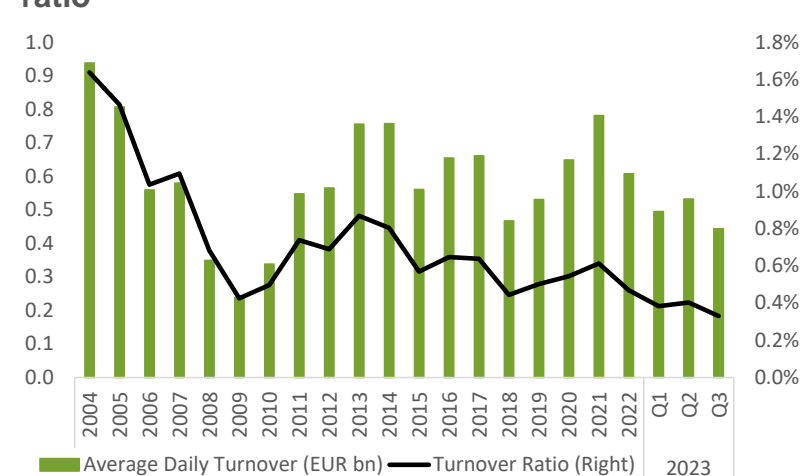
**5.14 Greece: Average daily trading volume (bonds only) and turnover ratio**



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



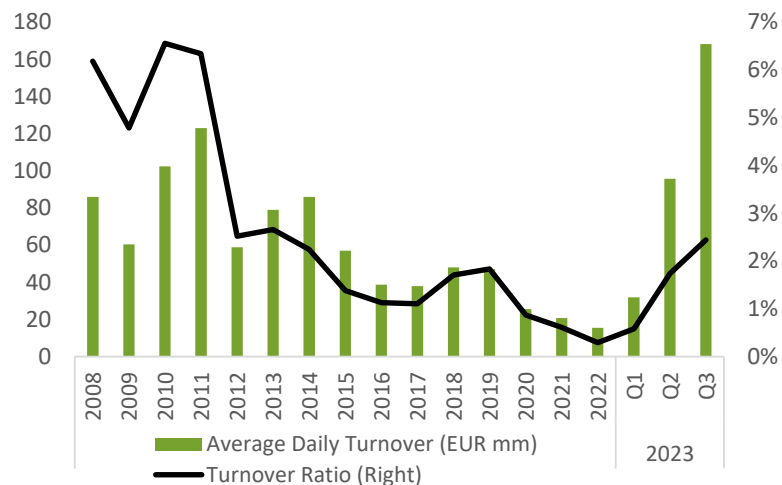
**5.16 Finland: Average daily trading volume (aggregated bonds and bills) and turnover ratio**



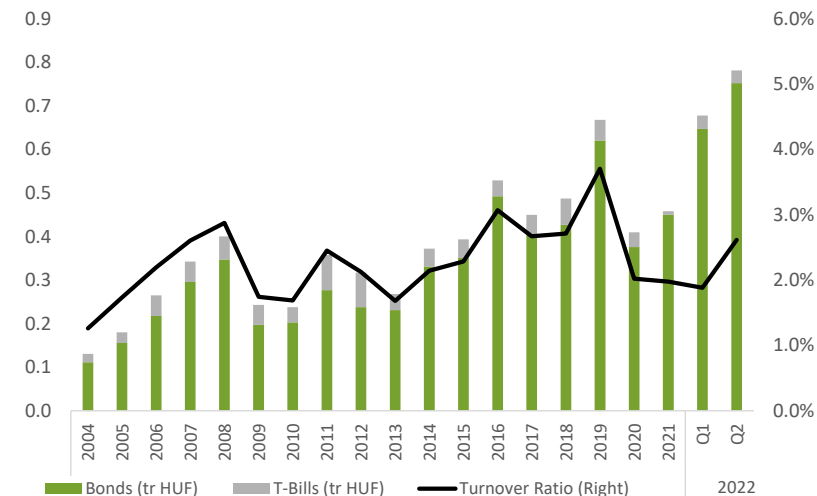
Source: Denmark's Nationalbank, Bank of Greece, ECB, National Depository for Securities (KDPW), WSE, Finland Valtiokonttori. **Given the differences in the aggregation basis across jurisdictions, the data is not fully comparable between countries. Full Methodology available on page 34 of this report.**

# Secondary Market Trading Volumes and Turnover Ratios

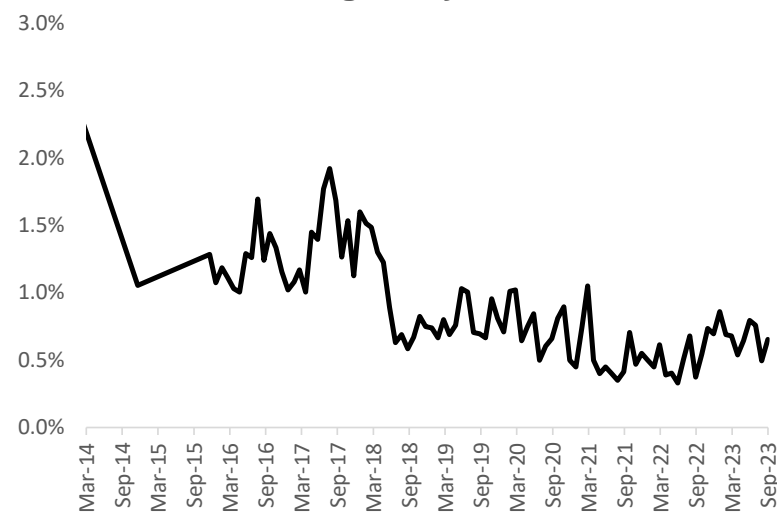
**5.17 Bulgaria: Average daily turnover volume and turnover ratio**



**5.18 Hungary: Average daily turnover volume and turnover ratio**



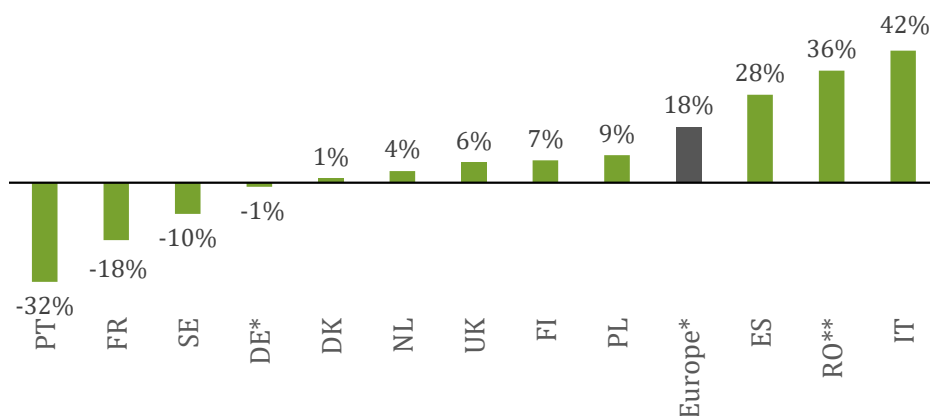
**5.19 Romania: Average daily turnover ratio**



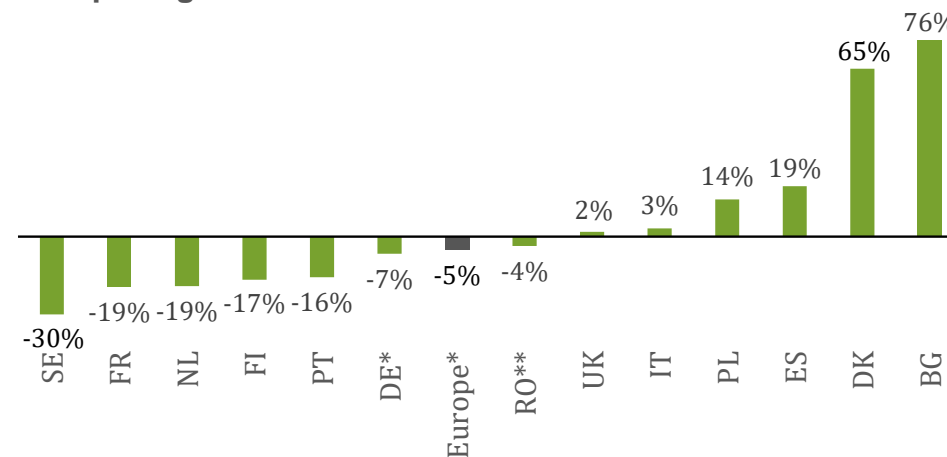
Source: ECB, AKK, Ministry of Finance of the Republic of Bulgaria, Ministerul Finantelor. **Given the differences in the aggregation basis across jurisdictions, the data is not fully comparable between countries. Full Methodology available on page 34 of this report.**

# Secondary Market Trading Volumes and Turnover Ratios

**5.20 Annual change in average daily turnover volumes of European government bonds: 3Q22 to 3Q23**



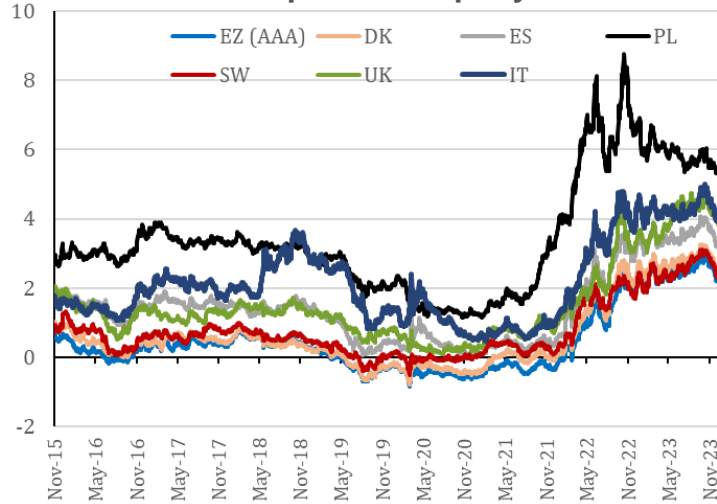
**5.21 Quarterly change in average daily turnover volumes of European government bonds: 2Q23 to 3Q23**



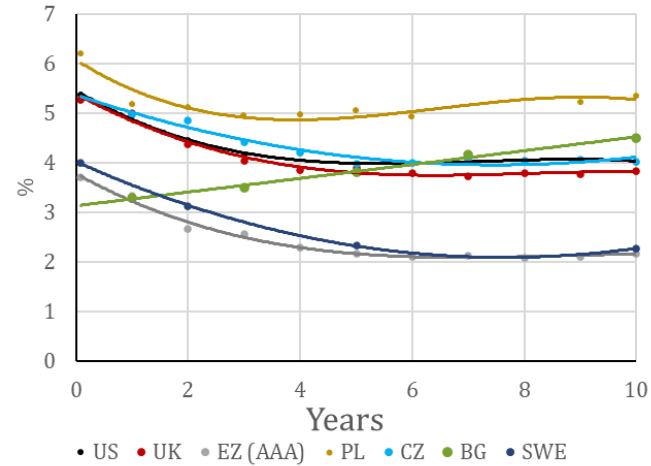
Source: AFME with information from European DMOs and other agency sources. See section 5 for details on aggregation basis and sources. \*Europe (EU+UK) total and Germany is sourced from TraX data from MarketAxess, as the quarterly variation of average daily volumes of government and sovereign bonds.

# Valuations

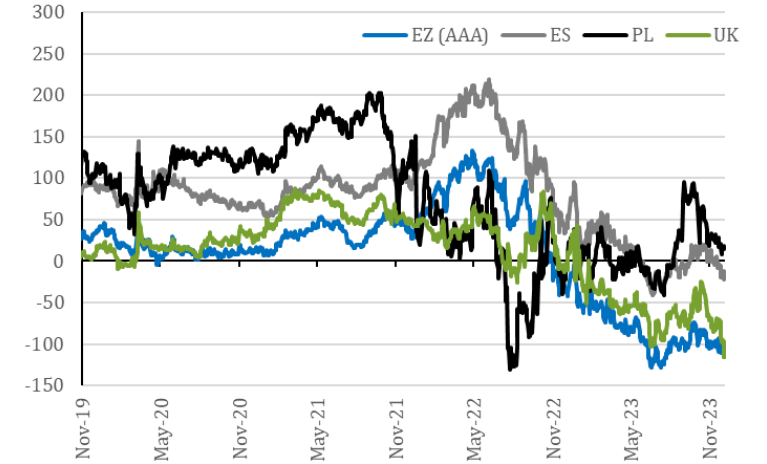
### 6.1 Selected European 10Y spot yields



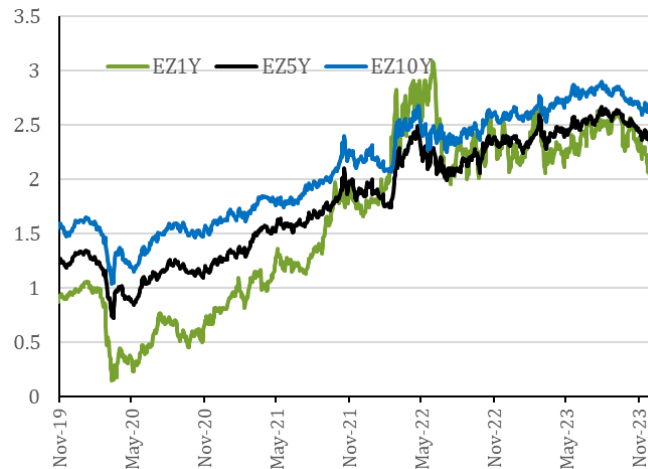
### 6.2 Sovereign spot yield curve of selected jurisdictions: 14 December 2023



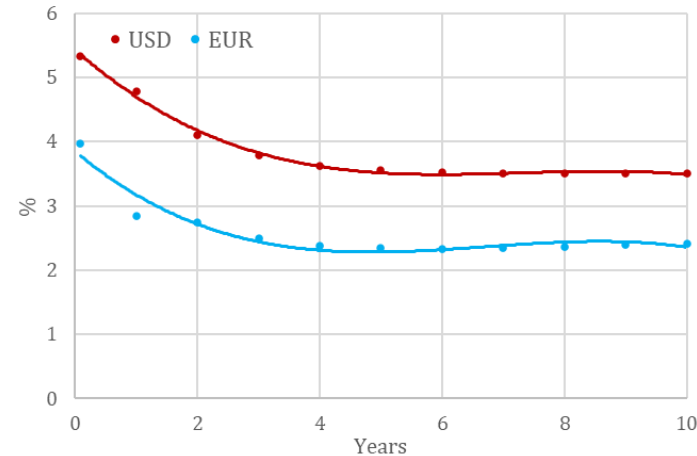
### 6.3 Slope: 1Y10Y spread (bps)



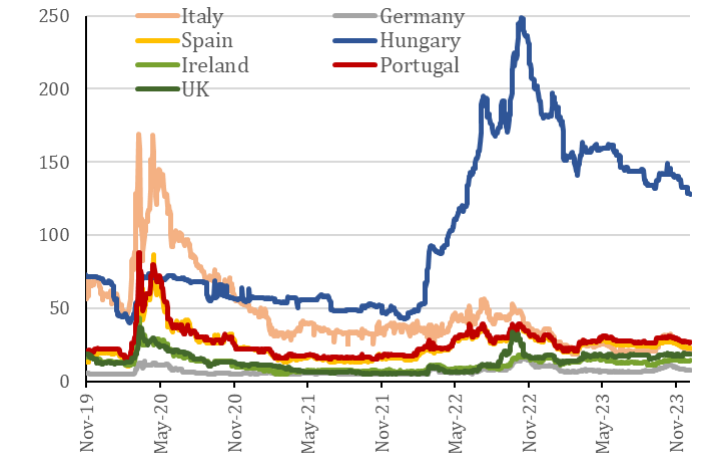
### 6.4 Market-implied inflation expectations (EuroZone)



### 6.5 Overnight index swap (OIS) yield curve: 14 December 2023



### 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 includes 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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