

4Q 2021 and full year 2021

Government Bond Data Report

European market data update

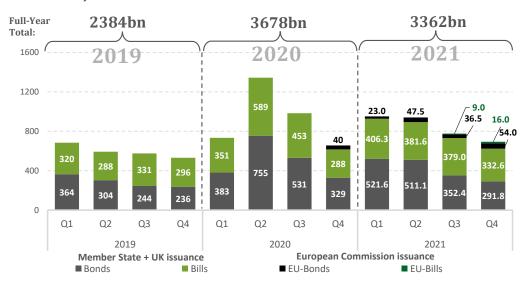


afme/ Contents

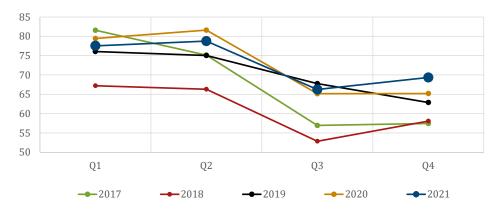
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1. European (EU+UK) government bond and bill issuance (EUR bn, 2019-2021)



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



Source: Full year total includes European Commission issuance [chart 2]. Trax, a MarketAxess subsidiary [chart 1]. ECB, National Debt Management Offices and UK Debt Management Office [chart 2].

Annual Issuance of bonds and bills reach EUR 3362bn in 2021 as funding demands of the post-pandemic recovery remain high

Total (MS+UK+EU COM) annual issuance in Europe was EUR 3362.3 bn during 2021FY, which is 8.3% lower than 2020, but 41.9% higher than 2019 and significantly above pre-pandemic levels as the funding demands of the economic recovery to Covid-19 remain high.

EU Member States and the UK issued EUR 624.4 bn in bonds and bills during 4Q21, representing a decrease of EUR 19.4% (QoQ) and an increase of 1.3% (YoY) (see chart 1).

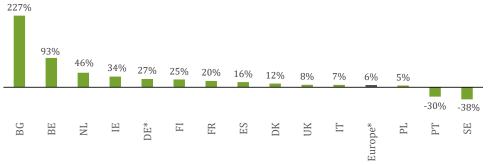
The EU Commission issued an additional EUR 54.0 bn in EU-bonds and EUR 16.0 bn in EU bills bringing the total annual EU Commission issuance (bonds+bills) to EUR 186bn in 2021FY, which accounted for 5.5% of total (MS+UK+EU COM) annual issuance.

European (EU+UK) government bond trading increased 4.7% (QoQ) and 6.4% (YoY) during 4Q21

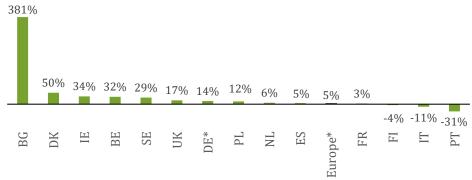
Average annual European trading volumes are up 0.2% compared to 2020FY, and up 3.5% compared to 2019 (pre-pandemic levels). Trading activity has picked up significantly since 2016, when relative lows were observed (see chart 2).



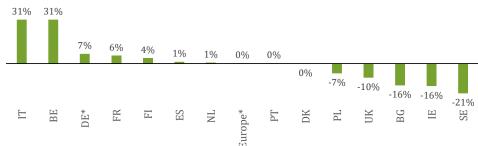
3.Annual changes in Government Bond average daily trading volumes (4Q21 vs 4Q20) Selected European jurisdictions



4. Quarterly change in Government Bond average daily trading volumes (4Q21 vs 3Q21) Selected European jurisdictions



5. Annual aggregate change in Government Bond average daily trading volumes (2021 vs 2020) Selected European jurisdictions



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 6.4% YoY and increased 4.7% QoQ in 4Q21

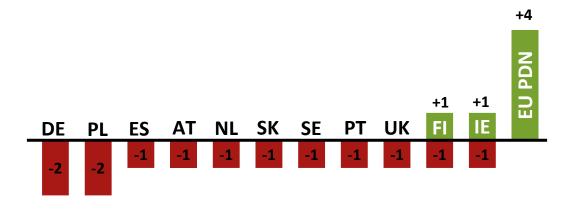
Average daily trading volumes of European government bonds increased by 6.4% YoY during 4Q21 (see chart 3), driven by a significant increase in trading in Bulgaria (227% YoY), Belgium (93% YoY), Netherlands (46% YoY), Ireland (34% YoY), Germany (27% YoY) and Finland (25% YoY). There was a decrease in trading in Sweden (-38% YoY) and Portugal (-30% YoY) (see chart 4).

In Bulgaria, government bond trading surged during 4Q21, rising 227% YoY and 381% QoQ, which was likely driven by the Bulgarian parliamentary and presidential elections taking place in 4Q21. The parliamentary elections were the third to take place in 2021 after no party was able to form a government after the April and July elections.

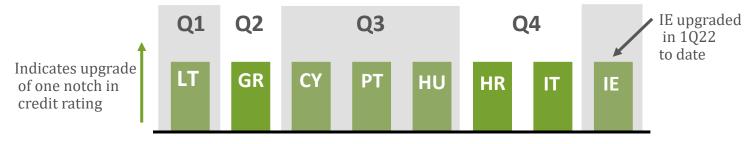
Annual aggregated European government bond trading (2021FY) increased 0.2% compared to 2020, but up 8.7% compared to 2019 (see chart 5).



6. Number of Exits and Entries in European Primary Dealership (Jun 2021-January 2022)



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



Net loss of 7 primary dealers in Europe from June 2021 to January 2022

From June 2021 to January 2022, there were 13 exits and 6 entries of banks to European Primary Dealer systems, affecting sovereign debt markets in 11 countries and also the EU Commission Primary Dealer Network (EU PDN) (see chart. 6).

This follows 3 exits and 5 entries of banks in European primary dealership between January 2021 and June 2021.

Notably, while most national systems have faced exits in banks acting as primary dealers since June 2021, the EU PDN has grown to 43 members with an additional 4 banks joining the network during this period. In Finland and Ireland, there were net changes of 0 as both primary dealer systems experienced 1 exit and 1 entry.

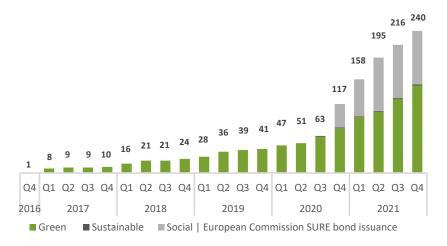
During 4Q21 there were 2 upgrades and no downgrades in long-term credit rating changes for European nations

This follows 1 upgrade and no downgrades in 1Q21,1 upgrade and no downgrades in 2Q21, 3 upgrades and no downgrades in 3Q21, bringing the full-year total to 7 upgrades and no downgrades (see chart.7).

The resilience of European credit quality in the face of pandemicrelated pressures on sovereign credit dynamics has continued to be demonstrated during 2022 year-to-date with the rating of Ireland increasing by one notch in January 2022.



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



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



Source: ECB, National Debt Management Offices and UK Debt Management Office [chart 1].

Thomson Reuters Eikon and European Commission [chart 2].

Outstanding amount of European sovereign ESG bonds surpass EUR 240 bn with highest quarterly green government bond issuance to date with EUR 28.0 bn issued in Q4 2021

Outstanding amount of green government bonds reached EUR 147.8 bn during 4Q21 (see chart 8) with new green bonds issued by UK (EUR 7.7bn) and Hungary (EUR 0.14 bn). The Italian and German green bonds has additional issuance of EUR 5.0 bn and EUR 3.0bn respectively via tap issuance. Latvia became the 14th European country to utilise ESG sovereign markets with an inaugural EUR 0.6bn sustainable government bond issued in 4Q21, the second of its kind, after Luxembourg opened the sustainable sovereign market (which satisfies both green and social criteria) with a EUR 1.5bn bond in 4Q20.

More recently in 2022 year-to-date, the European Commission have issued a EUR 2.5 bn green EU-bond further expanding the ESG sovereign bond market in Europe. This follows a historic EUR 12.0 bn green bond issued by the European Commission during 4Q21, which represented world's largest green bond issuance ever.

Market-implied Eurozone inflation expectations spike following ongoing geopolitical tensions while inflation expectations invert with 1Y inflation expectations exceeding both 5Y and 10Y

Eurozone inflation expectations continued to rise in 4Q21 and have more recently spiked during 1Q22 due to the increased level of economic uncertainty as a result of the ongoing conflict in Eastern Europe (see chart 9). During this period inflation expectations have inverted with 1Y inflation expectations exceeding both 5Y and 10Y expectations.

afme/ Regulatory update

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

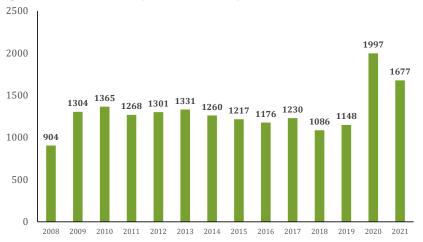
AFME and its members actively contribute on all of these and other initiatives.



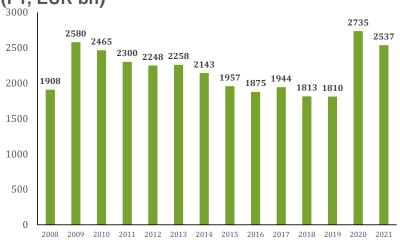
Issuance

afme/ Gross Issuance Finance for Europe

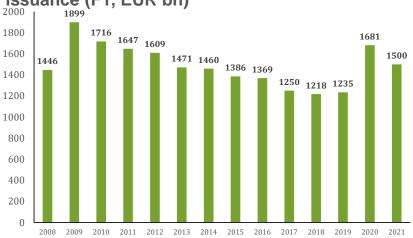
1.1 European (EU+UK) Government Bond gross issuance (FY, EUR bn)



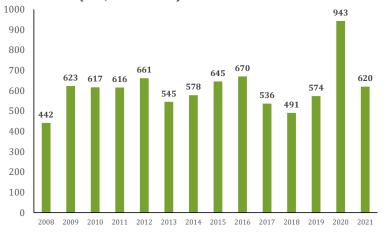
1.3 Eurozone bonds and bills gross issuance (FY, EUR bn)



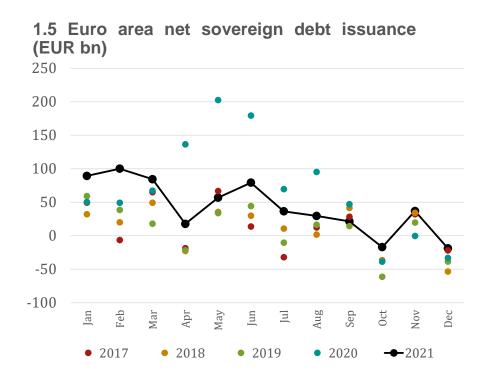
1.2 European (EU+UK) Treasury Bills gross issuance (FY, EUR bn)

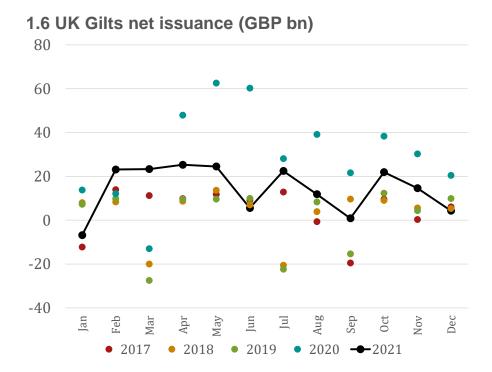


1.4 Non-Eurozone bonds and bills gross issuance (FY, EUR bn)







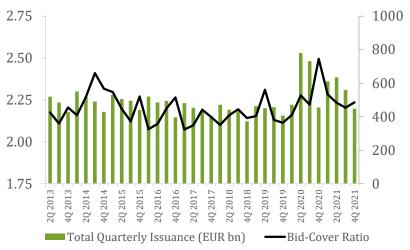




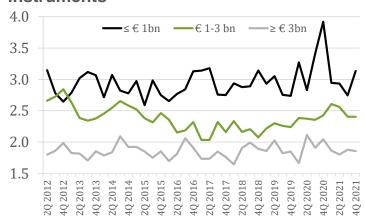
Recent Auctions and Primary Dealers



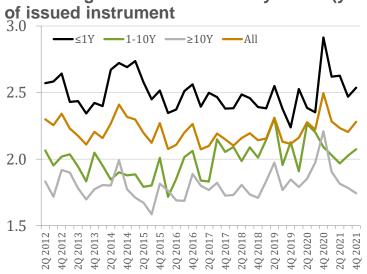
2.1 Average bid-cover ratios and issued volumes in selected jurisdictions (EUR bn)



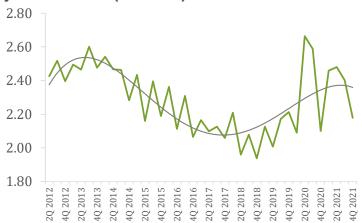
2.3 Average bid-cover ratios by size of issued instruments



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

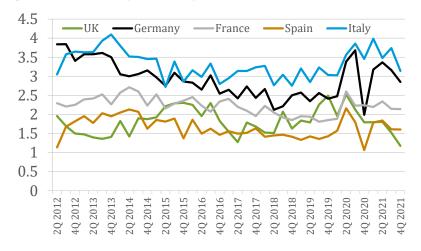


2.4 Average auction size in selected European jurisdictions (EUR bn)

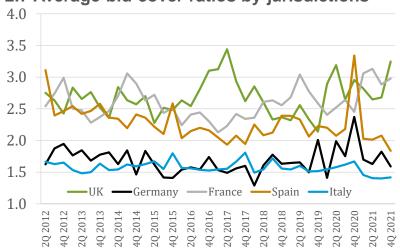


afme/ Recent Auctions Finance for Europe

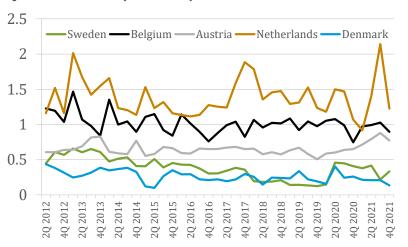
2.5 Average auction size in selected jurisdictions (EUR bn)



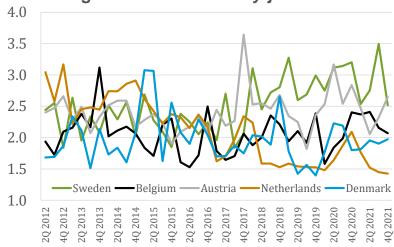
2.7 Average bid-cover ratios by jurisdictions



2.6 Average auction size in selected jurisdictions (EUR bn)

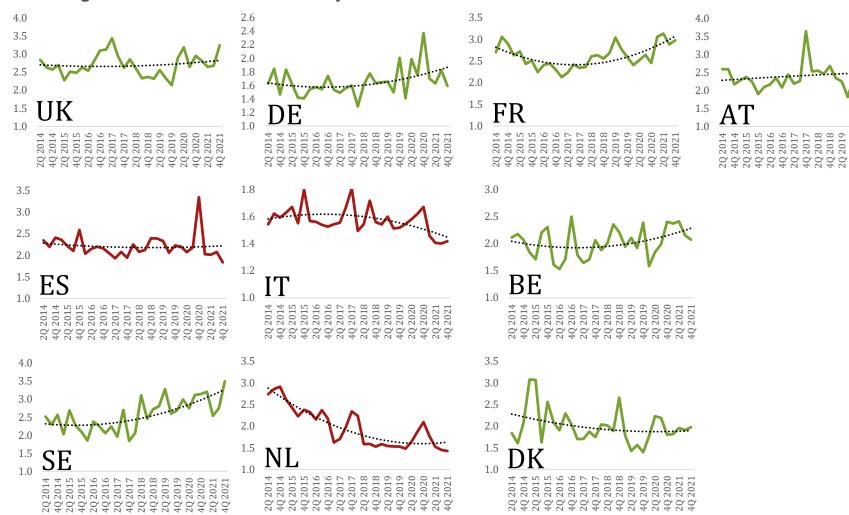


2.8 Average bid-cover ratios by jurisdictions



Recent Auctions

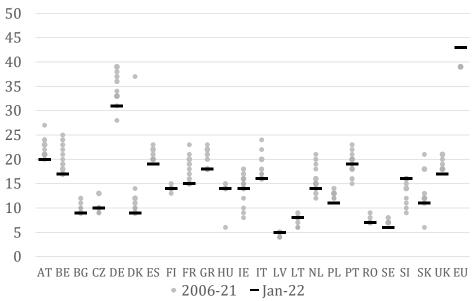
2.9 Average bid-cover ratios in selected jurisdictions: 2013-21



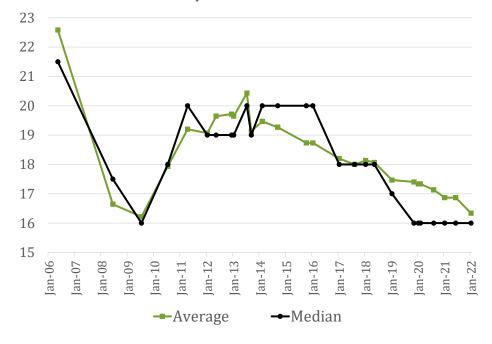


afme/ Primary Dealers: European countries and EU



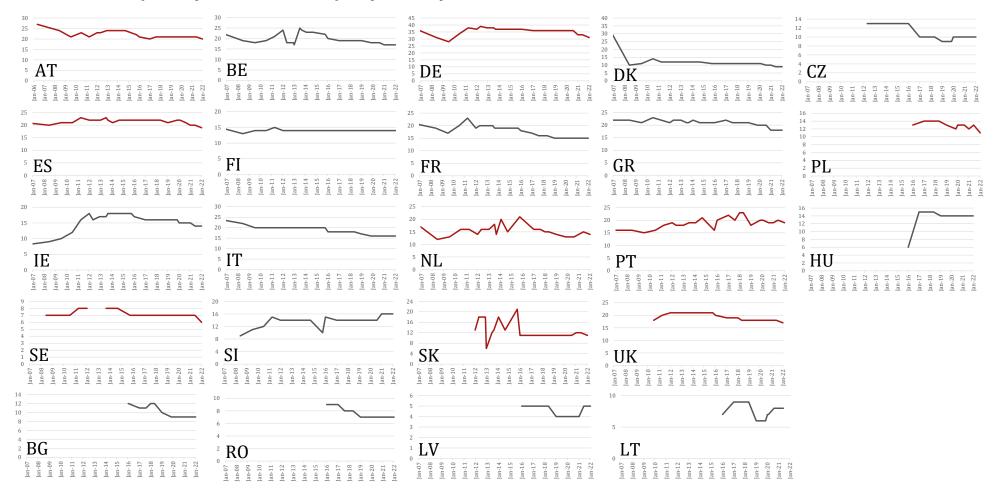


2.11 Average and median number of primary dealers in selected European countries



afme/ Primary Dealers

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

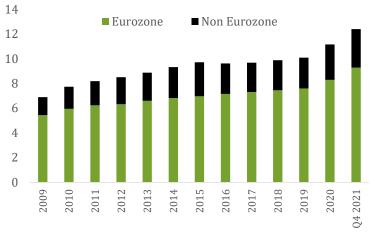




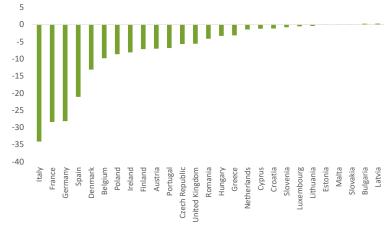
Outstandings

afme/ Outstandings

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

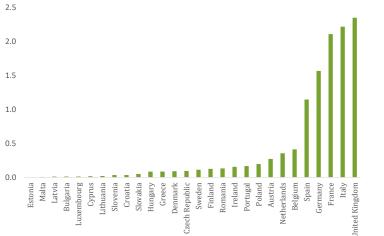


3.3 Change in outstandings 3Q21 to 4Q21 (EUR bn)

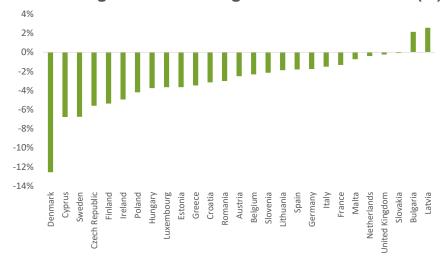


Source: ECB, Thomson Reuters Eikon and UK DMO.

3.2 European government bonds outstanding by country (EUR tn)

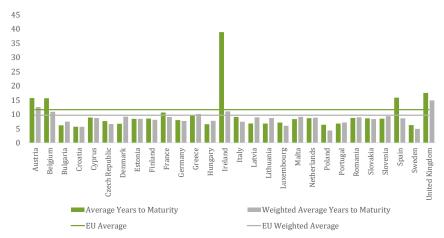


3.4 Change in outstandings from 3Q21 to 4Q21 (%)

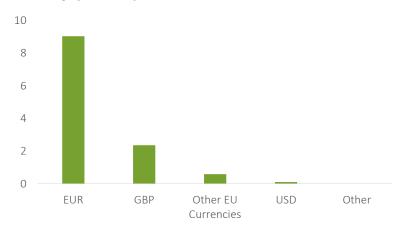




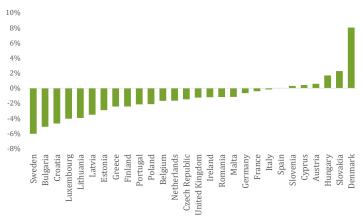
3.5 Average years to maturity for outstanding government bonds in European (EU+UK) countries



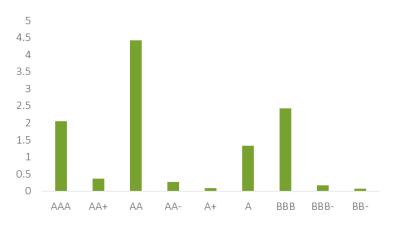
3.7 European government bonds outstanding by currency (EUR tn)



3.6 Quarterly change in weighted average years to maturity for outstanding government bonds 3Q21 to 4Q21



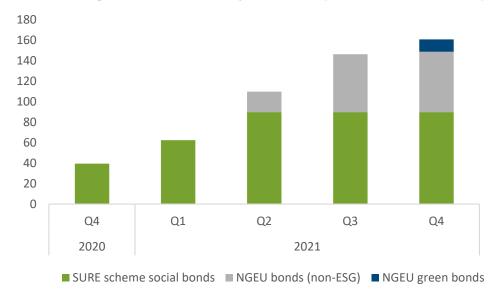
3.8 European government bonds outstanding by current rating of issuer (EUR tn)





afme/ Outstandings: European Commission bonds

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

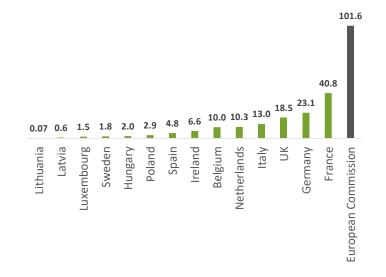




3.9 European outstanding ESG (green, social and sustainable) bonds (EUR bn)



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

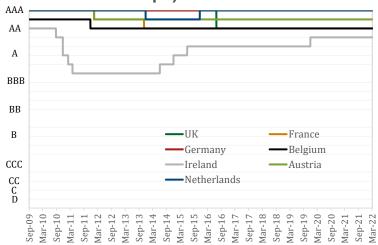




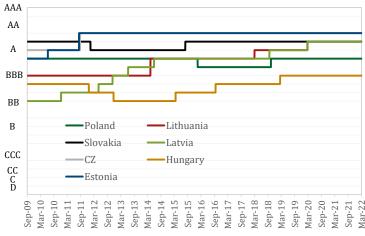
Credit Quality

afme/ Credit Quality

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

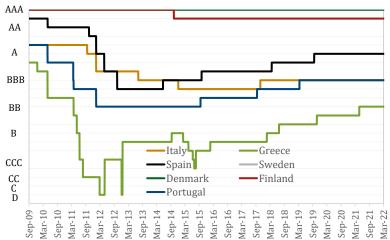


4.3 Long-term sovereign credit rating (Visegrad 4 and Baltic states)

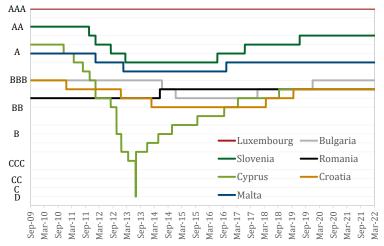


Source: Thomson Reuters Eikon

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



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



afme/ Credit Quality Finance for Europe

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

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	1Q21
Greece	Upgrade to BB (positive) from BB-	Apr-21	S&P	Expectation of rapid improvement in Greece's economic and budgetary performace as the adverse impacts of the COVID-19 pandemic subside	2Q21
Cyprus	Upgrade to Ba1 (stable) from Ba2	Jul-21	Moody's	Improvement in the undrerlying 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	3Q21
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 Crotia 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 soverign rating model	
OI Outlu	opg. was to 222 (postare) 1.011.222	, 21	- 11011	output.	4021
Italy	Upgrade to BBB (stable) from BBB-	Dec-21	Fitch	Faster growth than previously expected. High vaccination rates, high levels of private sector savings with EU funds sipporting growth dynamics.	
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

Source: Fitch, Moody's, S&P

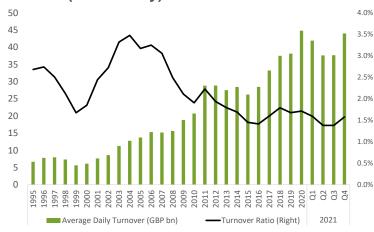




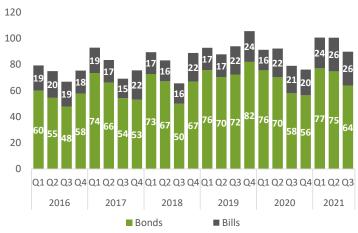
5.1 EU + UK: Average daily trading volumes (Government and sovereign bonds, EURbn)



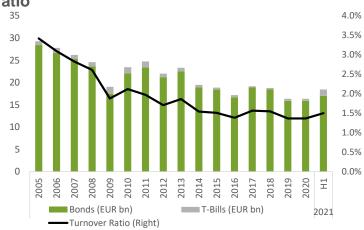
5.3 United Kingdom: Average daily trading volume (bonds only) and turnover ratio



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

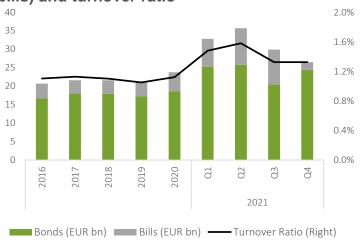


5.4 Germany: Average daily trading volume (aggregated bonds and bills) and turnover ratio

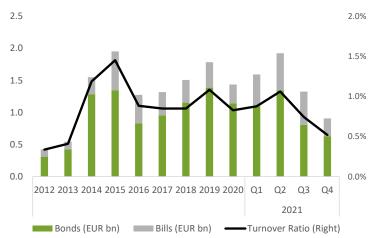




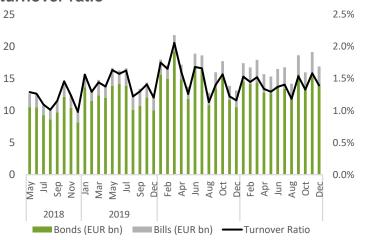
5.5 Italy: Average daily trading volume (bonds and bills) and turnover ratio



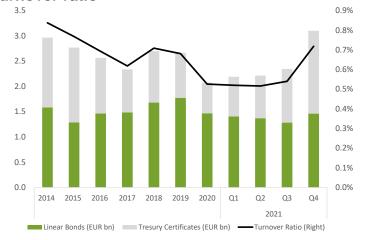
5.7 Portugal: Average daily trading volume and turnover ratio



5.6 Spain: Average daily trading volume and turnover ratio



5.8 Belgium: Average daily trading volume and turnover ratio





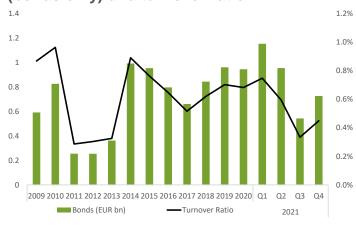
5.9 Sweden: Average daily trading volume and turnover ratio



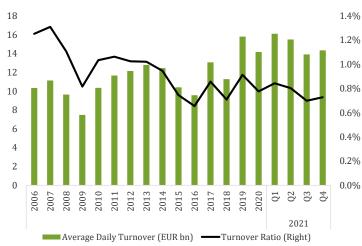
5.11 Netherlands: Average daily trading volume and turnover ratio



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

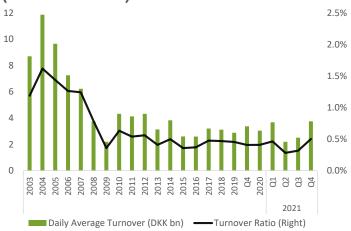


5.12 France: Average daily trading volume (bonds only) and turnover ratio

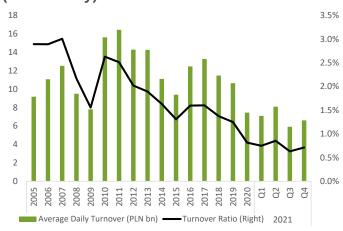




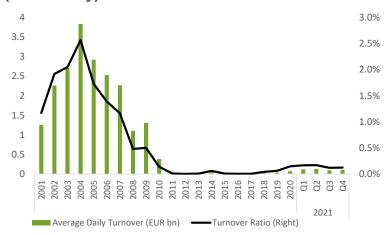
5.13 Denmark: Average daily trading volume (bonds and bills) and turnover ratio



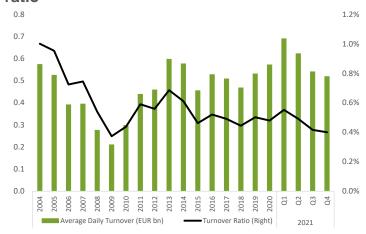
5.15 Poland: Average daily trading volume (bonds only) and turnover ratio



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

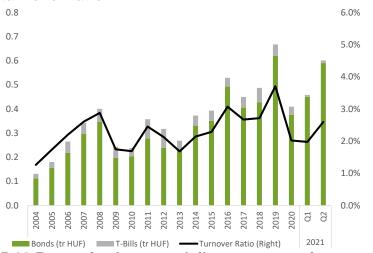


5.16 Finland: Average daily trading volume (aggregated bonds and bills) and turnover ratio

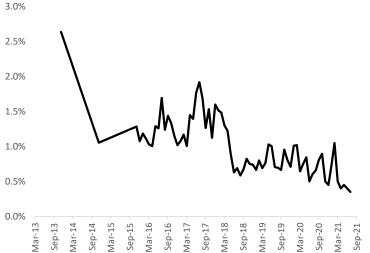




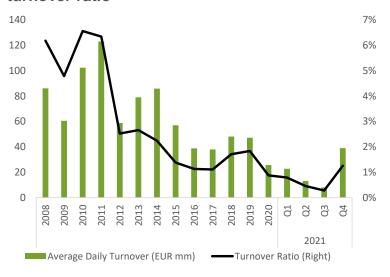
5.17 Hungary: Average daily trading volume and turnover ratio



5.19 Romania: Average daily turnover ratio

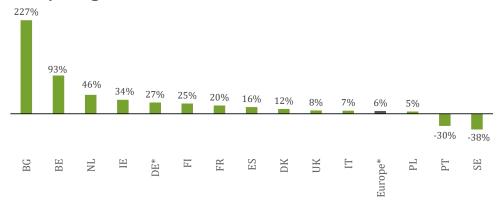


5.18 Bulgaria: Average daily turnover volume and turnover ratio

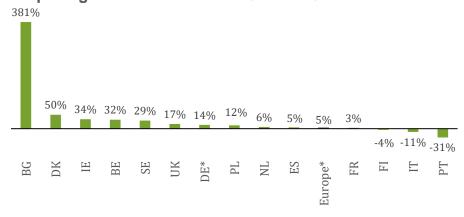




5.20 Annual change in average daily turnover volumes of European government bonds: 4Q20 to 4Q21



5.21 Quarterly change in average daily turnover volumes of European government bonds: 3Q21 to 4Q21

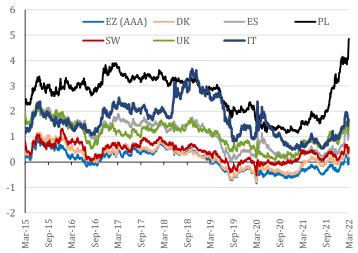




Valuations

afme/ Valuations

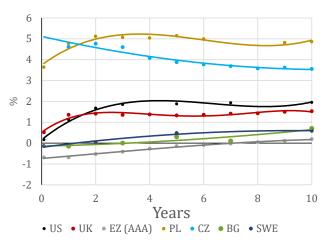
6.1 Selected European 10Y spot yields



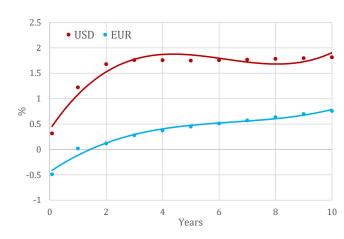
6.4 Market-implied inflation expectations (EuroZone)



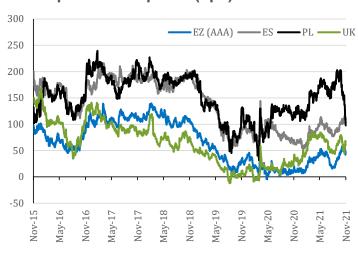
6.2 Sovereign spot yield curve of selected jurisdictions: 9 March 2022



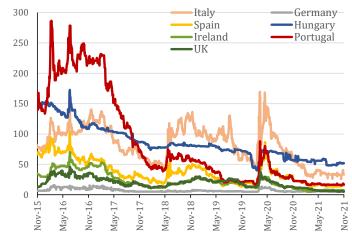
6.5 Overnight index swap (OIS) yield curve: 9 March 2022



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 Departimento 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 Epañoles. 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.

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