

Capital Markets Union

Key Performance Indicators – Fifth Edition

European Capital Markets: Five years tracking the development of CMU –
how much progress has been made?

November 2022



In conjunction with:



Contents

Acknowledgements	2
Foreword	3
Executive summary	4
5 years tracking Capital Markets Union progress	5
Overview of indicators and key findings	7
Main policy recommendations for 2022-23	13
Access to capital	15
1. Market Finance Indicator	16
2. Pre-IPO Risk Capital indicator	23
Pools of investment capital	29
3. Household market investment indicator	30
4. European Long-Term Investment Funds (ELTIFs) Indicator	35
Special feature: market liquidity	38
Recent trends in Equity Market Liquidity	39
Recent trends in fixed income liquidity	43
Geographical location of European market liquidity	46
Transition to sustainable finance and digitalisation	50
5. ESG finance indicator	51
6. FinTech indicator	56
Integration and efficiency of capital markets ecosystem	64
7. Loan Transfer Indicator	65
8. Cross-border finance indicator	74
9. Market competitiveness	79
Appendix 1: Key performance indicators by countries and components: Comparison of progress between 2022 and 2021	86
Appendix 2: Key performance indicators by countries and components: Comparison of progress between 2022 and 2015	87
Appendix 3: Methodology and Data Sources	88
Bibliography	91
Contacts	92



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Foreword

I am pleased to present the fifth publication of our “Capital Markets Union: Key Performance Indicators” report, which tracks how Europe’s capital markets have fared over time. AFME has published this progress report on a yearly basis for the last five years, taking account of the development and advancement of the Capital Markets Union (CMU). We are proud that this report, developed in partnership with 11 other international organisations, has become an industry reference point.

Since we started the report in 2017, major economic, political, regulatory and social developments have impacted the advancement of the CMU. In the last five years, the UK Brexit vote, Covid-19 pandemic and, most recently, the Russian invasion of Ukraine and ensuing energy crisis, have tested the resilience of EU financial markets. As these pressures continue, the completion of the CMU remains essential to ensure the flow of funding to businesses and the economy.

The report finds that Europe is falling further behind other countries in terms of its global attractiveness as a place of investment. Businesses are deciding against going public in the EU, with EU domestic market capitalisation of listed shares falling from 18% in 2000 to just 10% of the global total in 2022. The report also shows that the CMU’s progress is being hampered by two key obstacles, namely, the EU’s equity gap, which continues to widen compared to global peers, and the subdued securitisation market, which remains a material loss to the EU’s financial system.

As the EU competes with other global markets, it is important that the regulatory environment helps to promote the attractiveness of EU markets and grow the EU’s internal capacity. At time of writing, the European Commission has plans which will help; the upcoming Listing Act, for example, will be a key initiative to promote equity finance and boost the competitiveness of EU markets for listings. There is also more that can be done too, such as exploring a European model for hybrid instruments as a means to provide fresh capital to mid-size and SME corporates. Particularly in the current environment, such solutions can help mitigate debt burdens and allow these companies to invest in growth and innovation in a manner that is tailored to their needs.

I would like to welcome EuropeanIssuers as new contributor to this year’s publication and thank the following organisations for their ongoing contributions: the Alternative Credit Council, Business Angels Europe, Climate Bonds Initiative, EBAN, EUROCROWD, EFAMA, European Investors, FESE, InvestEurope and PensionsEurope.

I hope you enjoy reading this year’s edition of the report.



Adam Farkas
Chief Executive
Association for Financial Markets in Europe

“Europe is falling further behind other countries in terms of its global attractiveness as a place of investment”



Executive summary

This report is the fifth edition of the annual Capital Markets Union: Key Performance Indicators report which tracks the development of the EU capital markets ecosystem.

The purpose of the report is to assess the EU's progress in improving the depth of its capital markets against key performance indicators, as well to provide an industry perspective on some of the enablers for growth and ongoing barriers to integration and development.

We group our nine indicators into four areas which seek to measure the various features needed to develop an efficient, deep, and interconnected capital market, namely 1. **Access to Capital**, 2. **Availability of pools of capital for investment**, 3. **Transition to sustainable finance and digitalisation** and 4. **Efficiency of capital markets ecosystem and integration**

In addition to the nine indicators, the report includes a special feature on market liquidity and analytical comment boxes discussing the following important market developments in the EU: the evolution of Decentralised Finance (DeFi); the latest data on the provision of company research; expectations for building an EU safe asset; the need for further data on EU settlement efficiency; consolidation and competition in the Crowdfunding industry; the implementation of the Simple Transparent and Standardised (STS) securitisation regime; the evolution of sustainable assets under management; and tax efficiency across the EU.

Market-based funding and household savings in market instruments decline

The first half of 2022 was characterised by significant socio-economic and geopolitical developments which resulted in a major reversal of capital markets activity in Europe and globally, compared to the record gains of market-based financing levels of the previous two years. Inflationary pressures, exacerbated by the Russian invasion of Ukraine, and combined with monetary tightening and fears of recession - all in quick succession following the covid-19 pandemic - have led to an increase in the cost of capital and created a climate of market uncertainty and volatility more generally.

The share of market-based funding used by European corporates reduced, households saw a decline in their savings in the form of market-based instruments and the securitisation market continues to be subdued.

The record market based-funding levels of 2021, noted in last year's report, were mostly a result of the extraordinary support measures of the past year rather than a true turning point for European capital markets.

Private capital investment for SMEs, however, has remained robust following the accumulation of record levels of *dry powder* (unspent capital held by private-equity firms) at EUR 231bn (Mergermarket). Nonetheless, there are signals of investment deceleration in the second half of 2022 and ongoing difficulties for private equity investors to exit their positions via Initial Public Offerings (IPOs).

EU competitiveness held back by an EU equity gap and subdued securitisation market

This year's report also shows that while there has been ongoing progress in the development of the Fintech ecosystem, the EU's undersized equities and securitisation markets continue to perform far below their potential, holding back the EU's competitiveness in comparison to other global markets. This is a trend that has been observed through every edition of AFME's CMU KPIs report over the past five years.

The slow progress in the EU's equity markets is reflected in the declining proportion of global equity market capitalisation of listed shares. EU domestic market capitalisation of listed shares accounted for 10% of the world's total in 2022, a decline from 18% in 2000. This has been a result of a combination of factors, including an ongoing trend of company de-listings (from 7600 domestic listed companies in 2000 to 7200 in 2022), fewer IPOs (from an annual average of 370 in 2000-06 to an expected 100 in 2022), and most recently lower company valuations (price-to-earnings ratio of 12x in the euro area against 19x in the US and 17x in Asia).

The EU securitisation market has remained subdued, which contrasts with the medium-term evolution of growth in the United States, Australia, and China, and exhibits a larger contraction than that observed in Japan. While securitisation in the US, Australia and China played a supporting role in freeing up capacity for bank lending during the pandemic, in the EU, average annual securitisation issuance has declined by 10.9% compared to pre-pandemic averages.



5 years tracking Capital Markets Union progress

The EU financial system has remained resilient in the face of successive shocks

Over the last five years, this series of reports has consistently kept track of progress on delivering the CMU objectives. Since we published the first CMU KPI report, just three years after the launch of the first CMU action plan, major economic, political, regulatory, and social developments have affected progress towards building a true unified European capital market. The systems has proven to be resilient.

The UK's Brexit referendum and subsequent process of departure from the EU was among the main political developments impacting CMU during this period, not least given the UK's significant share of capital markets activity in Europe. Although markets proved highly resilient to the economic consequences of the leave vote, the finalisation of the transition period has prompted changes to the geographical location of some European capital markets activities. The location of equity liquidity pools has changed over the last two years to trade within the EU, a larger portion of Euro area government bond trading is undertaken by Euro area counterparties, while FX and derivatives trading continue predominantly intermediated from the UK.

The COVID-19 pandemic also brought an unprecedented shock to the economy, which tested the resilience of the banking and wider financial system. The coordinated regulatory, fiscal, and monetary response facilitated the provision of market-based finance to record levels, proving that capital markets are more than a "spare tire" (as originally framed by former ECB President Mario Draghi¹) and can be an engine for growth.

The pandemic created the political and economic incentives for a coordinated EU fiscal response. The European Commission launched unprecedented bond issuance programme in the form of social, green, and conventional bonds accumulating more than €200bn in proceeds as of 2022 (and expected to surpass €750bn). Expectation is growing towards building the first steps for an EU safe asset (a liquid reference of high credit quality) with an EU debt programme of permanent nature. The large issuance of EU bonds is an example of what could be a game changer in scaling up EU markets and promoting the international role of the euro.

Most recently, in 2022, the market uncertainty created by the Russian invasion of Ukraine during the post-pandemic period, tested, once again, the resilience of the EU financial system. In contrast to the trends in EU capital markets activity during the pandemic, the rapid increase in the cost of capital has resulted in a decline in the proportion of market-based funding by corporates to levels below those observed prior to the pandemic, with equity capital raising in public markets deteriorating in particular. The reversal of major monetary stimulus has rapidly reduced the amount of negative yielding debt from \$18tn in 2021 to around \$2tn, within just a few months.

We are currently experiencing a new test of the EU's financial and economic resilience as a result of the energy crisis, the ramifications of which are still to be observed.

“Major economic, political, regulatory, and social developments have affected progress towards building a true unified European capital market. The systems has proven to be resilient.”

1 See <https://www.ecb.europa.eu/press/key/date/2016/html/sp160922.en.html>



Capital markets are contributing to building a more sustainable and digital economy

In the last five years, the evolution of ESG markets is particularly remarkable, as the EU continues to consolidate its global leadership in sustainable finance. The amount of EU ESG debt issuance has increased from €61bn in 2017 to €360bn in 2021. EU and national authorities have encouraged this transition via strong strategies to combat climate change and ambitious decarbonisation targets. The development of the regulatory framework in this area – particularly the EU taxonomy for sustainable activities, the ESG reporting framework, and an EU green bond standard are expected to further support the EU's sustainability transition and global leadership.

The EU has also progressed on the road towards greater digitalisation, as Member States have improved their local regulatory frameworks with new sandboxes and innovation hubs. These digital trends, have, however, brought about challenges for supervisors and regulators as unregulated financial activities (some via Decentralised Finance protocols, or DeFi) have grown exponentially over the last years.

The banking system has significantly reduced the amount of non-performing loans (NPLs) on its balance sheets, from more than €1tn in 2017 to €380bn in 2022. This has been in part due to the contribution of asset disposals via loan portfolio transactions or via securitised products (particularly in Italy and Greece).

Over the last five years, private capital has expanded in an unprecedented fashion both in the EU and in the US, in part supported by favourable monetary conditions. Capital raised via private credit in Europe has grown from \$36bn in 2017 to \$57bn in 2021, while EU private equity investments have more than doubled over the last five years from €13bn in 2017 to €38bn in 2021.

Some CMU initiatives have fallen short of delivering optimal results

Changes to the securitisation framework were delivered at EU level with a new STS framework. However, the recovery of the securitisation market has fallen short of expectations. Further work needs to be done to unlock the contribution of this important tool for financing EU growth.

There is no doubt that there have been some considerable policy achievements over the last five years. However, despite some of the major improvements, the EU has not closed the large gap in capital markets financing and continues as a predominantly bank lending-based economy. Some long-standing ambitions continue such as establishing a unified insolvency framework, sounder withholding tax proceedings, and facilitating EU cross-border pensions savings.

Levels of capital market development remain uneven across Europe

The level of development of capital markets continues to vary widely between Member States. Deeper pools of capital and stronger levels of market-based financing tend to be observed in Member States with established systems for private pension provisioning, strong levels of intra-EU and global integration and favourable conditions for retail investment. Policies and legal frameworks at the national level – in areas where the EU may not have full competencies – remain critical to the development of local ecosystems. Overall, a number of Member States show significant room for growth in market-based financing and potential to promote a more effective use of citizens' savings.

The group of trade associations and international organisations supporting this report have led efforts in tracking the progress of CMU. We hope that this has been a useful contribution to the work of the Commission and other organisations which seek to develop other tracking tools to monitor progress at EU and Member State level. We look forward to continuing our evidence-based observations on how the EU progresses on its journey towards building a unified CMU.

“The recovery of the securitisation market has fallen short of expectations”



Overview of indicators and key findings

As markets evolve and with the development of new market activities, we have expanded our indicators to cover new relevant areas for analysis. In this year's report we have produced a new indicator to compare competitiveness of the EU capital market ecosystem.

A summary of each indicator and what it measures is shown in the box below:

1. Access to capital

- a. Market Finance Indicator:** measures how easy it is for companies in the EU to enter and raise capital on public markets (initial public offerings, bonds, secondary equity offerings);
- b. Pre-IPO Risk Capital Indicator:** assesses how well start-ups, small and medium enterprises (SMEs) and non-listed companies can access risk capital finance;

2. Pools of investment capital

- a. Household Market Investment Indicator:** measures the amount of savings from retail investors deployed in capital market products and instruments like bonds, equity shares, investment funds and pension funds;
- b. ELTIF Indicator:** measures the availability of European Long-Term Investment Fund (ELTIF) products financing long-term projects and SMEs;

3. Transition to sustainable finance and digitalisation

- a. ESG Finance Indicator:** quantifies the labelling of new ESG bond issuance;
- b. FinTech Indicator:** assesses to what extent national countries are able to host an adequate FinTech ecosystem;

4. Efficiency of capital markets ecosystem and integration

- a. Loan Transfer Indicator:** measures the capacity to transform loans into capital markets instruments such as securitisations and loan portfolio transactions;
- b. Cross-border Finance Indicator:** measures capital markets integration within Europe and with the rest of the world.
- c. EU market competitiveness*:** measures EU capital markets competitiveness from a holistic perspective, recognising the multiple factors behind deep, liquid and efficient capital markets and comparing them with the United States and the United Kingdom.



Overview of indicators and key findings

Key findings

EU corporates reduced their capital markets funding to pre-covid levels

The recapitalisation of EU corporates seen through 2020-2021 abated sharply during H1'22.

Total new (debt and equity) issuances decreased by 32% year-over-year (annualised) during the first half of 2022, with a particularly steep decline (86%) in EU IPOs while issuances of investment grade bond markets were comparatively less affected (new IG bond issuances fell by 5%). Market uncertainty and an estimated 200 basis increase in the cost of equity contributed to the fall in equity issuances, while rising inflationary pressure and global monetary tightening contributed to increasing the cost of market debt.

Pre-IPO equity investment in EU SMEs remained strong, but challenges to be expected

Despite the heightened uncertainty in capital markets, pre-IPO risk capital investment in EU SMEs remained relatively strong with investment via private equity funds, venture capital, business angels, and equity crowdfunding platforms providing €34.3bn in new flow in the first half of 2022, or 73% of the amount invested in 2021 (full year). A growing challenge for investors is the capacity to exit investments as the IPO market remains subdued and as public markets see lower valuations.

European households' capital markets savings dropped to pre-covid levels, mainly due to falls in asset valuations

Although the long term (10 year) trend in household capital market savings is positive overall, this year's decline shows that the more marked increase during the covid pandemic was of a temporary rather than structural nature.

No pan-European Personal Pension Product (PEPP) funds have been registered in the EU at the time of writing.

The number of ELTIFs rose by 8 new funds during 2021-22, but the product remains well below potential

The amount of assets invested via European Long-term Investment Fund (ELTIF) products (€2.4 or €7.7bn depending on the source) represents a minor portion of the €5.9tn in net asset value of EU Alternative Investment Funds (AIF) and is significantly below the long-term investment needs of digital and green transition. The announced political compromise as part of the ELTIF review have been warmly welcomed by industry and it is hoped that ELTIFs will now play a more significant role in the CMU.

Growth in green bonds supported total ESG issuances

EU green bond issuance continued to rise albeit at a slower pace this year, with volumes up 8% year-on-year (annualised) in the first half of 2022, compared to a 74% increase in 2021 largely due to sovereign issuance. The Netherlands, France, Germany, Italy, Spain and the European Commission contributed 87% of EU green government bond issuance during the first half of 2022.

The shift in EU ESG markets towards greater social bonds, observed since the onset of the Covid-19 pandemic, seems to have receded as the European Commission concluded its SURE bond issuance scheme.

“EU green bond issuance continued to rise albeit at a slower pace this year”



Improvement in the FinTech regulatory ecosystem

The environment for the financial technology sector improved overall since 2020. While FinTech funding was down across the globe since the peak of last year, the number of EU Fintech unicorns increased (from 13 to 18) and more Member States are offering regulatory sandboxes to facilitate innovation.

Loan transfers: ABS issuance remains subdued, combined with more limited NPL disposals

The proportion of EU loans outstanding transferred via securitisation and loan portfolio sales fell to 1.6%, the lowest value on record (from 2015) and half the value in 2018 (3.2%).

While the US, China and Australia have also recorded falls in securitisation issuance during H1 2022, a key difference with the EU market is the way in which securitisation contributed to free up bank lending capacity during the pandemic. US securitisation issuance grew 74.5% during 2020-2021 vs 2017-2019, while EU issuance declined 10.9% over the same period.

Lower volumes of loan sales can be attributed in part to the sustained efforts of the banking sector to reduce stocks of non-performing loans (NPLs).

Slight decline in intra-EU integration and of the EU with the rest of the world

The decline has been driven by lower intra-EU private equity and M&A activity as these activities have been undertaken at a greater scale domestically. Luxembourg continues as the most integrated market within the EU predominantly due to its closely integrated fund and asset management industry.

Capital markets integration of the EU with the rest of the world also deteriorated in 2022, in part, due to a lower proportion of debt marketed globally. According to Dealogic, 7.4% of EU debt issuance was marketed globally from 9.7% in 2021 and 19.2% in 2016.

The US and UK lead in global capital market competitiveness

Over the last five years, EU capital markets have marginally improved in global competitiveness, although at a slower pace than that observed for the UK and the US.

The slow progress in the EU's capital markets competitiveness is reflected in the declining proportion of global equity market capitalisation of listed shares. The EU domestic market capitalisation of listed shares accounts for 10% of the world's total in 2022, a decline from 18% in 2000.

“The EU domestic market capitalisation of listed shares accounts for 10% of the world's total in 2022, a decline from 18% in 2000”



Overview of indicators and key findings

Table 1: Progress of EU Capital Markets Against Key Performance Indicators

	Indicator	What this indicator measures	2018	2021	2022 H1*	National Findings
Access to capital 	Market Finance NFC Equity and Bond issuance as % of total NFC annual financing	Capacity for companies to raise finance on public markets	12.8%	14.1%	9.4%	Malta and the Czech Republic saw a large increase in market-based finance explained by the presence of a few, very large, transactions atypical for the size of both markets Germany continued to exhibit a lower proportion of market-based funding compared to the EU average.
	Pre-IPO Risk Capital Equity crowdfunding, Business Angel Growth Private Equity investment, and venture capital investment as % of loan and risk capital financing	How well start-ups and non-listed companies are able to access finance for innovation	2.4%	5.2%	6.8%	Estonia and Ireland lead in risk capital availability, predominantly driven by private equity and business angel investment. Italy and Spain stands as the large member states with the highest potential to increase the presence of funding from risk capital sources.
Pools of investment capital 	Household Market Investment Household financial assets saved in financial instruments (excluding cash, deposits and unlisted equity) as % GDP	Availability of savings from retail investors to support capital market financing	98%	114%	104%	Netherlands, Denmark, and Sweden continue as the countries with the deepest pools of capital relative to GDP
	ELTIF Products Number of European Long-Term Investment Fund (ELTIF) products marketed in the EU	Availability of ELTIF fund products financing long-term projects and SMEs	10	49	57	Italy is the country with the highest number of ELTIF vehicles marketed in the country, followed by France, Spain and Germany Currently there are 9 countries that do not offer ELTIF products locally: Slovenia, Slovakia, Romania, Lithuania, Latvia, Hungary, Estonia, Croatia, and Bulgaria.
Transition to sustainable finance and digitalisation 	ESG Finance ESG bond issuance as % of total bond issuance	Labelling of ESG bond markets	3.6%	14.4%	12.8%	The Netherlands, France, Germany, Italy, Spain and the European Commission were responsible for 87% of H1'22 green government bond issuance. 13 of the 27 EU Member States have not issued green sovereign debt: Czechia, Finland, Greece, Estonia, Lithuania, Portugal, Romania, Slovakia, Malta, Slovenia, Bulgaria, Croatia and Cyprus
	FinTech Composite indicator of funding for FinTech companies, talent pool, regulatory environment, and innovation. Range 0-1	Capacity to enable an adequate FinTech ecosystem	0.15	0.19	0.19	Italy, Latvia and Slovakia have introduced regulatory sandboxes over the last year Malta is the only EU country that has not established an innovation hub

2 For the purpose of estimating trends, this table compares the respective indicators for the period 2018 (as the baseline for a 5-year evaluation) and a year ago (2021) against the most recent performance in 2022.



	Indicator	What this indicator measures	2018	2021	2022 H1*	National Findings
Efficiency of capital markets ecosystem and integration 	Loan Transfer Securitisation issuance and loan portfolio transactions as % of outstanding bank loans	Capacity to transform bank loans into capital markets instruments (securitisation and loan transactions)	3.2%	2.3%	1.6%	Cyprus and Ireland lead in the indicator value, predominantly driven by large asset disposals on non-performing loans
	Cross-border Finance Composite indicator of cross-border M&A transactions, equity & bond issuance, Private Equity, and portfolio holdings. Range 0-1	Capital markets integration within the EU	0.23	0.24	0.23	Luxembourg continues to lead in intra-EU integration as the EU's hub for the cross-border distribution of investment vehicles with the largest domicile of UCITS and AIFS in the EU.
		Capital markets integration with the rest of the world	0.18	0.20	0.19	Luxembourg is the regional leader driven by the large portion of global fund shares registered in the country
	Market competitiveness Composite indicator of access to capital, market liquidity, pools of capital, transition to a sustainable and digital market	Measures attractiveness of EU capital markets	0.24	0.29	0.26	Luxembourg and Sweden are the countries with the most significant progress, driven by the increase in access to finance (SE) and growth in facilitating a green transition (LU) Over the last five years 22 of the 27 EU countries have improved their capital markets competitiveness, with the exception of Poland, Bulgaria, Lithuania, Portugal and Ireland.

*Data as of 2022 H1 except for the Household Market Investment indicator which is based on Q1 2022 data.



Overview of indicators and key findings

Table 2: European Country rankings by indicator

The table below shows country rankings for EU member states and the United Kingdom (where the data is available) across the indicators included in this report.

	Access to Capital		Pools of Investment Capital		Transition to Sustainable Finance and Digitalisation		Efficiency of Capital Markets Ecosystem and Intergration				Average Country Rankings (2022-2019)	
	Market Finance Indicator	Risk Capital Indicator	Household Market Investment Indicator	ELTIF Indicator	ESG Finance Indicator	FinTech Indicator	Loan Transfer Indicator	Intra-European Integration Indicator	Global Integration Indicator	Competitiveness	Average ranking 2022	Average ranking 2019
Austria	22	10	10	12	4	4	11	6	15	11	8	11
Belgium	18	21	5	5	10	21	28	4	12	10	14	6
Bulgaria	25	23	24	28	28	27	28	18	10	28	26	25
Croatia	25	15	16	28	28	24	28	28	20	22	24	25
Cyprus	25	20	17	15	28	28	1	21	4	15	16	15
Czech Republic	2	4	20	17	28	23	28	15	24	20	18	20
Denmark	8	8	2	8	3	2	28	22	5	4	4	5
Estonia	24	1	23	28	28	7	28	10	25	16	20	17
Finland	11	6	11	10	9	18	8	8	13	14	7	8
France	10	9	8	2	5	19	7	19	17	5	6	4
Germany	13	11	7	4	7	16	12	25	11	6	10	9
Greece	21	12	26	14	28	15	3	27	14	21	18	13
Hungary	9	16	18	28	12	12	28	23	16	17	21	24
Ireland	7	5	13	13	8	10	2	13	3	9	3	3
Italy	12	24	6	1	19	13	4	16	22	8	12	12
Latvia	20	14	22	28	14	9	28	3	21	24	22	21
Lithuania	16	2	27	28	28	3	28	9	19	18	17	19
Luxembourg	6	18	12	8	1	6	28	1	2	7	5	10
Malta	1	13	14	15	28	20	28	7	7	12	13	23
Netherlands	5	7	1	6	2	5	9	5	6	2	2	2
Poland	17	25	25	18	18	14	28	26	23	23	23	22
Portugal	15	17	15	11	15	22	10	11	18	19	15	16
Romania	14	26	28	28	17	26	28	24	27	26	28	18
Slovakia	23	28	19	28	28	17	28	14	26	25	25	27
Slovenia	25	27	21	28	16	25	28	12	28	27	27	28
Spain	19	22	9	3	11	8	5	17	9	13	10	13
Sweden	4	19	4	7	6	11	28	20	8	3	9	7
UK	3	3	3	NA	13	1	6	2	1	1	1	1

Ranked 1

Higher rankings ←

→ Lower rankings

Ranked 28

NA: data not available to produce the indicator.

Countries with no capital markets activity in a given indicator are ranked 28th.

Main policy recommendations for 2022-23

As we reach the advanced stages of the current EU legislative cycle, we call on policymakers to give a high degree of priority to the advancement of the CMU project in its retail and wholesale market dimensions. Current initiatives under discussion as part of the second CMU Action Plan and upcoming Commission proposals have the potential to deliver significant steps in the CMU journey. Success ultimately depends on the quality of regulation and its effects in advancing the CMU objectives, and not the number of legislations adopted.

It is clear that the EU needs to continue to work towards significantly expanding and deepening its capital markets capacity. The strong case for the CMU in view of the capital mobilisations demanded by the green and digital transitions has been reinforced by the combined challenges arising from the recent geopolitical and macroeconomic developments in 2022 and the ongoing recovery from the Covid-19 pandemic. The EU needs, more than ever, a strong and diversified financial system capable of effectively mobilising Europe's deep pools of savings, supporting businesses of all sizes, promoting innovation and attracting leading global players.

We have identified key policy recommendations in the development of the CMU in the coming year. They seek to address the demand side, supply side and infrastructure of the capital market in order to advance EU integration holistically and coherently.

While not being exhaustive, the recommendations summarise the views supported by the twelve organisations co-branding this publication³.

1. Access to a wide range of risk capital options for EU companies

Supporting public markets and improving the IPO environment for all companies: the EU Listing Act
An attractive environment for IPOs and capital raising in public markets is vital to support innovative, fast-growing companies and an expansion of Europe's equity markets. A well-functioning IPO market is also important in the pre-IPO environment as it impacts on exit strategies and therefore the provision of risk capital by venture capital type firms.

In order to allow companies to access capital effectively, policy makers should support measures that strengthen public markets and improve the IPO environment for all companies. The EU Listing Act will be an important initiative to boost the competitiveness of the EU markets for company listings. Features of the existing EU framework that are unclear, inconsistent in a harmful manner, disproportionately burdensome on issuers and/or which fail to provide adequate reassurance to investors should be addressed in this review.

The Listing Act should targeted simplifications to Prospectus Regulation and Listing Directive requirements to the benefit of SME and non-SME issuers.

Supporting company recapitalisation needs: the potential of hybrid instruments

The deteriorating economic outlook this year has further demonstrated the need to ensure that smaller corporates without easy access to capital markets can rely on funding options tailored to their needs during a crisis situation. In this context, we continue to see value in exploring a European model for hybrid recapitalisation instruments as a means to provide fresh capital to mid-size and SME corporates to help mitigate debt burdens or to invest in growth and innovation in a manner that is tailored to addressing their specific needs. Authorities could give consideration to the feasibility and benefits of establishing a common pan-European model for such instruments⁴.

³ Please refer to the separate position papers of the co-branding organisations for more detailed views on these recommendations, as well as feedback on other important CMU initiatives not addressed in this report, such as the MiFIR Review (including proposals to establish a European consolidated tape), the Solvency 2 Review (on areas other than securitisation) and the Debt-equity bias reduction allowance initiative (DEBRA).

⁴ See AFME (January 2021) "Recapitalising EU businesses post COVID-19. How equity and hybrid markets instruments can drive recovery". Available [here](#). AFME, in partnership with PwC and Linklaters, published a second report (November 2021) "Introducing a New Hybrid Recapitalisation Instrument for Smaller EU Corporates" discussing potential key features and attributes of a hybrid instrument model that could be envisaged in this context. Available [here](#).



2. Increasing investor participation

Direct participation of retail investors in EU capital markets remains very limited. While this is a very much a structural feature of EU financial systems, the CMU project crucially depends on reshaping those structures in favour of retail and sophisticated investors being willing and able to invest private savings into capital market products both directly and indirectly.

The European Commission's upcoming "Retail investment package" should aim to promote easier access to financial advice for retail investors to ensure that investments are suited to their individual needs and preferences. As part of the green transition, attention should also be given to measures that promote financial literacy in relation to sustainability aspects, targeting all market participants.

3. Supporting integration and the efficiency of the capital markets ecosystem

Supporting market-making and other bank services to end-users

It is seen essential for the functioning of European capital markets that banks are not unduly hampered in carrying out their function as intermediaries. A well-balanced implementation of the Basel III banking package should be pursued as this is fundamental to support market-making and other essential services provided by banks to end-users should continue to be supported. Given the positive picture of venture capital funds, we would urge policy makers to support continued recognition of well-diversified portfolios, including exposures to venture capital funds, by continuing to allocate these a 190% RW in CRR3 (as they do in CRR2).

Addressing the imbalances in the European securitisation framework

Securitisation is uniquely placed to support the European economy in the period ahead through its ability to transfer risk while enhancing banks' capacity to manage their balance sheets efficiently to continue to lend to businesses and households. Policy makers should address aspects of the framework which are mis-calibrated and discourage issuance and investment in securitisations. EU legislators should use the opportunities provided by the current legislative discussions on the CRR3/CRD6 and Solvency 2 to include adjustments to securitisation-related calibrations in these legislations and concrete mandates for further revisions to be undertaken.

Removing inefficiencies in withholding tax procedures and the post-trading environment

A high degree of fragmentation continues to be associated with withholding tax (WHT) since WHT relief procedures differ across Member States. These procedures tend to be complex, lengthy and cost-inefficient, ultimately acting as a barrier to intra-EU and cross-border investment. The upcoming legislative initiative in this area should aim to introduce an effective, standardised, EU-wide system for withholding tax procedures.

It is also vital to continue to support settlement discipline without undermining the functioning of EU markets. EU authorities should reconsider the appropriateness of mandatory buy-ins as a tool to improve settlement rates as it is acknowledged in the Commission's impact assessment that this approach could have a disproportionately negative impact on the liquidity and competitiveness of EU capital markets.

We also encourage the Commission to accelerate the evaluation of the impacts of the Shareholder Rights Directive II requirements that have applied since September 2020. We emphasise the need to work towards a common pan-European definition of 'shareholder', to make it easier for both issuers to meaningfully identify their shareholders, and for investors to exercise their rights.



Access to capital



1. Market Finance Indicator

1. Market Finance Indicator

The Market Finance Indicator measures the capacity for companies to raise finance on public markets. The indicator does this by quantifying the proportion of total finance for Non-Financial Corporates (NFCs)⁵, which is provided by capital markets instruments (equity and bonds). The indicator is calculated as annual gross NFC equity and bond issuance as a percentage of the sum of annual gross lending (new loans) to NFCs and equity and bond issuance⁶.



Flow measures⁷ (annual new issuance), rather than stock measures (outstanding amounts) are used in this indicator to allow a better comparison between equity markets and bonds and loans, and to more accurately analyse changes in activity in a given year.

EU capital markets primary issuance shrinks 32% in 2022 H1 as global equity issuance collapses

Total capital markets funding for EU NFCs during 2022 H1 was the lowest since 2012, with firms instead relying on bank loan financing, with both bond and equity issuance falling sharply since 2020-2021. As of 2022 H1, 9.4% of EU NFC funding was derived from capital markets sources, down from 14.1% in 2021 and 11.3% in 2019, pre-pandemic.

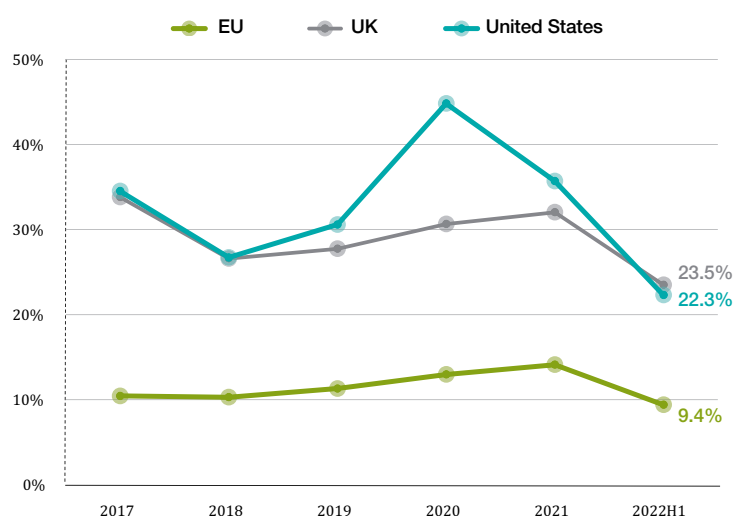
Consistent with trends in the US and the UK, the recapitalisation of EU corporates throughout 2020-2021, during which record volumes of primary market issuance were recorded in European capital markets, has abated during the first half of 2022 as EU capital markets issuance decreased 32% YoY (annualised) during 2022 H1.

“Total capital markets funding for EU NFCs during 2022 H1 was the lowest since 2012”

⁵ Non-financial corporations produce goods and services for the market and do not, as a primary activity, deal in financial assets and liabilities.

⁶ The indicator does not consider NFC finance provided by unlisted equity and trade credit.

⁷ It should be noted that there is not a publicly available data source for US lending to NFCs which is directly comparable to the statistic for EU countries. For the EU, bank lending has been used as a proxy for total lending, due to the comparatively small amount of non-bank lending. This is not the case in the US, so we have estimated bank and non-bank lending to NFCs in the US using the methodology in Appendix 2.

1.1: Market Finance Indicator (NFC equity and bond issuance as a % of total NFC annual financing)⁸

Source: Dealogic, US FED, ECB, BoE and other European central banks

Drivers of negative growth

The reduction in EU capital markets issuance of 32% YoY (annualised) during the first six months of 2022 was driven by a decline in both equity issuance, of 68% YoY (annualised) and debt issuance, which decreased 21% YoY (annualised).

EU equity markets have not maintained the momentum observed during 2020-2021 with IPO issuance falling 88% YoY (annualised) during 2022 H1. Secondary offerings have fallen 49% YoY (annualised) during 2022 H1 with the volume of convertible equity products issued during this period at a record low, of EUR 0.4 bn as of June 2022, representing a decline of 92% YoY (annualised).

The drop in IPO issuance has occurred as EU economies face increased economic uncertainty as a result of increased energy prices and other inflationary pressures across the continent. Furthermore, the record IPO volume issued during 2021FY was partially supported by deals which were delayed from 2020 as a result of the pandemic and associated lockdowns. Secondary offerings remain the dominant constituent of equity funding for EU NFCs, comprising 84% of total equity issuance in 2022 H1, up from 54% during 2021.

Most recently, in the second half of the year, Porsche's successful IPO raised EUR 9.1bn from markets – by far the largest European IPO during the year and the largest in history by market capitalisation. The deal had significant PanEuropean retail investor participation marketed simultaneously in six European countries. This deal represented 78% of the total EU IPO volume by non-financial corporations in the year, and if included in the calculation of the Market Finance indicator value, it would have increased the metric from 9.4% to 9.9% in the EU— still below 14.1% observed in 2021.

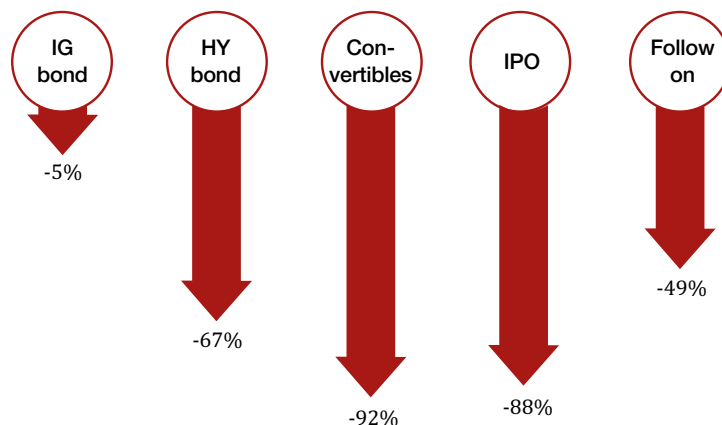
“EU equity markets have not maintained the momentum observed during 2020-2021 with IPO issuance falling 88% YoY (annualised) during 2022 H1”

⁸ For the US, this indicator aggregates lending provided by banks and non-banks.



1. Market Finance Indicator

1.2: Breakdown of EU market finance by category (YoY % change)



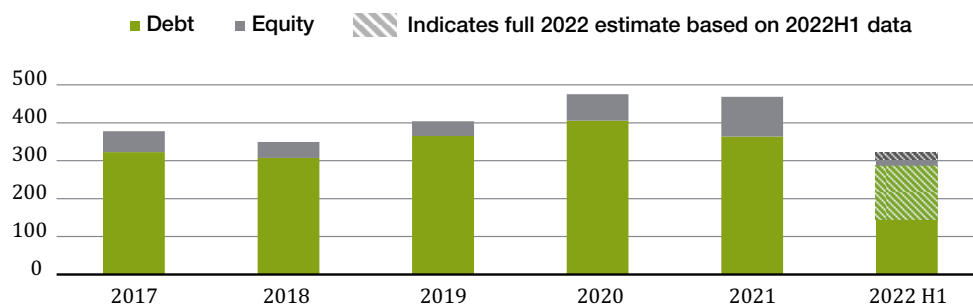
Source: Source: Dealogic, YoY % changes based on annualisation of 2022 H1 issuance volumes

Investment Grade (IG) bond markets have remained the most resilient category in terms of primary issuance across the EU capital markets funding as NFCs have issued EUR 128 bn as of 2022 H1, down 5% YoY (annualised) compared to 2021. In nominal terms, HY bond issuance has fallen by the largest magnitude across capital markets, with volumes in 2022 H1 down 67% YoY (annualised) with 2022FY issuance expected to be around EUR 60 bn lower than the total amount issued during 2021.

Bank lending to EU NFCs increased 8% during 2022 H1, when half-year figures are annualised. As bank loans are a component in the denominator of the Market Finance Indicator, this has acted as a downward pressure on indicator values in 2022 H1.

As a result of sharper relative falls across the other financing channels, IG bond issuance has reinforced its historical dominance in terms of the proportion it makes up of total market finance, with 80% of total NFC capital markets funding derived from IG bond issuance during 2022 H1, up from 58% during 2021. This corresponds to a share of 8.3% of total EU NFC financing as a whole during 2022 H1, once bank loans are taken into account.

1.3: Breakdown of EU market finance (EUR bn)



Source: Source: Dealogic, US FED, ECB, BoE and other European central banks



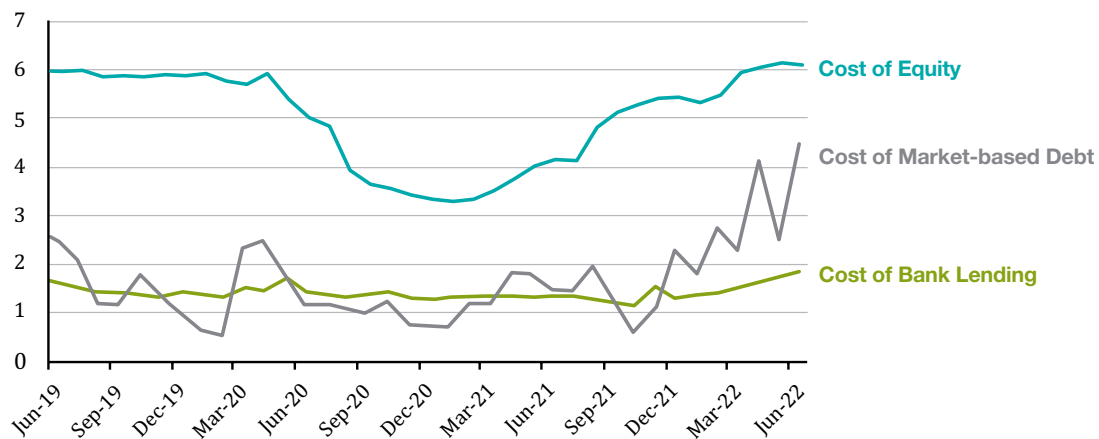
Higher cost to access markets

The evolution of the price to access equity, debt and bank lending explains the recent dynamics in corporates' funding mix. As shown on chart 1.4, AFME estimates indicate that the cost of equity funding has increased c200bps for Euro Area NFCs over the last year, while the cost of market-based debt (estimated as coupons paid for 10Y corporate debt origination) has also increased in tandem.

Various factors may have contributed to the sharp increase in the cost of equity, both for the equity risk premia and the risk-free rate components: ongoing geopolitical tensions in Eastern Europe, supply chain issues holding back post-covid recovery process, and wider volatility and asset repricing. The cost of debt has also risen on the back of surging inflation and monetary policy tightening.

The cost of bank lending continues at roughly below 2% for NFC loans with a 10Y maturity, with a steady increase over the last year, but at a lower magnitude than that for market-based debt.

1.4: Cost of equity, cost of market-based debt and cost of bank lending (%)



Source: ECB, Dealogic, Eikon, and AFME. Monthly averages. Cost of equity estimated as an average of multiple models based on P:E and dividend yield models

Global comparison

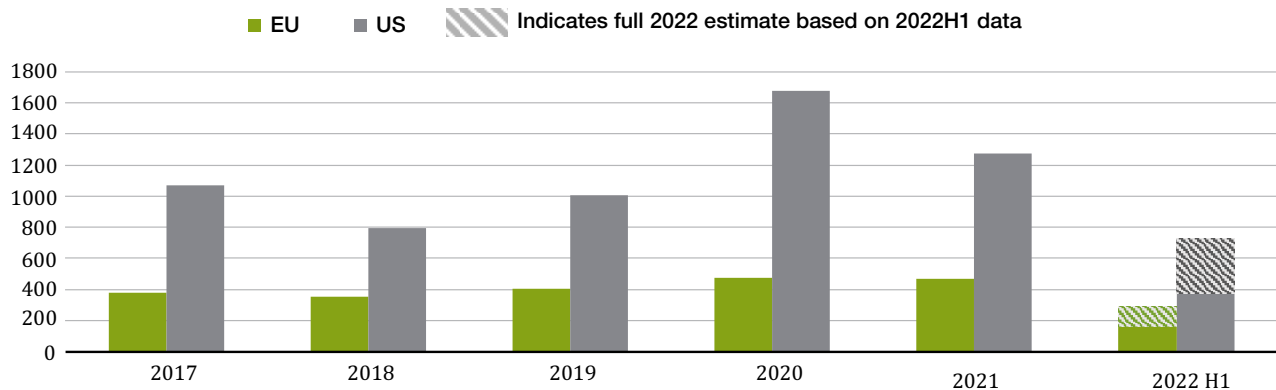
The US has also experienced a significant decline in capital markets issuance during the first half of 2022 with the combined volume of bond and equity issuance down 24.3% YoY. Similarly to the EU, activity within US equity markets has slowed down substantially during 2022 H1, with IPO issuance down 94% YoY, secondary offerings down 62% YoY and issuance of convertible equity products down 77% YoY.

Trends in the US bond primary issuance market also mirrored the EU trend with IG issuance remaining the most resilient of all issuance types and recording the smallest relative fall across categories of 8% YoY, while HY bond issuance decreased 66% YoY.



1. Market Finance Indicator

1.5: Evolution of EU and US capital markets issuance by non-financial corporations (EUR bn)

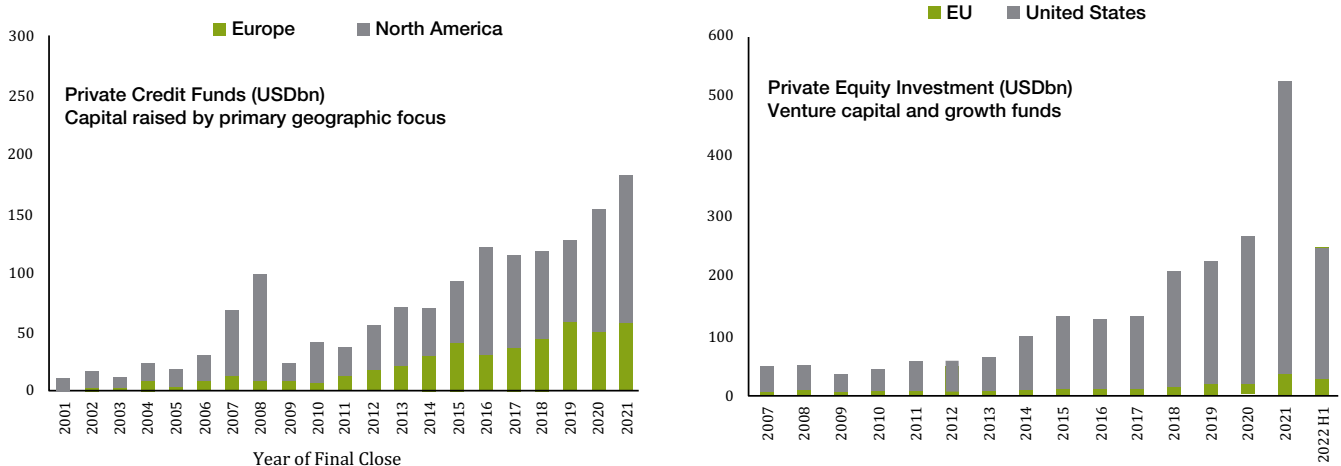


Source: Dealogic

Private market funding sources continue to benefit EU NFCs with USD 57 bn (EUR 50bn) of additional financing raised in private credit funds during 2021, representing around one tenth of total public markets issuance by non-financial corporations (EUR 469 bn in 2021). While the growth rate of capital raising for EU focussed private credit funds has slowed in recent years compared to the rapid expansion in European private credit markets from 2010-2019, the total sum of capital raised for EU focussed private credit funds has continued to increase significantly. Alongside its traditional role as a source of growth capital for SMEs looking to expand, the sector also acted as an important provider of much needed liquidity for SMEs and mid-market businesses during the Covid-19 pandemic. During 2022 the sector has again added to the resilience of the EU economy, providing liquidity to businesses affected by higher inflation, increased energy costs and the broader turbulence these factors are causing in the economy.

The EU is still regarded as the market with the greatest near-medium term growth potential by global private credit managers. While capital invested in EU businesses by private credit funds has typically focussed on EU SMEs based in more mature capital markets, the sector is increasingly broadening its footprint across the EU27. From a CMU perspective, this is an important development for the EU as it represents a material enhancement to the financing options available to EU corporates in those markets while also providing EU investors with new means by which to support the EU economy and make an attractive return on their capital.

1.6: Private funding sources in Europe and US



Source: Prequin Pro, Invest Europe and Dealroom



Country Analysis

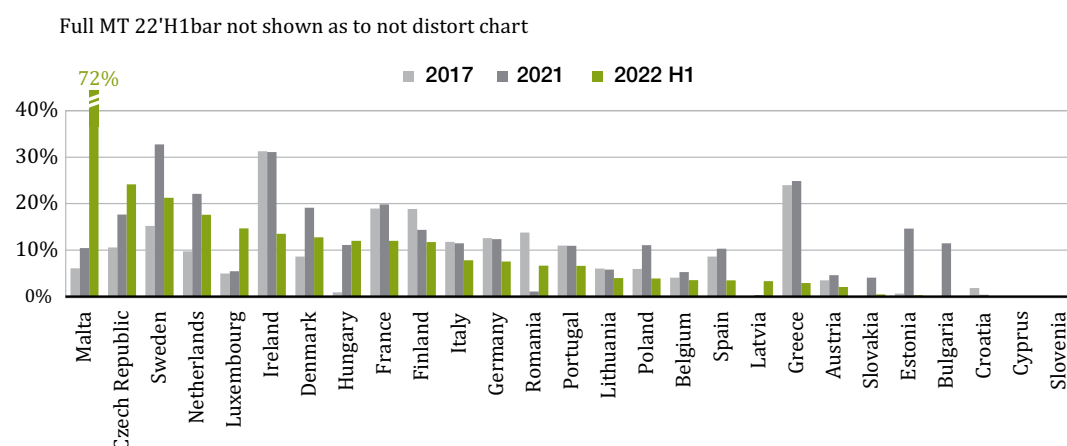
There has been a general deterioration in the use of capital markets instruments by EU NFCs for funding during 2022 H1, with only 6 countries improving their Market Finance Indicator value from last year (3 remained at 0% while 18 experienced declines).

Malta and the Czech Republic lead the EU with 72% and 24% of total NFC financing derived from bonds or equity respectively, which represents the highest Market Finance Indicator calculated to date for both countries. The high indicator values can be explained by the presence of a few, very large, transactions that are of a magnitude that is atypical for the size of both the Maltese and Czech markets. Nevertheless, they signal an important step in the process of development of capital markets across the EU, the benefits of which are not limited to only the largest and most significant financial economies.

Luxembourg, Romania and Latvia all experienced an increase of varying degrees in the Market Finance Indicator as IG bond issuance expanded throughout 2022 H1, while Hungary experienced a minor improvement as a result of a decline in new bank loan origination.

Amongst EU Member States, 10 countries had at least 10% of funding for NFCs derived from securities issuance, down from 17 during 2021 and 11 in 2017.

1.7: 2022 H1 Market Finance indicator by country NFC bond and equity issuance as % of total NFC financing



Source: Dealogic, US FED, ECB, BoE and other European central banks



1. Market Finance Indicator

An EU safe asset: a game changer in scaling-up EU markets

A relevant catalyst for future growth in corporate participation in capital markets, is the consolidation of an EU safe asset.

The pandemic created the political and economic incentives for a coordinated EU fiscal response. The European Commission launched unprecedented bond issuance programmes, initially in the form of social bonds under the SURE programme, followed by the issuance of green and conventional bonds in the context of the NextGeneration EU programme.

As of H1'22, these EU programmes have accumulated a total of EUR 242bn in total issuance and is expected to reach EUR 850bn by 2026 with a combination of ESG and conventional bonds (see chart 1.8). For comparison, the outstanding amount of German Bunds as of H1'22 was EUR 1.6tn, and EUR1.2tn for Spanish Tesoros.

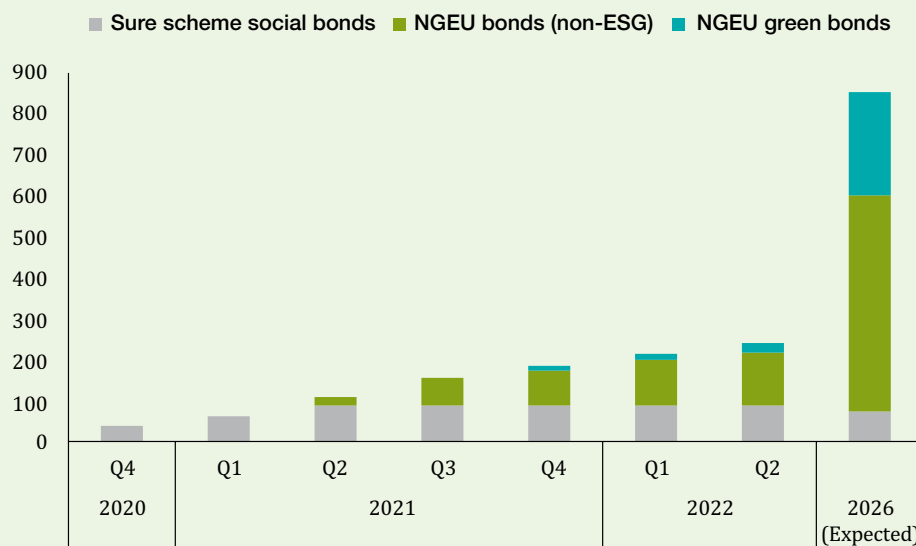
There is typically large appetite for the Commission issues. Syndicated issues are frequently oversubscribed with demand in the range of 9-14x the amount supplied, while bonds originated via auctions have exhibited bid-cover ratios closer to those of the average European sovereign debt of 2.2x.

Expectation is growing towards building the first steps for an EU safe asset, and the possibility that the ongoing EU debt programmes are extended and continue as permanent.

The large issuance of EU bonds is an example of what could be a game changer in scaling up EU markets, foster financial development with a price and risk EU debt benchmark, facilitating EU integration, and promoting the international role of the euro.

The ECB⁹ has widely highlighted the macroeconomic benefits of a common safe asset and how such instrument can contribute to financial stability and financial integration in the Banking Union. The IMF¹⁰ most recently highlighted the benefits of creating an EU-level safe asset for a prolonged period in the context of an EU fiscal capacity to improve euro area macroeconomic stabilisation.

1.8: Expected evolution of outstanding amount of European Commission bonds (EURbn)



Source: Eikon, European Commission, AFME.

9 ECB (2020) How could a common safe asset contribute to financial stability and financial integration in the banking union?

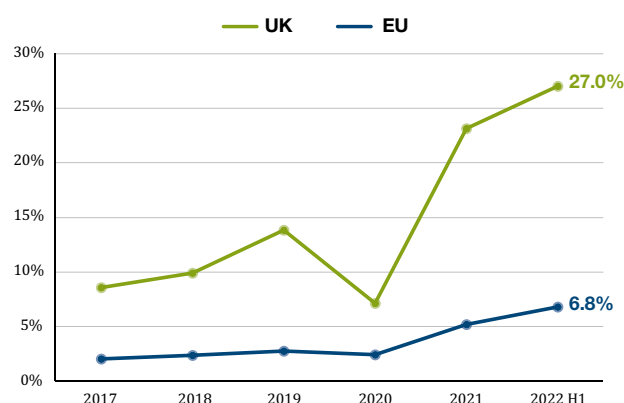
10 IMF (2022) Reforming the EU Fiscal Framework Strengthening the Fiscal Rules and Institutions

2. Pre-IPO Risk Capital indicator

The Risk Capital Indicator quantifies the availability of pre-IPO risk capital financing for SMEs. The ratio is estimated as the aggregate amount of annual risk capital investments (i.e. venture capital, private equity growth funds, business angel investment¹¹ and equity crowdfunding) relative to total annual new issuance of SME bank loans and risk capital finance. SME lending is measured as the flow of new gross bank loans of size below €1m to non-financial corporates.



2.1: Evolution of Pre-IPO risk capital index (EU): 2012-22 (investment from VC, Growth PE, Business angel and equity crowdfunding as % of risk capital and bank lending)



Source: EBAN, Invest Europe, Eikon, Dealroom, ECB, BoE and other national central banks

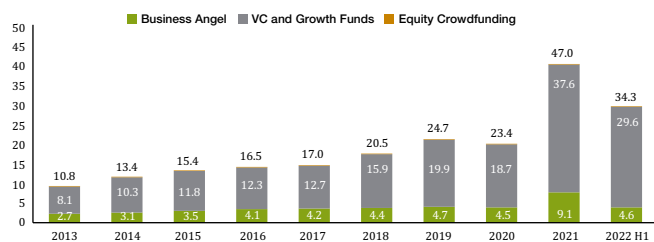
Private capital continues resilient

Risk capital investment into European SMEs has remained strong despite the heightened uncertainty in capital markets. In H1'22, equity investment via private equity funds, venture capital, business angels, and equity crowdfunding platforms, accumulated €34.3bn in new flow, 73% of the amount invested in 2021FY and above the total investment in 2020FY. See chart 2.2.

¹¹ Measuring the size of the Business Angel investment activity is a difficult task due to underreporting of private investments to a business angels network or association, which is the current way of gathering data. In Europe, EBAN uses a multiplier of x10 applied to the “visible” market (the actual investment volume reported to business angel associations) to estimate the overall market.

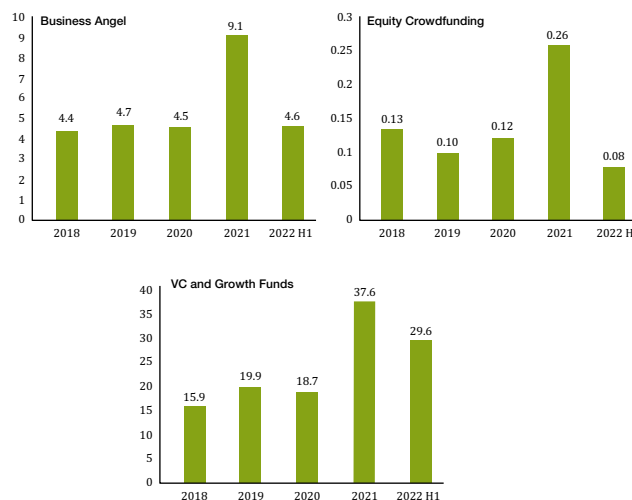
2. Pre-IPO Risk Capital indicator

2.2: EU: Business angel, Private Equity, Venture capital and equity crowdfunding investment (EURbn)



Source: EBAN, Invest Europe, Eikon and Dealroom

2.3: Evolution of EU risk capital investment by sources (EURbn)



Source: EBAN, Invest Europe, Eikon and Dealroom. BA data adjusted by 10x to include visible and invisible segments

In 2021, all forms of risk capital more than doubled the amount invested over 2020 and setting an all-time record in the process.

Private equity growth funds and venture capital investment accumulated €37.6 billion into EU companies in 2021, with a large portion (37%) dedicated to technology companies and 15% to biotech and healthcare. Preliminary Eikon data for H1'22 suggests that venture capital and growth funds investment stood resilient in the first half of the year as dry powder volumes continue elevated driving activity investment during 2022. However, Q3'22 data from Crunchbase and Pitchbook suggest a quarterly and annual deceleration for the second half of the year, on the back of inflationary pressures and rapidly rising interest rates.

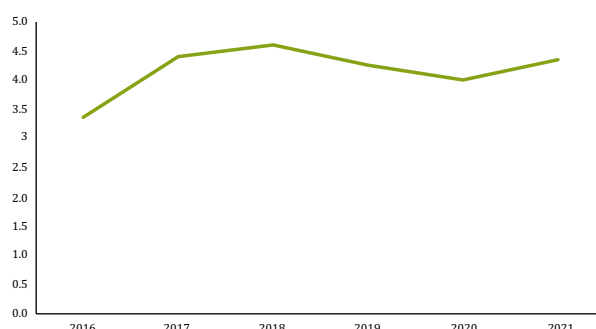
Business angel investment was remarkably resilient during the COVID pandemic. EIF sentiment surveys indicate that business environment for angel investment in 2021-22 was very positive, with favourable expectations for the next 12 months. This was reflected in record business angel activity in 2021 with a 90% growth in European investment flow and a 14% growth in median investment per recipient company according to EBAN's Statistics Compendium¹². Preliminary Dealroom data suggests that H1'22 has already surpassed the average annual amount invested in 2018-20. It is important to note, however, the ongoing data challenges to define the visible and invisible segments of the angel market, as a good portion of the deals are not reported to data aggregation sources nor to angel investor clubs.

On the other hand, according to BAE Club data surveys¹³ representative of a selection of EU and non-EU Member States, European angel investment clubs reported a record number in membership and a record number of investment rounds, with a median investment of EUR 4.4mm per angel club in 2021 (from EUR 4mm in 2020).

¹² EBAN (2022) "Statistics Compendium 2021". Representative for all EU member States and other European countries <https://www.eban.org/statistics-compendium-2021-european-early-stage-market-statistics/>

¹³ Group of 19 high performing angel networks from 13 countries, and part of Business Angels Europe

2.4: BAE survey: Median invested amount per Angel Club (EURmm)



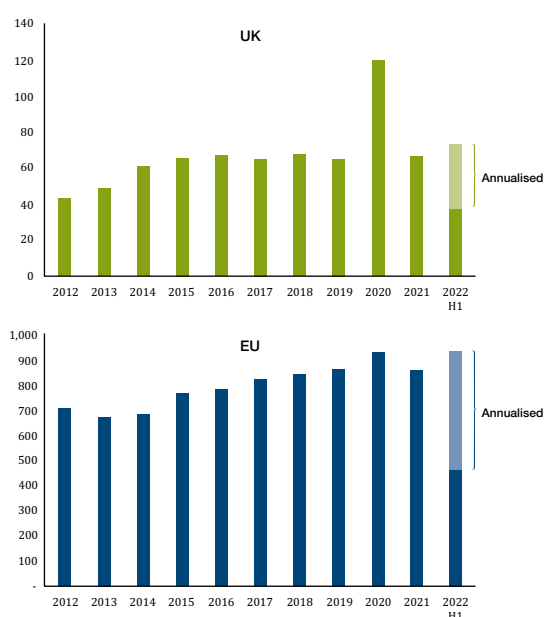
Source: BAE

Industry data for the crowdfunding market also suggests a record 2021 for equity crowdfunding, with more than double the amount invested in 2020 while the H1'22 amount stands to surpass the 2020FY total. One of the main factors currently driving the development of the market is the recently approved EU crowdfunding regulation, which has encouraged a wave of platform consolidation. This is discussed in more detail in the text box at the end of this chapter.

Bank lending to SMEs has continued resilient, albeit with net tightening in funding availability and rising borrowing costs. According to the ECB bank lending survey, credit standards for SMEs have tightened considerably, predominantly driven by the uncertain economic and monetary outlook. See chart 2.6.

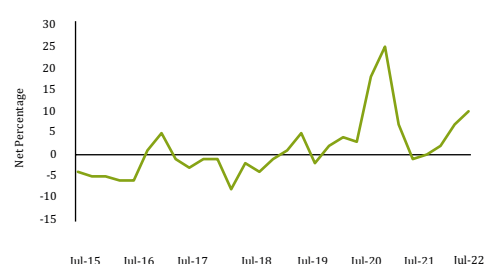
Record volumes of risk capital have resulted in an increase in the proportion of total pre-IPO SME funding in the EU, from 5.2% in 2021 to 6.8% in 2022H1. The proportion, however, is below that of the UK where growth companies were recipient of €13.6bn in risk capital equivalent to 27% of total H1'22 SME funding.

2.5: SME new gross lending (EURbn)



Source: ECB, BoE and National Central Banks

2.6: Bank credit standards to SMEs (net percentage)



Source: ECB



2. Pre-IPO Risk Capital indicator

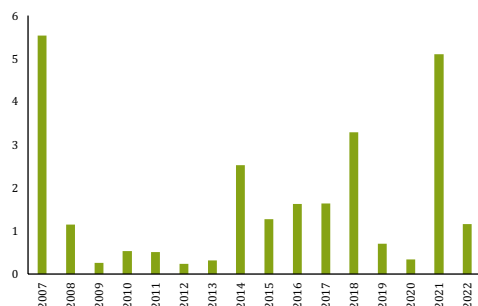
Access to equity capital via public markets for growth companies

Access to capital via public markets significantly decelerated after a multi-annual record observed in 2021. According to Dealogic, IPOs on European Junior exchanges declined from €5.1bn in H1'21 to €1bn in H1'22 (see chart 2.7). In the wider IPO market, IPOs on European exchanges accumulated €4bn in capital raised in H1'22 from €42bn in H1'21.

Other regions have been subject to a sharp sudden stop in equity capital raising via IPOs. In the US, IPOs exhibited in H1'22 a 90% decline in capital raised compared to the amount issued in H1'21.

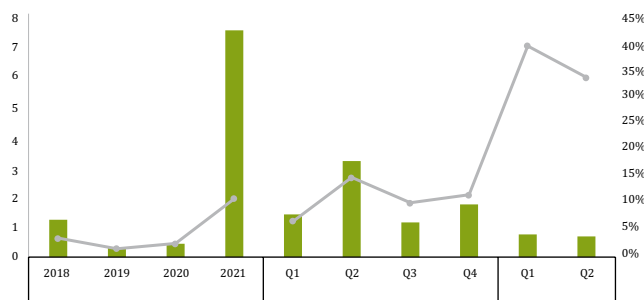
The challenging primary market has also impeded company exits for existing risk capital investors. According to Dealogic, there were no PE-backed IPOs in H1'22, which is a significant contrast from €18.1bn in PE-backed IPOs in H1'21. According to Pitchbook data, pre-money valuations for early stage companies have continued resilient with a median of €8.4mm in H1'22 from €6.3mm in 2021FY. This trend, however, has not been reflected on public markets where market capitalisation for growth companies have exhibited 20-30% losses

2.7: Capital raised via IPOs on European Junior exchanges: H1 2007-22 (EURbn)



Source: Dealogic

2.8: European SPAC IPOs (EUR bn and % of total IPOs)



Source: Dealogic

IPOs via Special Purpose Acquisition Companies ("SPACs") have also exhibited a decline in value but increased in participation in total IPO funding. A SPAC is generally intended to permit the target company to go public without engaging in a traditional IPO. In Europe, SPAC IPOs represented 36% of European IPOs by value in H1'22 (11% in 2021FY), although this is relative to a smaller base of newly originated IPOs compared to that in 2021.

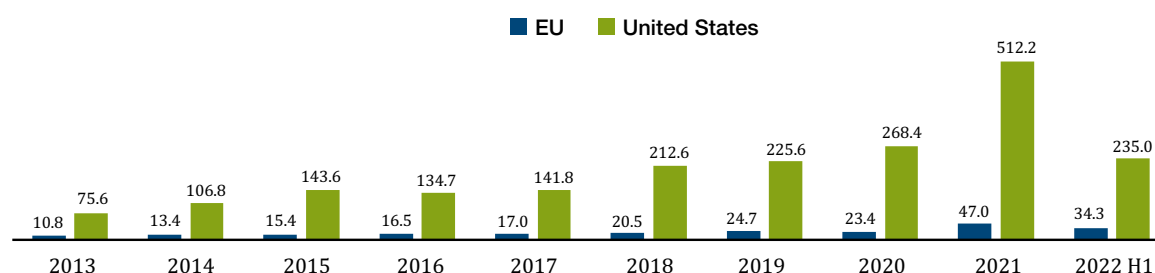
European gap in risk capital

The EU continues to exhibit a large gap in risk capital funding compared to that of the US. Although in Europe H1'22 risk capital volumes stood above those observed in 2020FY, the total US volumes continue to represent 7x the European investment amounts.

"The challenging primary market has also impeded company exits for existing risk capital investors"



2.9: Risk capital investment in the United States and the EU (EURbn)

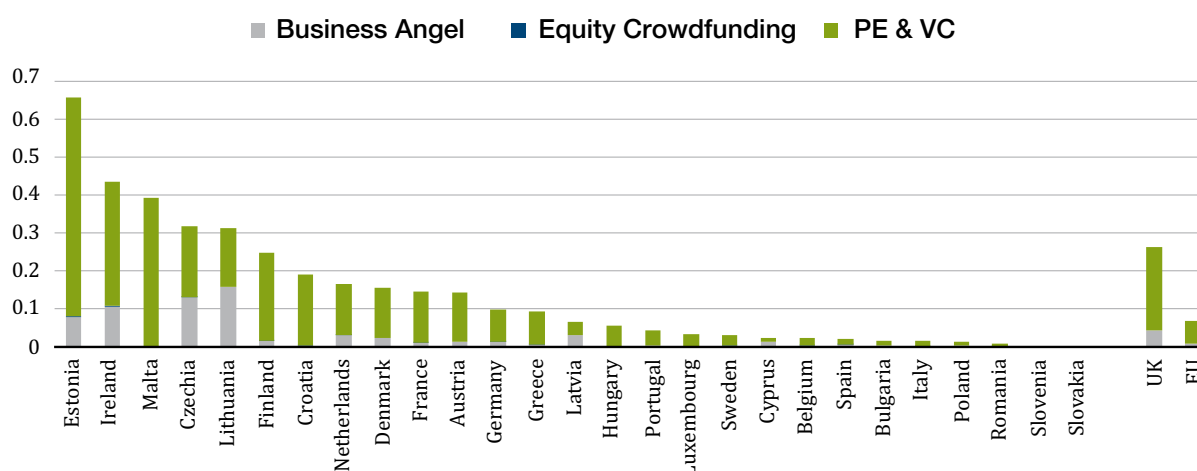


Source: NVCA. Angel & seed, Early VC and Late VC. EBAN, Dealroom, InvestEurope

There are wide disparities in pre-IPO risk capital funding across jurisdictions, when measured by our indicator: Estonia and Ireland lead in risk capital availability, predominantly driven by private equity and business angel investment. For smaller member states, the indicator values are commonly volatile throughout years, as relatively few VC deals can represent a sizeable amount compared to the size of the economy.

Among large Member States, Italy and Spain stand out as the countries with the highest potential to increase the presence of funding from risk capital sources. There is also sizeable difference between the EU and the UK, as 27% of UK SMEs funding has been sourced from risk capital sources compared with 6.8% on average for EU SMEs.

2.10: Pre-IPO risk capital index: 2022 (investment from VC, Growth PE, Business angel and equity crowdfunding as % of risk capital and bank lending)



Source: EBAN, Dealroom, InvestEurope, Eikon, ECB, and national central banks



2. Pre-IPO Risk Capital indicator

Consolidation and competition in the European Crowdfunding market

The new Regulation on European Crowdfunding Service Providers (ECSP) entered into application in the EU on 10 November 2021. The initiative was part of the European Commission's FinTech action plan and the mid-term review of the CMU action plan.

The regulation harmonises rules across the EU for the provision of equity-based and lending-based crowdfunding services related to business financing. It includes provisions to offer crowdfunding services from any EU Home State into all other 26 EU markets without the need to apply for a so called passport, based on a single set of rules, which makes it easier to offer crowdfunding services across the EU with a single authorisation. The inclusion of limited liability companies as "admitted instruments" has been designed specifically to enable access to finance for small and medium sized enterprises, while special purpose vehicles can be used to finance illiquid and non-transferable assets via equity type of investments.

It is encouraging that under the new crowdfunding law, equity- and loan-based crowdfunding services will now be harmonised across the EU, and will be able to broker public investment and loans of up to EUR 5m per year per issuer. This will give opportunities for platforms to consolidate cross-border and transfer the advantages of economies of scale to consumers and small and medium sized companies seeking alternatives to traditional bank financing or incumbent capital market offerings.

Retail investors on crowdfunding platforms also benefit from an aligned and enhanced investor protection framework introduced by the regulation, while institutional investors are able to co-invest through AIFMD regulated vehicles into loan products.

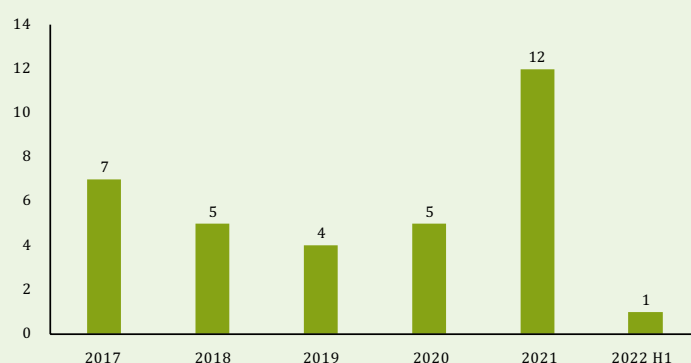
Member States have partly been slow to introduce the rules into national law. In response, the European Commission extended a transition period for previously under national law regulated crowdfunding platforms from initially 10 November 2022 to 10 November 2023, delaying the full impact of reform by one year.

Crowdfunding M&A trends

Following the entry into force of the ECSP regulation, increased competition is expected, as regulatory compliance will intensify the need for operational scalability. Unsurprisingly, the crowdfunding market has entered into a phase of consolidation and higher competition between platform service providers. According to Dealogic, in 2021 there were 12 acquisitions announced in Europe of crowdfunding-related services. This compares with between 7-5 in the previous four years. In addition, non-European actors have acquired European platforms or taken strategic investments, while others have started to set up their own operations.

Admittedly, some of these transactions have faced scrutiny from competition authorities, which in some cases has resulted in termination of acquisition agreements¹⁴.

2.11: Number of European crowdfunding M&A deals by announcement year



Source: Dealogic

The consolidation trends and increased competition will contribute for the market to fast develop in coming years. However, success of reform will depend on the practical implementation across the EU.

¹⁴ See Crowdcube & Seedrs deal <https://www.crowdcube.com/explore/blog/crowdcube/crowdcube-and-seedrs-jointly-agree-to-terminate-acquisition>



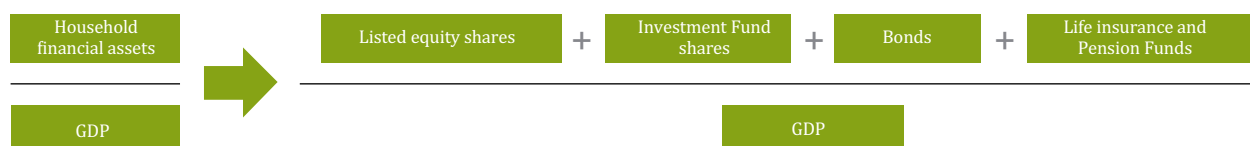
Pools of investment capital



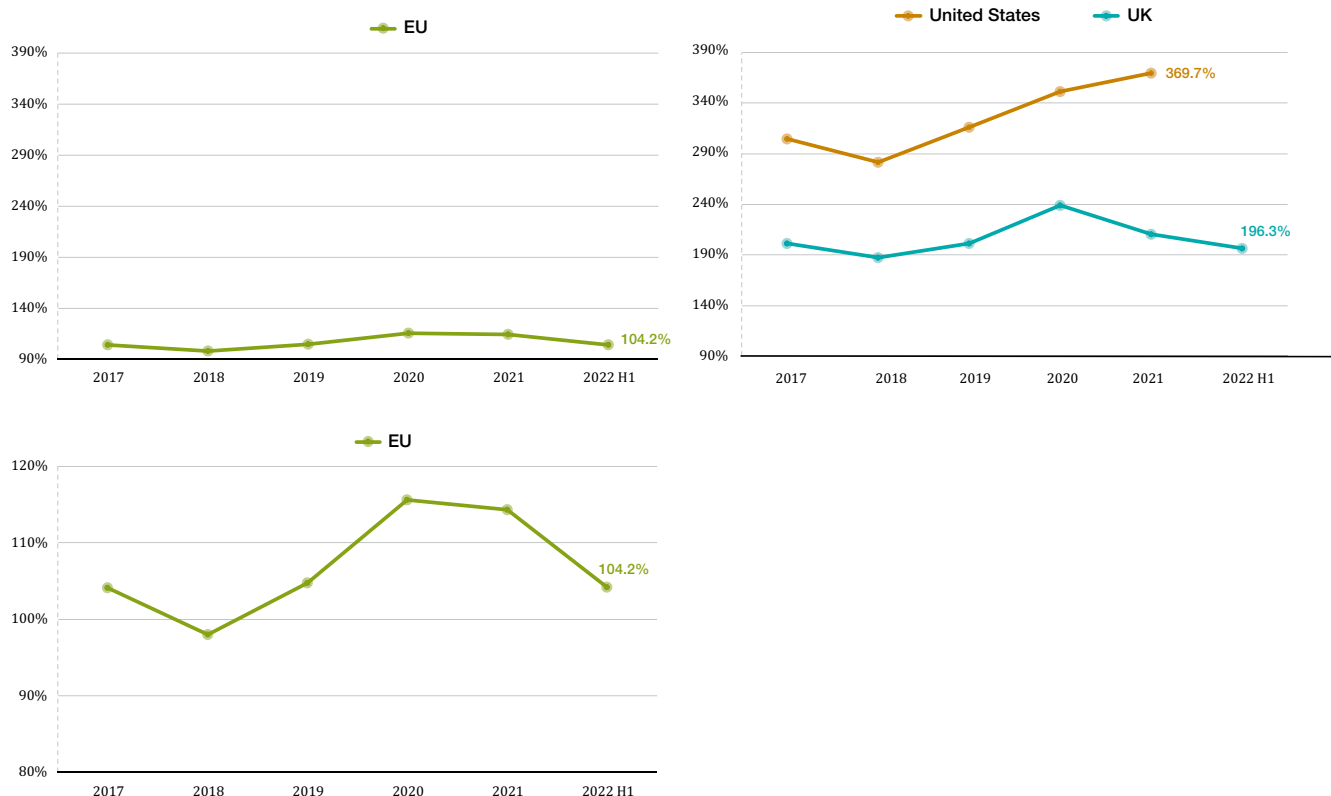
3. Household market investment indicator

3. Household market investment indicator

The household market investment indicator measures the availability of savings from retail investors to invest in capital markets instruments. This ratio is estimated as household financial assets (excluding cash, deposits and unlisted equity) as a percentage of GDP. The asset classes aggregated as “Household financial assets” in this indicator include listed equity shares¹⁵, investment fund shares, bonds, life insurance reserves and pension fund holdings.



3.1: Evolution of Household market investment indicator: Household market financial assets (excluding cash, deposits and unlisted equity) as % of GDP



Source: Eurostat, US FED, and OECD

¹⁵ Unlisted shares, which are not necessarily a capital markets instrument, are not included the indicator.

Mean reversion after Covid-19

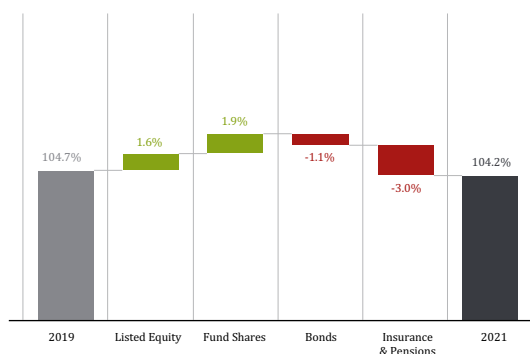
The amount of capital markets savings of EU households has declined by 9.1 percentage points from 113.3% of GDP in 2021 to 104.2% of GDP in 2022.

Over the past ten years, EU households have increased their capital market savings slowly, but continuously. The significant increase in savings observed during the pandemic (2020-2021) was mainly driven by valuation gains of existing investments as well as a strong rebound in the net acquisitions of investments (from close to zero in 2019 to EUR 95bn in 2020 and EUR 275bn in 2021). This being said, we have recently observed a reversion of the indicator value to its ten-year mean of 101.7%, which can be attributed largely to the value corrections in capital markets instruments that have taken place during 2022.

Compared to the pre-Covid year 2019, most of the negative variation observed between 2019-2022 Q1 derived from bond holdings (-1.1% of GDP) and insurance and retirement savings (-3.0% of GDP). Listed equity and fund shares contributed positively to the development over the pandemic, with +1.6pp of GDP and 1.9pp of GDP, respectively. See chart 3.2. According to ECB and PensionsEurope data, the decline in pension fund assets has been observed across virtually all invested asset classes (see chart 3.4).

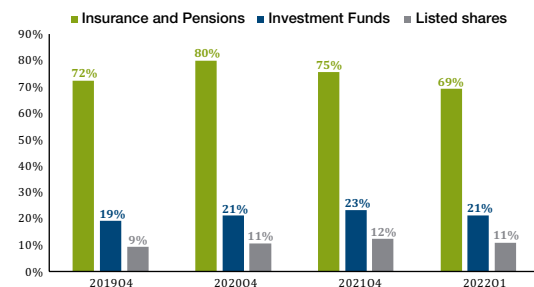
Most recently, according to Eurostat comparing Q1 2022 with Q4 2021, the decrease in insurance and retirement savings amounts even to 6.4pp of GDP while investment fund shares decreased by 2pp of GDP and listed shares by 1pp (see chart 3.3). The decline in investment funds is likely driven by valuation declines, as the net acquisition of investment funds by households has exhibited resilience compared to other types of investors. In H1 2022, European (ex-UK) households have acquired a net amount of EUR 55bn in investment funds, which contrasts with a net decline by institutional investors. (See chart 3.5).

3.2: Variation in EU Household market investment indicator by components (2019-2022 Q1 variation)



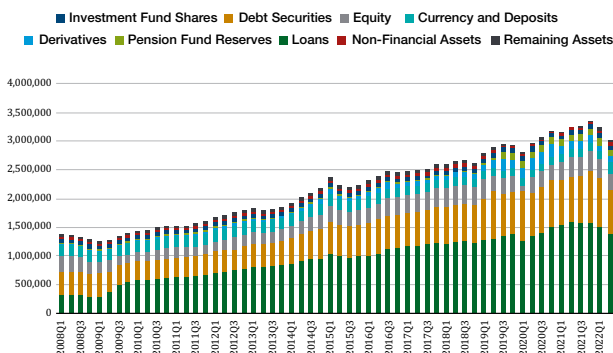
Source: Eurostat

3.3: EU households holdings of life insurance and pension funds, investment funds and listed equity (as % of GDP)



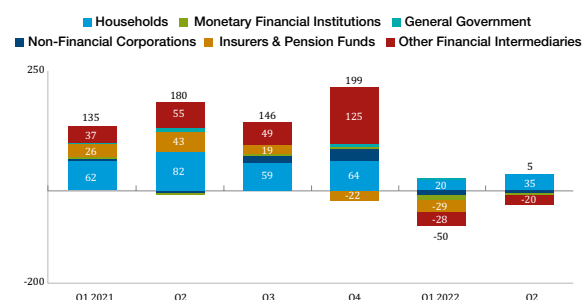
Source: Eurostat

3.4: Assets of euro area pension funds (million euro), 2008Q1-2022Q2



Source: ECB and PensionsEurope

3.5: Net acquisition of investment funds by type of investor (ex-UK, EURbn)



Source: EFAMA

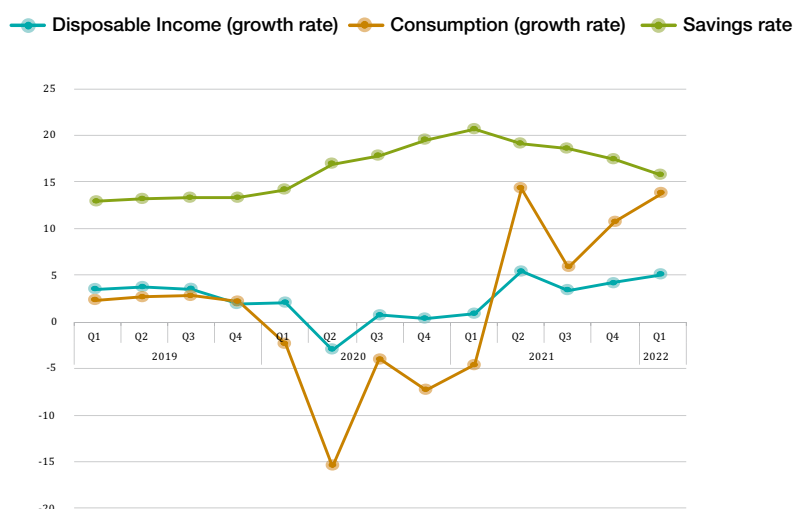


3. Household market investment indicator

Trend in saving rate, deposits and consumption

During the pandemic Euro Area households increased their savings rate of from 13.1% in 2019 to 19% in 2021 relative to disposable income. However, the savings rate dropped to 15.8% in Q12022 while still significantly above the pre-Covid level. The increase in savings activity coincided with a sharp reduction in consumption (on average in 2020 -7.3%), while the decrease in savings activity coincides with private consumption picking-up when economies reopened in the course of the pandemic (see chart 3.6). While the allocation of disposable income in consumption and savings is well understood, it goes to show that the increased savings rate is not necessarily of structural nature, e.g. prompted by beneficial capital market developments for retail investors, but to a certain amount a temporary compensatory effect.

3.6: Development of disposable income, consumption and savings rates for the Euro Area

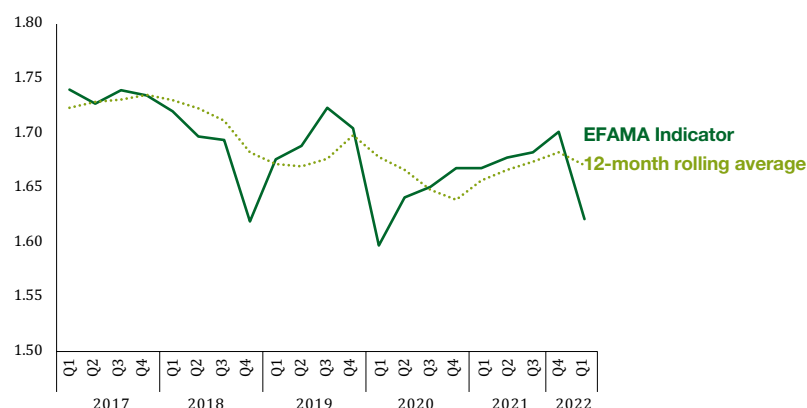


Source: Eurostat and ECB

Nonetheless, additional savings imply investment. And as a longer-term effect of the pandemic, heightened uncertainty in general, households might sustain longer-term shift in saving behaviour, potentially increasing the level of capital market investment by households. However, the data suggests that in the EU the majority of savings is still held in form of sight deposits in banks.

The EFAMA CMI index, calculated as the ratio of households' capital markets investments to deposits, remains even below pre-pandemic levels despite the increase in household's holdings of capital market instruments as shown in chart 3.7. The continued decline suggests that the majority of additional savings is held as sight deposits.

3.7: EFAMA CMI index: Households' capital markets investments as % of household deposits: EU



Source: Eurostat

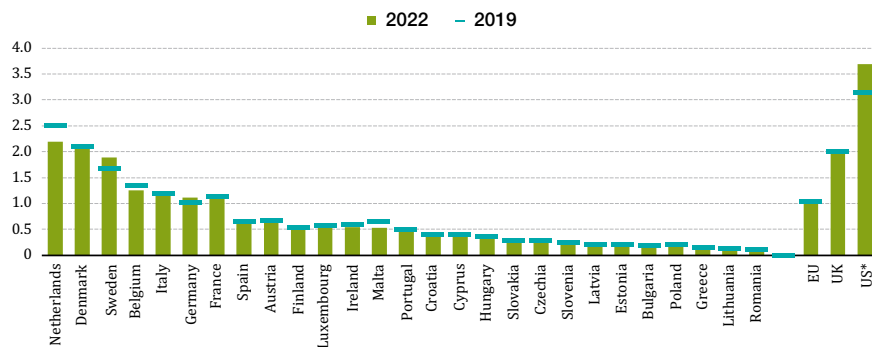


Indicator ranking by countries

The country-by-country rankings have not materially changed over the last three years. Notably, The Netherlands, Belgium and Ireland display a slightly lower indicator in 2022 compared to in 2019, and Sweden a slightly higher indicator (1.9 in 2022 compared to 1.7 in 2019). The cross-sectional indicator development can be explained by the relatively larger revaluation effect for countries with deeper pools of household capital investment, compared to countries less capital market exposure.

The EU overall remain at a relatively low level (1) compared to the UK (2) and US (4).

3.8: Household market investment indicator by European countries



Source: Eurostat and OECD

“The increased savings rate is not necessarily of structural nature”



3. Household market investment indicator

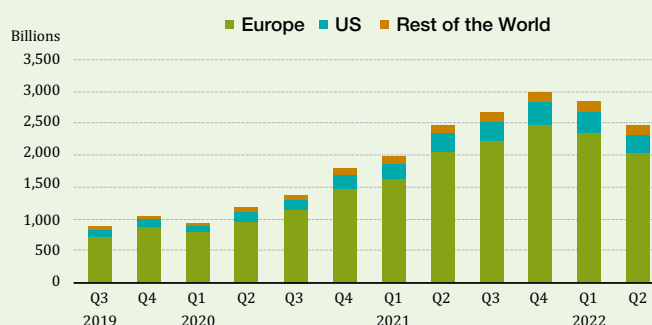
The size of the ESG investment base

The sustainable finance market has grown at a fast rate over the last years. As shown in the ESG Finance indicator chapter, ESG-labelled bond issuance has consistently represented more than 10% of total bond funding in the EU over the last two years.

Other various asset classes have also contributed to expand the size of global sustainable assets. According to Lipper, equity sustainable funds have grown in value from \$1tn in 2007 to \$4tn in 2022. Morningstar, however, estimates that the equity portion is less than half and closer to \$1.6tn in 2022, where differences stem due to methodology and criteria.

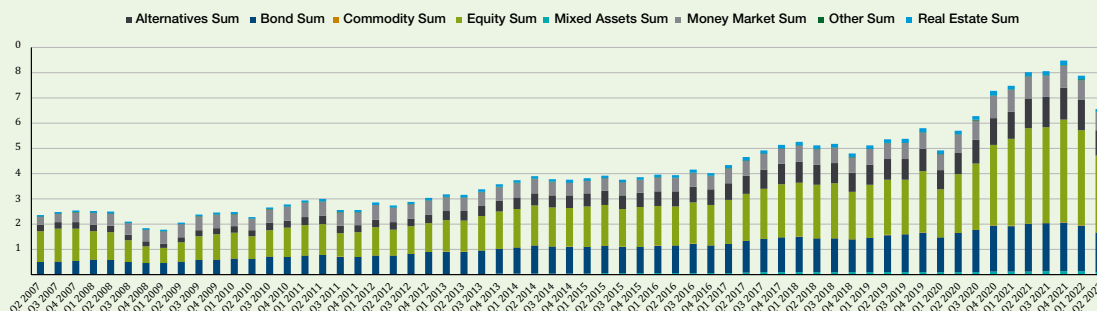
Lipper defines a fund as ESG if in its documentation it describes itself as such, or uses similar terminology, such as sustainable, impact or SRI. Other data providers such as Morningstar have a similar definition, with the added proviso that excludes certain asset classes such as controversial weapons, tobacco, and thermal coal, nor does it contain the growing number of funds that now formally integrate ESG considerations in a nondeterminative way for their investment selection. Money market funds, feeder funds, and funds of funds are also excluded.

3.9: Morningstar: Quarterly Global Sustainable Fund Assets (USD Bn)



Source: Morningstar

3.10: Lipper: Global ESG Funds by Asset Class (USD tn)



Source: Lipper

Classifying sustainable investment products integrating ESG considerations with different methodologies or varying degrees of ambition has proved to be a challenge. The lack of data transparency over the methodologies adopted by ESG ratings providers remains an issue for investors, and more broadly for sustainable finance market participants, about classification of what is “sustainable” and potentially varying degrees of “sustainability”.

The EU has made significant progress in defining the criteria for sustainable investments with the Taxonomy regulation, and the Sustainable Finance Disclosures Regulation (SFDR), while there is ongoing progress in creating an EU green bond standard and plans to address deficiencies in the market for ESG ratings.

There are however ongoing definitional challenges, comparability of ESG scores, and public disclosure elements which would assist investors in contributing towards a credible transition path. For further read on this topic see AFME discussion on [The challenge of defining climate finance](#).

4. European Long-Term Investment Funds (ELTIFs) Indicator

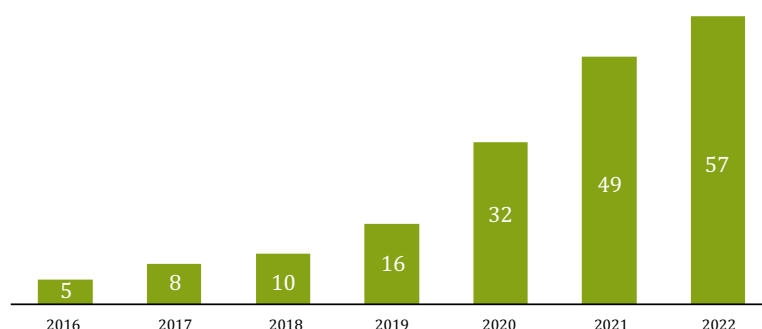
ELTIFs are collective investment vehicles that can raise capital from both retail and institutional investors who are willing to invest in projects that require long-term capital, such as infrastructure, real estate, transport, and energy, as well as in smaller and mid-sized businesses. ELTIFs are an ideal vehicle to unlock long-term capital and facilitate cross-border investment within the EU.

This indicator measures the number of ELTIF products marketed within the EU Member States and in the EU. We abstain from adjusting the indicator to country-specific characteristics (e.g. population size, depth of pension fund industry, or the number of UCITS) due to the small dimension of the existing ELTIF funds registered and marketed to investors.

ELTIFs potential to unlock growth

According to the ESMA ELTIF register, as of June 2022 there were 61 ELTIFs registered in the EU, of which 57 were marketed and 4 registered but not offered to investors. This represents a minor growth in new ELTIF funds registered in the EU from a total of 49 in 2021.

4.1: Number of ELTIF funds marketed in the EU



Source: AFME, ESMA and Fund sources.

According to the European Commission¹⁶, the total amount of assets under management on ELTIF vehicles totalled €2.4bn as of mid-2021. Other third party research, however, estimates that the amount is larger than the estimated by the European Commission. Recent research undertaken Scope¹⁷ based on data from 43 of the registered ELTIFs found that the total assets under management on ELTIF funds accumulated between €7.2bn to €7.7bn at the end of 2021. The discrepancy between sources is likely driven by the recent evolution in company valuations, or inaccuracy in data reporting to official sector statistics.

The amount of assets invested via ELTIF products (between €2.4 and €7.7bn depending on the source) represents in any case a minor portion of the €5.9tn in net asset value of EU Alternative Investment Funds¹⁸ and significantly below the investment needed to achieve the ambitions set out in the Paris agreement of \$20.7tn. The total number of ELTIF funds also represent a minor proportion at 0.2% of the 30,035 AIF funds registered in the EU.

According to Scope, private credit accounts for the largest portion of ELTIF vehicles at 36%, followed by infrastructure funds at 31%, 26% in private equity and 7% in mixed funds.

¹⁶ LexUriServ.do (europa.eu)

¹⁷ Scope (2022) European ELTIF Study Market Development and Perspectives

¹⁸ https://www.esma.europa.eu/sites/default/files/library/esma50-165-1948_asr_aif_2022.pdf

4. European Long-Term Investment Funds (ELTIFs) Indicator

Country evolution in ELTIF growth

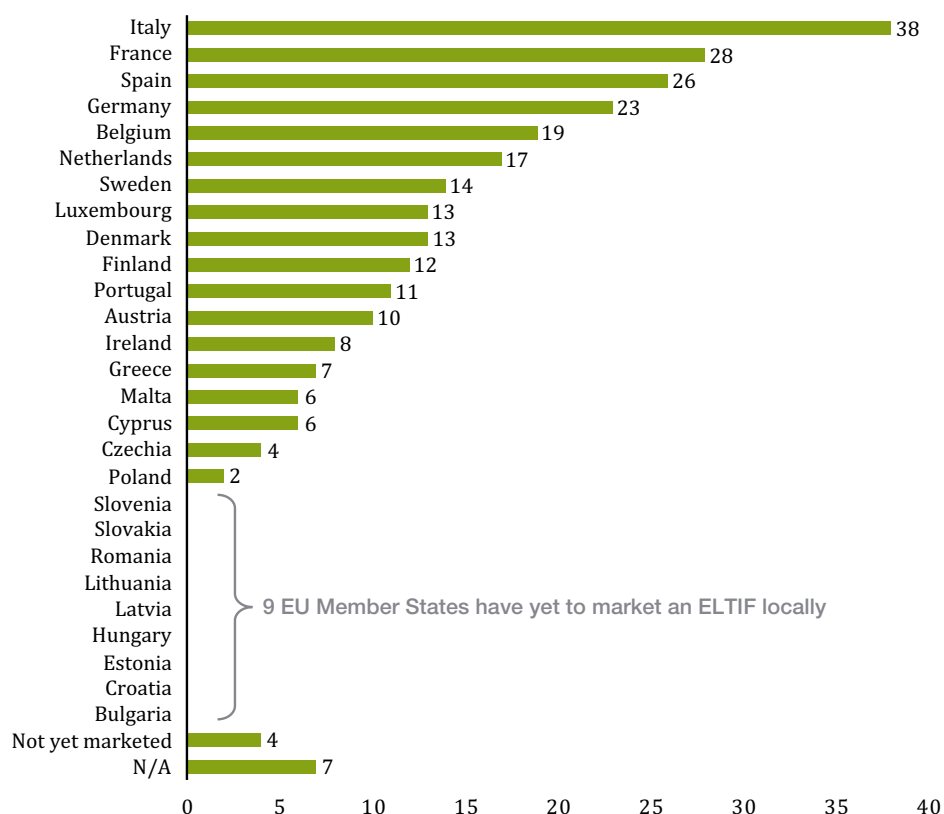
The ESMA ELTIF register shows that ELTIF products are domiciled in only four EU member states: Luxembourg (37), France (16), Italy (13), and Spain (2).

From a marketing perspective, the ELTIF products are offered cross-border to various other members states subject to registration requirements.

Italy continues as the country with the highest number of ELTIF vehicles marketed in the country with 38 and also the country that exhibited the largest increase in the number of marketed funds from 26 in 2021. This is followed by France with 28 funds marketed in 2022 (20 in 2021), and Spain with 26 funds (18 in 2021). Germany exhibited an encouraging increase in the number of marketed funds with 23 ELTIFs in 2022 (14 in 2021).

Currently there are 9 countries that do not offer ELTIF products locally: Slovenia, Slovakia, Romania, Lithuania, Latvia, Hungary, Estonia, Croatia, and Bulgaria.

4.2: Number of ELTIFs marketed by country



Source: ESMA

The potential of ELTIF version 2.0

Introduced in 2015, the ELTIF framework has seen a modest level of take up because of several restrictive features such as prohibitions on co-investments that did not allow asset managers to include ELTIFs in their private market product lines. Despite the substantial growth of capital allocated to European based lending strategies by asset managers and their investors during the last decade, ELTIFs have not been the vehicle of choice to invest this capital.

Political agreement on amendments to the ELTIF regulation was reached in October 2022. The reforms introduced represent the culmination of a dialogue between policymakers and industry on how to enhance the ELTIF Framework and allow ELTIF to play its full role within the CMU.

The modernisation of the ELTIF framework is expected to lead to a significant increase of investment into the EU economy. The new rules will make it easier for asset managers to launch products that cater to both institutional and retail investors by calibrating the Regulation to allow for different treatment depending on whether the ELTIF is marketed to professional or retail clients. This important amendment to the ELTIF Framework will provide appropriate flexibility for professional clients while maintaining essential protections for retail investors.

The revised ELTIF Regulation will enhance the attractiveness of the ELTIF as an investment structure in a number of important ways:

- Simplifying access to ELTIFs for retail investors while maintaining high levels of investor protection;
- Expanding the eligible assets criteria for the ELTIF to encompass a broader range of corporate and real estate investments;
- Introducing a framework for master-feeder ELTIFs and fund-of-funds structures;
- Permitting ELTIFs to use prudent levels of borrowing to increase their investment potential; and
- Enabling ELTIFs to co-invest with other funds and/or accounts managed by the same investment manager.

A critical feature of the ELTIF Regulation retained in the new rules is the ability of the ELTIF to lend on a cross border basis within the EU. Existing barriers to cross border lending within the EU are a key factor in reducing the ability of private credit fund managers to invest large pools of capital efficiently. This feature of the ELTIF, combined with the other enhancements introduced by policymakers are estimated to see ELTIFs support an additional €100bn of financing to EU businesses over the next five years¹⁹.

19 <https://acc.aima.org/article/press-release-aima-and-the-acc-applaud-positive-progress-on-eltif-regulation-reforms.html>



Special feature: market liquidity



Recent trends in Equity Market Liquidity

Market liquidity is a critical feature of capital markets which is commonly defined as the capacity of market participants to buy or sell assets without causing major disturbances in their market price.

Deep levels of liquidity facilitate the cost-efficient allocation of risk and capital by market participants, and reduce the cost to access capital: extant research indicates a liquidity premia of between 3.5%-7.5% for fresh capital raising²⁰.

Liquidity has multiple dimensions and there are various ways to measure it. In this section, we present recent trends in the evolution of the various features of equity market liquidity: depth, tightness, and breadth.

Although we had wished to produce a composite indicator at the Member State level, there are multiple complexities related to data availability that impede us undertaking such analysis at this stage. We have therefore approximated this analysis by choosing a set of metrics and liquidity factors, although we are aware of many ways to calculate liquidity with other data sources and (potentially more accurate) metrics and methodologies.

Market Depth: trading redomicile

One of the main features of market liquidity is the frequency in which shares are traded. A market is deemed deep when there is a large flow of trades on a frequent basis with a persistent willingness to trade by market participants. Large trading volumes typically indicate high resilience and depth of liquidity.

Following the end of the Brexit transition period, the European liquidity landscape has changed with significant redomiciling of trades from the UK to the EU. In this context, existing UK-domiciled trading venues have opened legal entities in the EU to continue to intermediate trades both in the EU and in the UK (see in more detail geographic location of liquidity section).

In particular, venues located in the Netherlands have been recipients of a large increase in trading activity, some of which undertaken via newly-domiciled Multilateral Trading Facilities (MTFs). This has resulted in a sizeable increase in average daily turnover from c€2bn per day in 2020 to c€10bn per day in 2021-22. Venues in France, Ireland, and Germany have been also recipients of higher volumes of trading, but the increase has not been of the same magnitude as that observed on venues in the Netherlands. See chart SF.1.

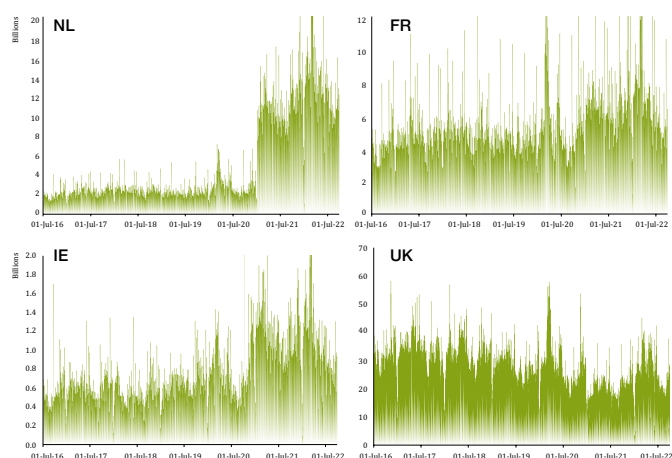
“The European liquidity landscape has changed with significant redomiciling of trades from the UK to the EU”

20 Hibbert (2009) Liquidity Premium Literature review of theoretical and empirical evidence



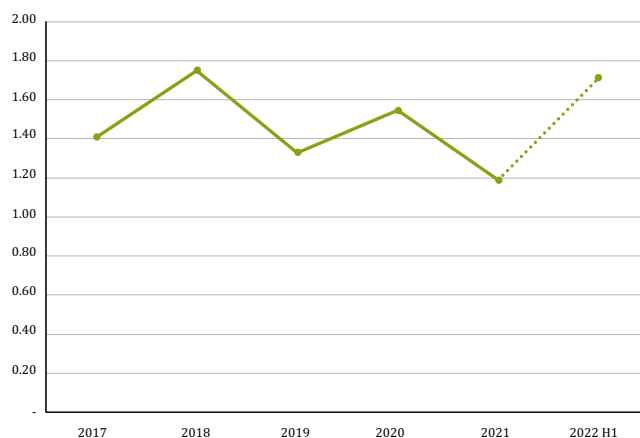
SF. Recent trends in Equity Market Liquidity

SF.1: **Public venue activity: Equity daily turnover on trading venues of selected countries (EURbn per day)**



Source: BigXYT. Includes primary exchanges and MTFs registered in the selected countries. Excludes SI & OTC trading due to the ongoing methodological and reporting difficulties to ascertain the geographical location of such trades. Includes only price forming trades.

SF.2: **European equity turnover ratio (aggregate of EU, UK and Switzerland)**



Source: BigXYT, FESE, WFE, and local exchanges. Includes primary exchanges, MTFs, registered in the selected countries, SI and OTC. Includes only price forming trades.

Although equity trading activity has shifted from the UK to the EU, the consolidated impact on liquidity for the aggregate European (EU, UK and Switzerland) equity ecosystem and for end-investors is not conclusive. European equity turnover ratios (annual trading value relative to market cap) exhibited a downward trend between 2017-21, albeit with an increase observed in H1'22 in tandem with the large decline in equity valuations. See chart SF2.

With the trading redomiciling process, panEuropean and global investors are now subject to greater jurisdictional fragmentation with a multiplicity of venues, which has now generated additional complexity. These venues already existed prior to the end of the Brexit transition period but were located in a single location within the EU28.

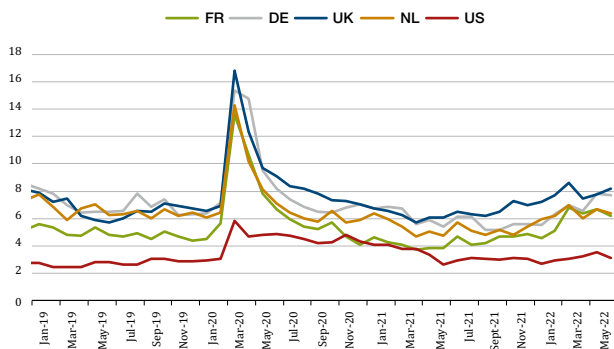


Tightness and cost of liquidity

Top of book bid-ask spreads are a common approximation for the financial cost of completing a transaction. This metric seeks to measure the difference between the price market participants are willing to pay and the price at which they are willing to sell. Tighter spreads generally indicate greater liquidity, although it is also commonly strongly correlated with prevailing volatility conditions.

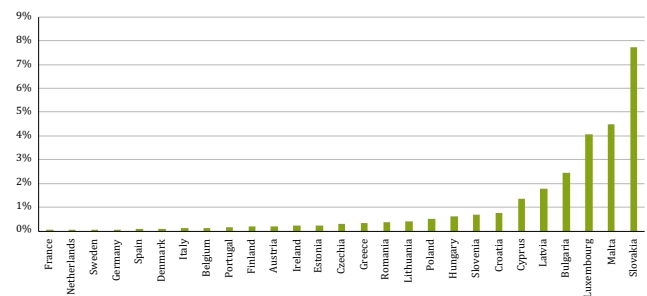
According to BigXYT and Eikon data, bid-ask spreads have been subject to visible temporary disturbances predominantly in 2020 due to the impact of the COVID pandemic and most recently the Russian invasion of Ukraine.

SF.3: Median bid-ask spreads of selected equity markets (bps)



Source: Datastream, BigXYT. Includes primary exchanges and MTFs for European shares. More specifically, Euronext, Aquis Exchange Europe, Aquis Exchange, CBOE DXE, CBOE BXE, CBOE CXE, LSE, Turquoise, Turquoise Europe, and XETRA

SF.4: Median bid-ask spreads by EU Member States (pps)



Source: Datastream. For purposes of comparability, we have calculated bid-ask spreads based on trading undertaken on primary exchanges and Multilateral Trading Facilities (MTFs) registered in the given home country for a selection of midcaps. The methodological approach of selecting mid-cap stocks is due to comparability reasons as we wish to compare liquidity between the various countries regardless of company size. By selecting a random set of midcaps, we seek to compare like-for-like companies across the EU as there is typically a strong observable correlation between company size and market liquidity features.

There is a large degree of heterogeneity between bid-ask spreads of the various equity ecosystems. This is consistent with the findings of other market studies such as the European Commission's Liquidity Dashboard (2021), where some ecosystems in the CEE region show higher liquidity costs compared to those elsewhere in the EU.



SF. Recent trends in Equity Market Liquidity

Market breadth: large heterogeneity in how liquidity is concentrated by shares

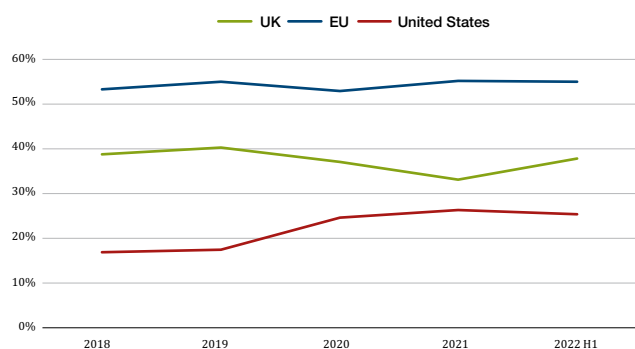
Breadth typically refers to the consistency with which liquidity is distributed within asset classes and the differences in liquidity characteristics across markets.

Equity market breadth in the EU, as measured by how liquidity is distributed across shares, has not materially changed over the last years. Across EU venues, liquidity is highly concentrated on the top 10 largest listed companies as measured by the proportion that the 10 largest listed companies represent of total national market capitalisation.

In the US, the top 10 largest companies represent 26% of total market cap, which compares with 38% in the UK and 56% in the EU on average.

There is a wide degree of heterogeneity between the EU Member State ecosystems, with the top 10 companies in some EU countries representing virtually the totality of domestic market capitalisation.

SF.5: **Percentage of Market cap represented by top 10 largest listed companies**



Source: Datastream. EU is a weighted average construction of EU Member States weighted by market cap

SF.6: **Percentage of Market cap represented by top 10 largest listed companies by countries**



Source: Datastream

“Some ecosystems in the CEE region show higher liquidity costs compared to those elsewhere in the EU”



Recent trends in fixed income liquidity

European fixed income markets play a critical role in providing funding for corporates and governments.

In this section we present some of the recent trends in European fixed income liquidity for government bonds and corporate bonds. At this stage, reliable data is not available to produce a consistent indicator of fixed income liquidity in part due to it being a largely dealer-to-client market and a lack of reporting comparability for government and corporate bond trades across EU Member States.

The data in this section illustrates the importance of taking into consideration the differences that underpin this asset class for purposes of regulatory action.

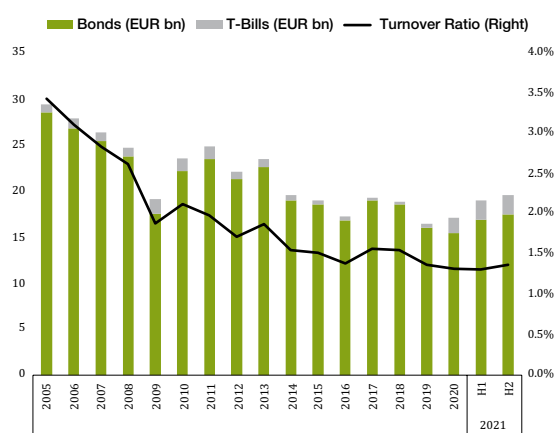
Government bonds

Bonds are the main source of market funding for sovereigns. The government bond market also serves as a yield benchmark to value other bond types issued by corporates and public sector institutions.

It is therefore in the best interests of broader fixed income and equity markets to maintain deep levels of liquidity in secondary markets for government bond issues as higher levels of liquidity lower investors' liquidity risks following issuance, reduce the cost of issuance, and reduce the liquidity premia for issuers.

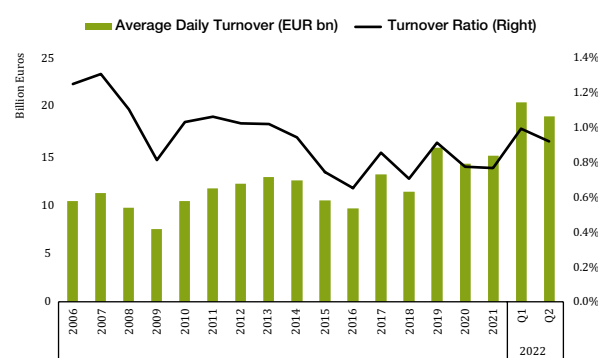
Over the last 15 years, we have observed a steady decline in turnover ratios across the majority of government bond markets, indicating a deterioration in depth of liquidity. Charts SF7 and SF8 show the decline for German and French government debt, from a turnover ratio of 3.5% to 1.5% for German debt and from 1.4% to 0.8% for French debt. Other markets such as Sweden, Denmark, Belgium, Poland, Finland, Bulgaria, Netherlands and the UK have also exhibited a decline in market depth over the same period²¹.

SF.7: **Germany: Average daily trading volume (aggregated bonds and bills) and turnover ratio**



Source: German DMO

SF.8: **France: Average daily trading volume (bonds only) and turnover ratio**



Source: French DMO

²¹ Further details are available on the AFME Government bond quarterly data report.

SF. Recent trends in fixed income liquidity

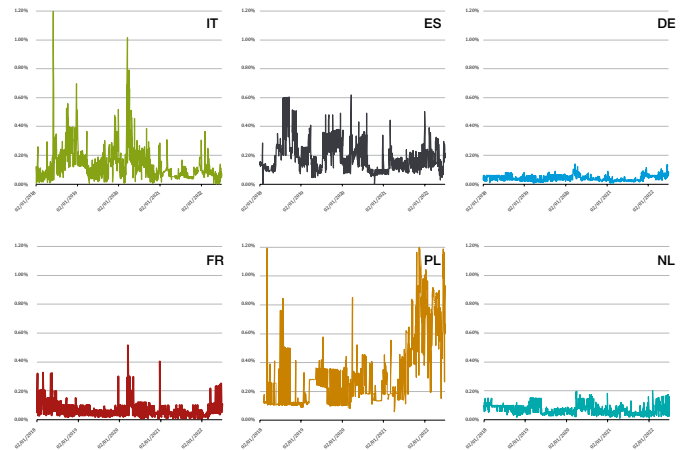
European sovereign bond markets have exhibited a large decline in the number of market participants that warehouse risk by intermediating government bond trades. The number of primary dealers of European government debt has steadily declined from an average of 20 in 2016 to 16 in 2022, notwithstanding the substantial increase in debt supply by European sovereigns (predominantly since 2020). See chart SF9

SF.9: Number of primary dealers of European sovereign debt



Source: AFME

SF.10: Bid-ask spreads for 10Y sovereign bond benchmarks (%)



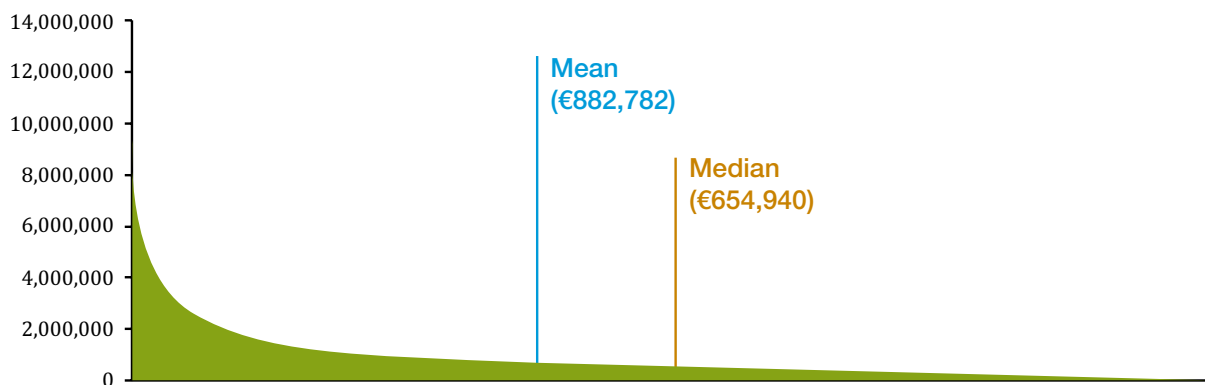
Source: Datastream

Bid-ask spreads for sovereign debt imply varying degrees of liquidity, some of structural nature with Germany, France, and the Netherlands showing relatively low spreads compared to those from Italy, Spain, or Poland. Bid-ask spreads also respond to other country-specific fluctuations related to volatility and risk perception by investors. During 2020 and 2022 spreads rose following the COVID-19 outbreak (2020) and the Russian invasion of Ukraine (2022).

Corporate bonds

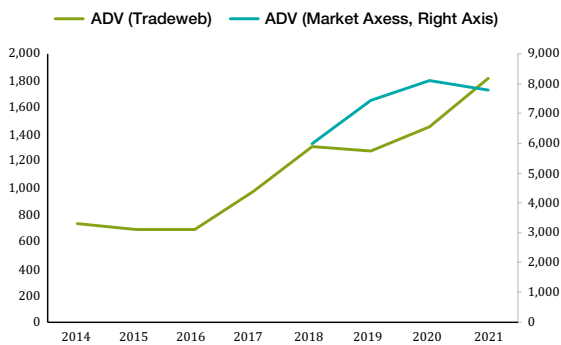
While companies typically issue a single stock, they issue multiple bond instruments with varying maturity, yield profiles, and terms and conditions. Corporate debt also exhibits varying degrees of trading activity depending on the life cycle of the bond, where trading is typically concentrated in the first days of trading after issuance. Data also suggests that European corporate liquidity is concentrated in a relatively small number of bonds, with significant heterogeneity across instruments. See chart SF11.

SF.11: Average daily volume (€) per ISIN for a sample of European Corporate Debt



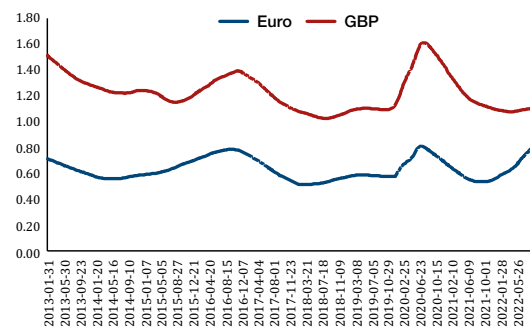
A cross-regional comparison undertaken by MarketAxess²² indicates that US corporate bond markets are typically more liquid than European markets. According to MarketAxess, the most liquid bonds in the US market typically see more daily trades than the most liquid ISINs in European markets. Bonds in the most liquid portion of the EUR investment grade bond universe typically trade 3.21 times per day, compared to an average of 15.08 and 6.63 in US investment grade and US High yield markets respectively.

SF.12: European corporate bonds average daily trading volume (\$mm)



Source: Tradeweb, MarketAxess

SF.13: Traxx BASI: European corporate bond bid-ask spreads



Source: MarketAxess

Data from Tradeweb and MarketAxess indicates that market depth on electronic platforms has improved over the last years. Average daily trading volumes have steadily increased over the last five years as electronic trading venues such as MTFs provide connectivity between buy-side firms and multiple liquidity providers, resulting in an increase of volumes now transacted electronically. See chart SF12.

Bid-ask spreads for corporate debt have fluctuated in response to economic and social shocks such as the covid outbreak and the Russian invasion of Ukraine (affecting predominantly the EUR market). The temporary economic uncertainty and subsequent reduction in market liquidity during the March 2020 market turmoil was not specific to credit, but rather stemmed from the extraordinary economic uncertainty caused by the pandemic and stresses in the government bond markets during the 'dash for cash'. See chart SF13.

Regulatory framework tailored for the liquidity characteristics of this asset class

Given the importance of liquid bonds markets, regulatory actions need to be carefully evaluated, assessing the interactions of prudential and market regulations. The interaction between prudential regulatory requirements on dealer capacity alongside trading transparency rules can have an impact on how execution capacity changes over time.

Further Research is available on AFME's report on **MiFIR** Corporate Bond Trade Data Analysis and Risk Offset Impact Quantification, and the corresponding analysis for Sovereign bond market undertaken by Finbourne.

“Bid-ask spreads for corporate debt have fluctuated in response to economic and social shocks such as the covid outbreak and the Russian invasion of Ukraine”

²² See <https://www.linkedin.com/pulse/comparing-corporate-bond-liquidity-across-regions-marketaxess/>



Geographical location of European market liquidity

Liquidity and trading activity vary across asset classes and geographical locations. Although in many sectors a significant portion of trading takes place in the EU, for a variety of reasons, including historic, third countries also contribute to the well-functioning of EU liquidity pools.

In this section we present a few data series illustrating the geographical distribution of EU liquidity pools and its evolution over the recent years.

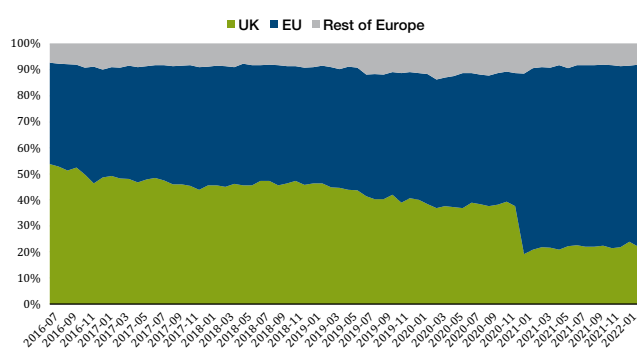
Location of equity liquidity pools

The location of equity liquidity pools has evolved based on a variety of public and private sector decisions over periods of decades. The most recent policy developments relate to the departure of the UK from the EU and the subsequent impact of the EU Share Trading Obligation (STO) de facto no longer being applicable in the UK.

The STO requires EU investment firms to ensure that trades they carry out on shares admitted to trading on an EU regulated market or trading venue, take place on an EU regulated market, multilateral trading facility or systematic internaliser (SI); or a third country trading venue assessed as equivalent under the MiFID II Directive.

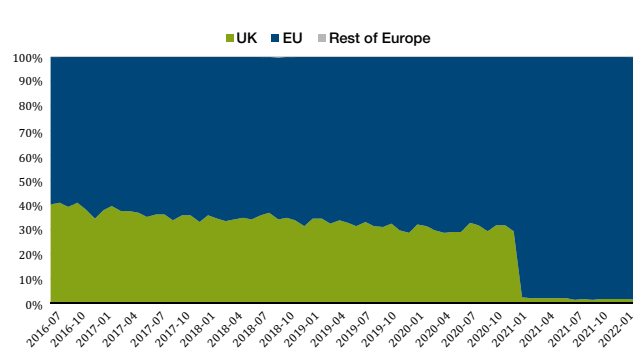
Since 2021, after the end of the Brexit transition period, the London Stock Exchange and other UK markets and trading venues are no longer EU regulated markets or MTFs, which has resulted in a geographical shift in the trading of EU equities.

SF.14: Geographical location of equity market liquidity: PanEurope, on venue only (ex-OTC, SI)



Source: BigXYT

SF.15: Geographical location of equity market liquidity: Eurozone50, on venue only (ex-OTC, SI)



Source: BigXYT

Chart SF14 shows the location of equity trading for all panEuropean shares (EU, UK, Switzerland and Norway). The chart shows a net increase in the proportion of equity trading that is undertaken on EU venues. This is driven by the STO. As shown in chart SF16, virtually the totality of Eurozone50 constituent shares are now traded on the Continent (from c60% in 2016).

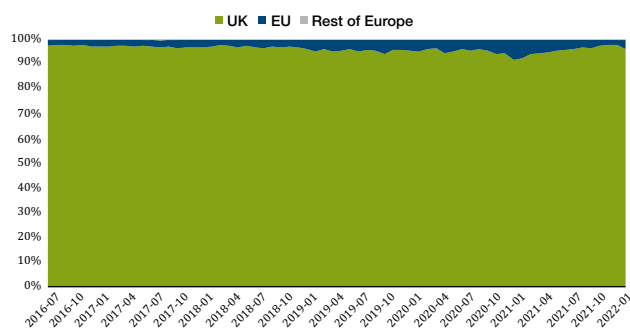
The data excludes SI and OTC trading due to ongoing methodology and data reporting challenges which prevent assigning the exact geographical location of trades in such cases.



SF. Geographical location of European market liquidity

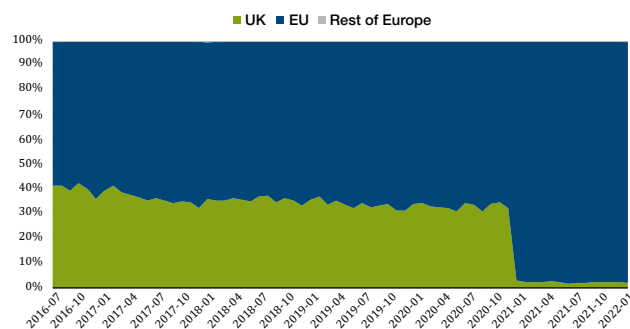
Charts SF16 shows the corresponding evolution of FTSE250 constituent shares, where trading has continued to be undertaken on UK venues. Chart SF17 shows the evolution of CAC40 constituent shares where, mirroring the evolution of Eurozone50 shares, the proportion of trading on venues on the Continent has increased from c60% in 2016 to c99% in 2022.

SF.16: Geographical location of equity market liquidity: FTSE250, on venue only (ex-OTC, SI)



Source: BigXYT

SF.17: Geographical location of equity market liquidity: CAC40, on venue only (ex-OTC, SI)



Source: BigXYT

Location of fixed income liquidity pools

In fixed income markets and derivative transactions (typically less liquid instruments compared to equities) market makers are crucial intermediators of transactions. Market makers act as counterparties, matching supply and demand for a given instrument. This involves buying and selling financial instruments without an immediate matching transaction, holding them in inventory or borrowing the traded instruments.

Data available for selected government bond markets show an increase in trading undertaken by counterparties in the Eurozone and the decline in trading by European non-Eurozone counterparties. The location of counterparties is relevant in the fixed income context considering that a large portion of trades are undertaken outside venues.

According to the Dutch Debt Management Office, Eurozone trading (excluding interdealer activity) of Dutch government bonds has increased from c€130bn in Q1-Q3 2019 to €160bn in Q1-Q3 2021, while European non-eurozone trading has declined from €120bn in 2019 to just above €100bn in 2021. See chart SF18.

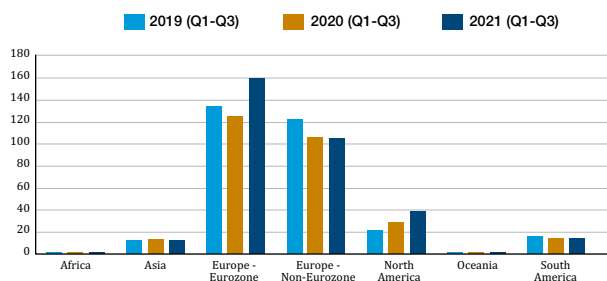
A similar trend has been observed for German government bonds. In 2021, around 49% of German government bonds were traded by institutions located in Europe but outside the eurozone compared to 56% in 2016. The proportion of Eurozone trading has increased from 25% in 2016 to 29% in 2021. See chart SF19.

“Data available for selected government bond markets show an increase in trading undertaken by counterparties in the Eurozone”



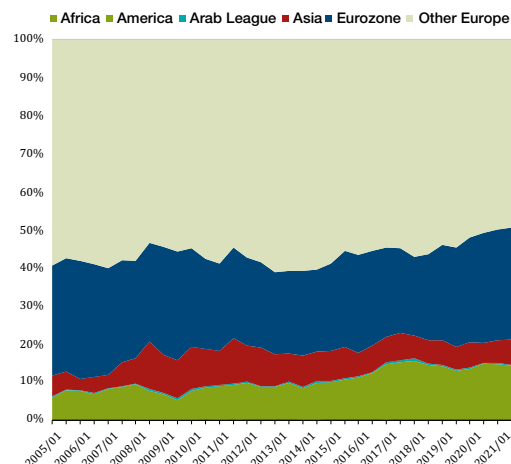
SF. Geographical location of European market liquidity

SF.18: Geographical breakdown of secondary market turnover of Dutch government bonds (€ billion)



Source: DSTA

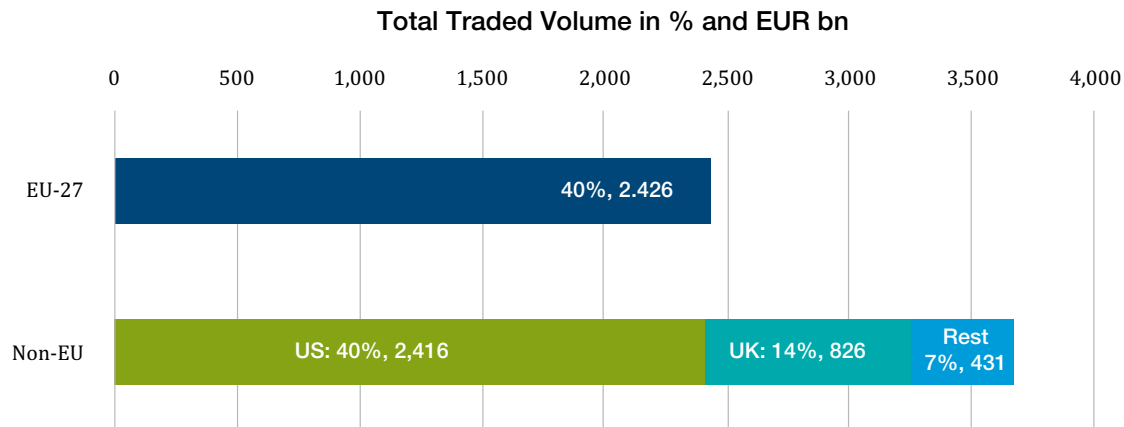
SF.19: Gross trading volume of German Government securities by Regions



Source: German DMO

For trading undertaken at venues based in the EU, extant data indicates that a significant portion of trades are of international sovereign and public bonds. According to Finbourne²³ (2022) analysis, 40% of the traded volume on EU venues relates to EU sovereign and public bonds; the remainder are non-EU bonds from the US, UK and many other countries.

SF.20: Trading activity on EU venues of sovereign and public bonds



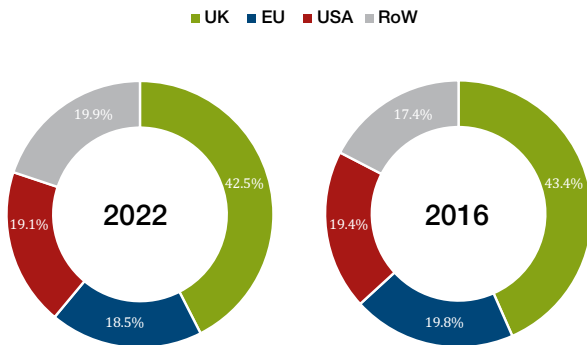
Geographical location of EU FX and derivatives trading

According to the BIS, the UK is the world's largest hub for FX and derivatives trading. The UK intermediates 38% of all global FX trading and 46% of global derivatives trading, participating in the development of global liquidity pools.

According to the BIS 2022 triennial survey, 43% of global euro FX trading (FX Spot, Swaps, Options, and Forwards) is executed from London trading desks (including EU headquartered banks), compared with 19% in the EU and 19% in the US. The proportion of euro trading from the UK has remained virtually unchanged at 43% in 2016 (although it represented 48% in 2019). For other EU currencies, the UK frequently intermediates a larger proportion of FX trading than what is executed on the currency's home country or in the EU— for example in 2022, 50% of Swedish Krona FX trading was executed in London compared to 8% in Sweden and 26% on EU trading desks. See chart SF21.

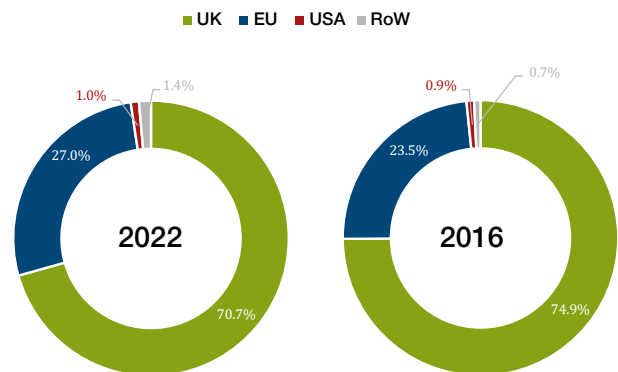
Global derivatives trading activity is largely concentrated in the United Kingdom. In 2022, 71% of the world's euro single-currency interest rate derivatives trading was intermediated in London trading desks. This compares with 27% in the EU and 1% in US. A similar proportion of other European currency transactions is intermediated in London. See chart SF22.

SF.21: Geographical distribution of OTC Euro turnover



Source: BIS

SF.22: Geographical distribution of OTC Euro interest rate derivatives turnover



Source: BIS

“Global derivatives trading activity is largely concentrated in the United Kingdom”



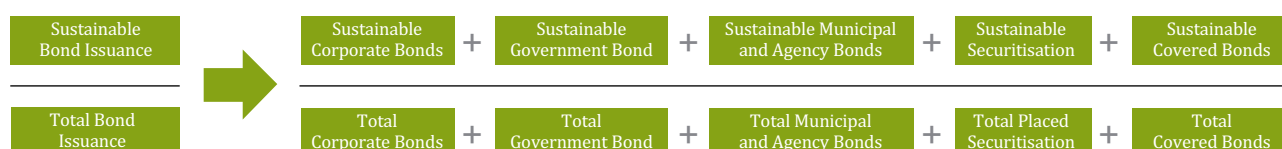
Transition to sustainable finance and digitalisation



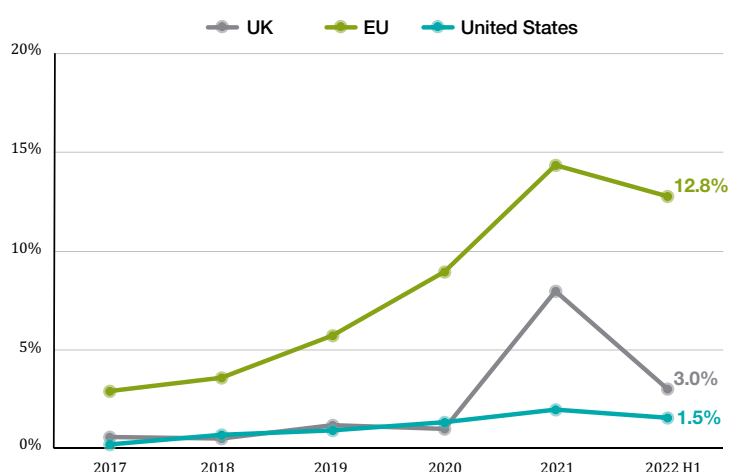
5. ESG finance indicator

Funding for the sustainable transition is a cornerstone of future EU growth. This indicator seeks to quantify the labelling of ESG bond instruments and is estimated as a simple ratio of issuance of ESG bond instruments (corporate, government, municipal, agency, securitisation and covered bonds) relative to total bond issuance. ESG is based on the Climate Bond's Initiative proceeds-based criteria (green, social and sustainable).

A relevant caveat to note is that the indicator does not consider sustainable equity issuance due to the difficulty in assessing and classifying entire organisations as sustainable or not, but could evolve over time reflecting changes in the sustainable finance sector and data availability. This indicator does not take into account sustainability-linked bonds in the methodology used to compute the ratio of sustainable or ESG bond issuance to total bond issuance, however this specific feature of the market is commented on later in the chapter.



5.1: ESG Finance indicator (ESG bond issuance as % of total bond issuance)



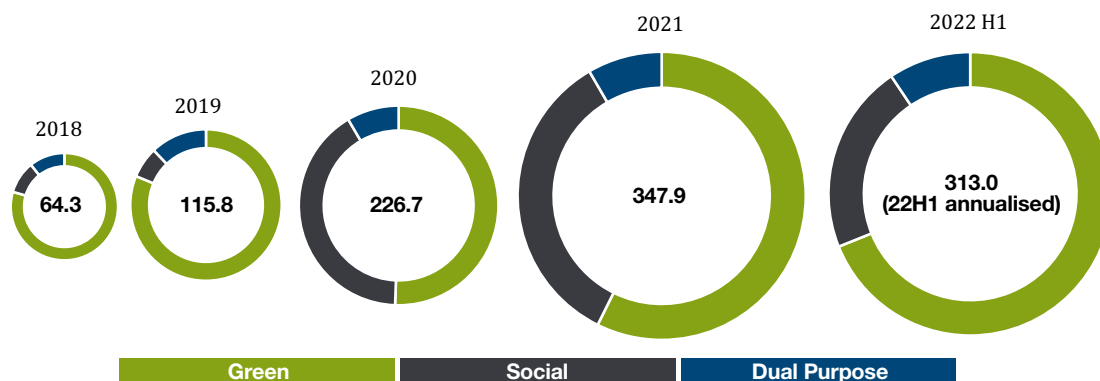
Source: CBI, Dealogic, ECB, SIFMA, ECBC and AFME

Bond issuance of EU ESG-labelled debt totalled EUR 156.5 bn in the first half of 2022, representing 12.8% of total bond issuance in the EU during 2022 H1. On an annualised basis, ESG issuance in the EU is down 10.0% compared to 2021FY, when a record EUR 347.9 bn was issued throughout the year, the largest annual ESG issuance in the EU to date, and representing 14.4% of total bond issuance in 2021.

The gap between the EU and UK has widened during 2021H1, with 3.0% of total bond issuance in the UK labelled ESG during 2022 H1, down from 8.0% in 2021FY. This is mainly due to a decrease in sovereign issuance within the UK during the first half of 2022, however the UK DMO has indicated that further green government bonds are in the pipeline for H2 2022.

5. ESG finance indicator

5.2: European Green, Social and Dual-Purpose bond issuance, EUR bn, 2018 – 2022 (annualised)

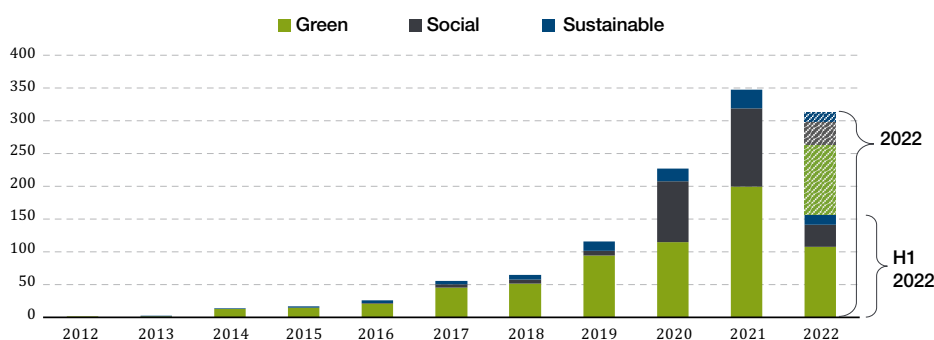


Source: Climate Bond Initiative and Dealogic

The shift in EU ESG markets towards social issuance, observed since the onset of the Covid-19 pandemic seems to have receded as the European Commission concluded its SURE bond issuance scheme. To date, EUR 93.0 bn has been issued in social bonds via the SURE scheme, with 98% of issuance taking place during 2020-2021. As a result, social bond issuance decreased 43% YoY (annualised) during H1 2022, as other issuer typers, including government-backed entities, corporates and financials have struggled to fill the issuance gap left by the Commission. Excluding issuance from the European Commission, social bond volumes decreased by 7% YoY (annualised) in the first half of 2022.

Green bond issuance has continued to rise, albeit at a slower pace, with volumes up 8% YoY (annualised) in 2022 H1, compared to a 74% YoY increase observed during 2021. Green bond issuance has evolved to become the dominant sub-category once again within the various ESG labels, with green issuance making up 69% of total ESG bond issuance during 2022 H1, up from 57% in 2021 and 51% in 2020. Dual-purpose bond issuance was relatively stable during 2022 H1, increasing 1% YoY (annualised) and accounting for 9% of total ESG issued volumes. This is in line with previous years, as dual-purpose issuance, as a percentage of total ESG issuance, has remained relatively constant since 2018 at between 9-12%.

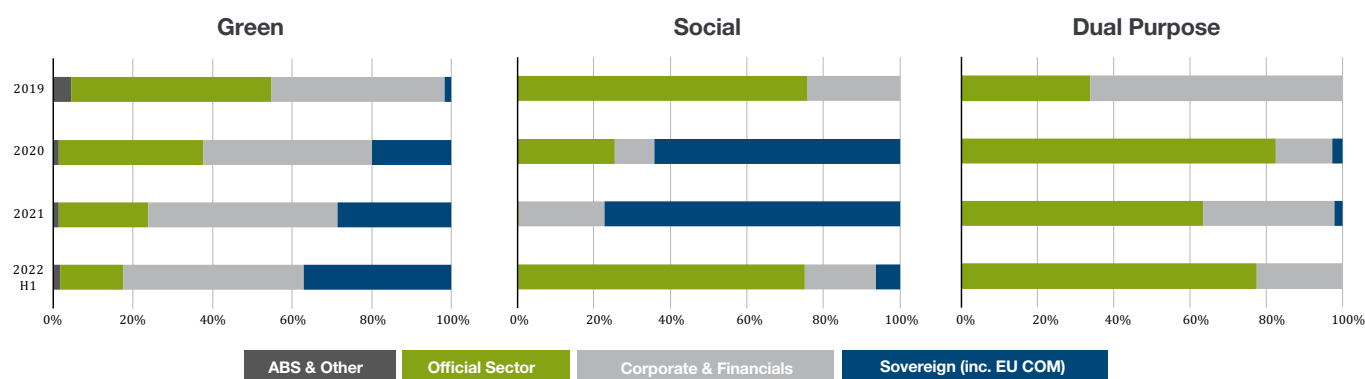
5.3: European Green, Social and Dual-Purpose bond issuance, EUR bn, 2012 – 2021 (annualised)



Source: Climate Bond Initiative and Dealogic



5.4: European Green, Social and Dual-Purpose bond issuance by issuer type (EUR bn, 2012 – 2022)

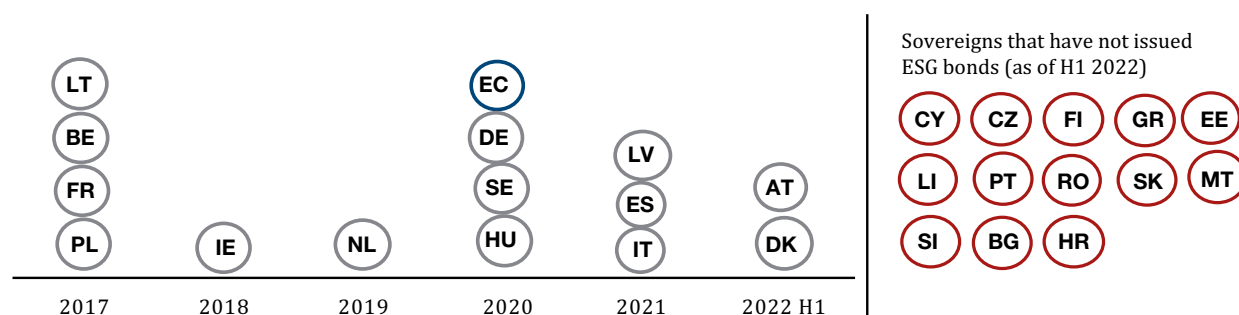


Source: Climate Bond Initiative and Dealogic. Official Sector includes Development Banks, Government-backed entities and local governments

In terms of breakdown by issuer type, corporate and financials issued the greatest volume of ESG bonds, accounting for 37% of total ESG bond issuance during 2022 H1, down from 41% in 2021. Issuance within this category have been driven by large green bond issuance volumes, which represented 84% of total corporate and financial ESG issuance in 2022 H1, up from 79% in 2021.

There has been an evolution in terms of issuer type in recent years, with sovereign issuers (including the European Commission) accounting for 37% of total EU green bond issuance in 2022 H1, up from 29% in 2021 and 20% in 2020. This has coincided with the decline in the proportion of total social bond issuance that can be attributed to sovereign issuers, which has collapsed from 77% of the total in 2021 to 6% in 2022 H1. This has been as a direct result of the aforementioned conclusion of the European Commission SURE social bond scheme, discussed earlier in this chapter. For dual-purpose bonds, the official sector, including development banks, government-backed entities and local governments, has dominated issuance making up between 77% and 83% of total EU issuance between 2020-2022 H1.

5.5: Year of entry to ESG bond market by EU sovereign issuer 2017 – 2022 H1



Source: Climate Bond Initiative and Dealogic

Although sovereign issuers have continued to play a significant role in EU green bond primary issuance markets, most issuers have not yet issued an inaugural green government bond. Furthermore, issuance remains concentrated in a few major markets, as the Netherlands, France, Germany, Italy, Spain and the European Commission were responsible for 87% of EU green government bond issuance during 2022 H1, down from 96% in 2021.

5. ESG finance indicator

Country comparison

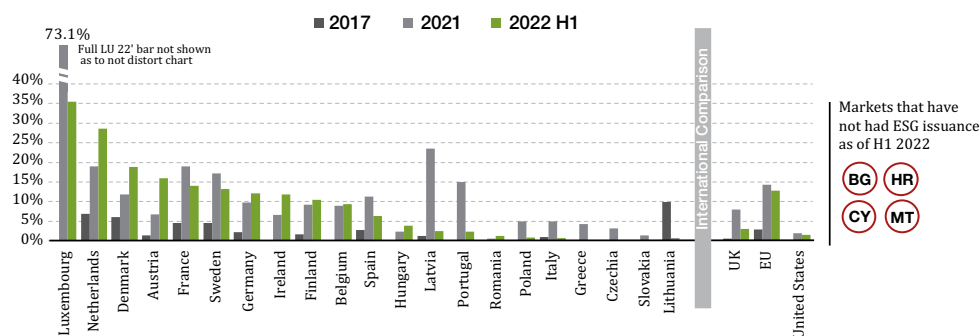
Luxembourg leads EU countries with 35.4% of total bond issuance having ESG labelling, driven by EUR 2.8 bn in green bond issuance in Luxembourg during 2022 H1, an annualised increase of 5%.

Germany has continued to issue the largest nominal volume of green bonds of any European country with EUR 29.8 bn issued in 2022 H1, an annualised increase of 22%. This follows Germany issuing the largest volume of any EU country in both in 2021 (EUR 48.8 bn) and 2020 (EUR 33.8 bn).

Austria and the Netherlands have significantly increased their Sustainable Finance Indicator value after green bond issuance increased 320% (YoY) and 22% (YoY) respectively, on an annualised basis. The increase in Austria was in part driven by the origination of the inaugural green government bond issued in May 2022.

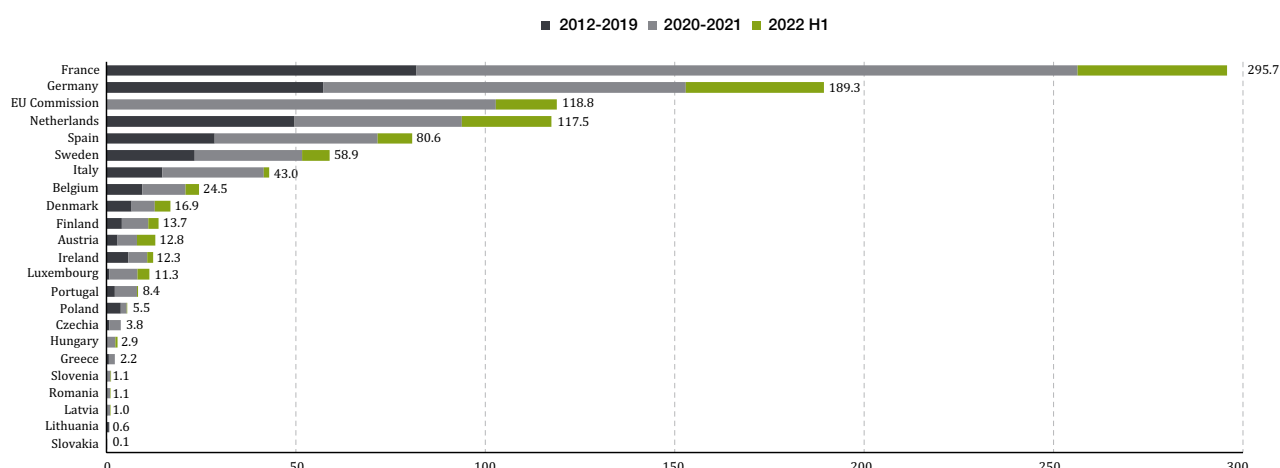
Issuers in Bulgaria, Croatia, Cyprus and Malta have yet to tap ESG markets for funding with none recording any ESG issuance as of 2022 H1.

5.6: ESG finance indicator by country (2017-2022 H1) (Sustainable bond issuance as % of total bond issuance)



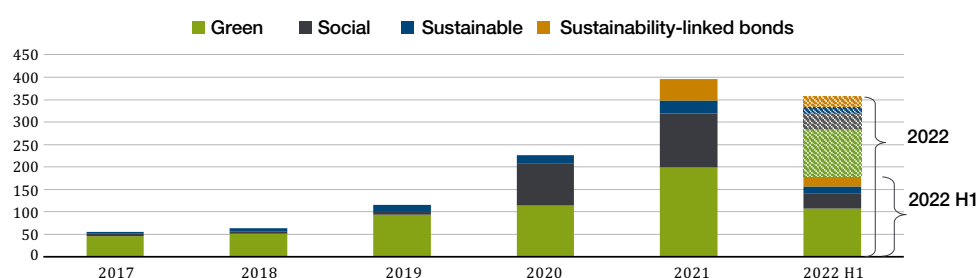
Source: CBI, Dealogic, ECB, SIFMA, ECBC and AFME

5.7: ESG bond issuance by EU countries, EUR bn (2012-2019, 2019-2020, 2022 H1)



Source: CBI, Dealogic, ECB, SIFMA, ECBC and AFME, labels denote total issuance 2012-2022 H1.

5.8: EU Green, Social and Dual-Purpose and Sustainability-linked bond issuance, EUR bn, 2017 – 2022 (annualised)



Source: Climate Bond Initiative and Dealogic

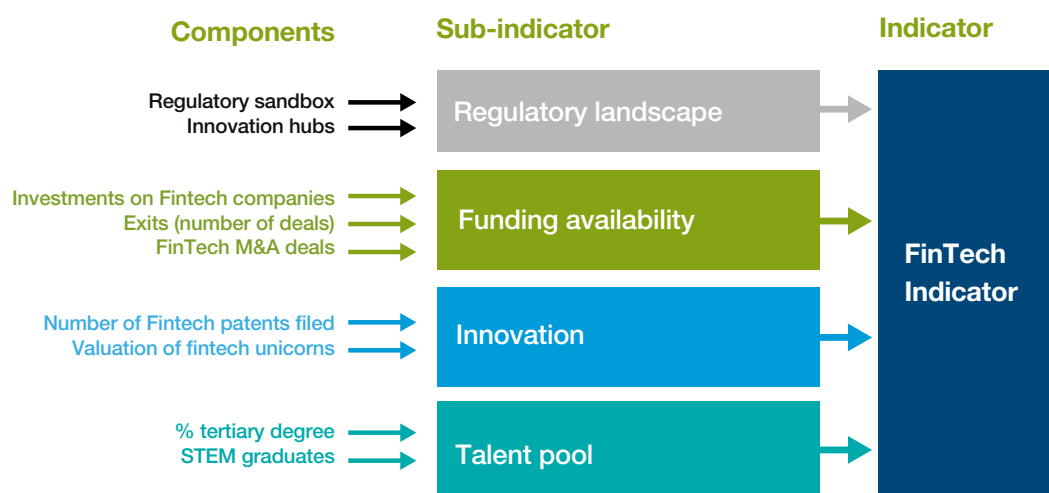
Sustainability-linked bonds (SLB) aim to further develop the key role that debt markets can play in funding and encouraging companies that contribute to sustainability (from an environmental, social or governance perspective). Issuers of SLBs can use the proceeds for general purposes, and SLBs are typically issued as general obligation bonds with contractual links to the achievement of a sustainability target (ie. If GHG emissions exceed a certain level by a set deadline, the coupons will increase by a set percent).

The flexibility embedded into SLBs and the freedom endowed on issuers to choose how they intend to achieve sustainable projects has meant these instruments are at greater risk of greenwashing. For this reason SLBs have been excluded from the calculation of the Sustainable Finance Indicator. Nevertheless, they are an important component of the ESG universe, comprising 12.6% of total ESG issuance (including green, social and dual-purpose bonds) in 2022 H1, up from 12.2% in 2021.

6. FinTech indicator

6. FinTech indicator

The FinTech composite indicator seeks to rank countries by their capacity to host a vibrant FinTech ecosystem. The indicator is constructed based on four sub-indicators: (i) regulatory landscape²⁴; (ii) availability of finance for companies; (iii) degree of innovation; and (iv) talent pool. Each of the four sub-indicators is composed by individual metrics as illustrated in the figure below²⁵:



Recent trends

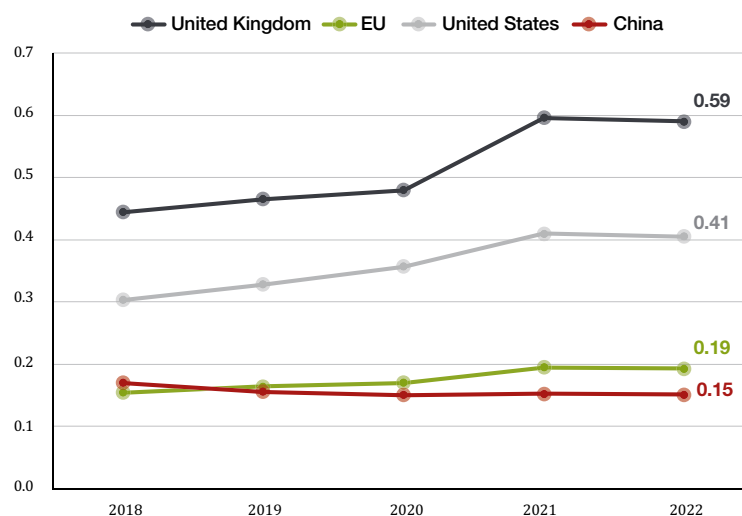
The environment for the financial technology sector has overall improved since 2020. The EU, UK and the US show an increase in the compound indicator relative to the 2020 level, where the main development appears to have happened in 2021. Those regions have carried the progress forward into 2022. The leading regions for FinTech are UK (0.6) and the US (0.4). The EU exhibits less FinTech friendly characteristics with an indicator value for 2022 of 0.2. While this is considered comparably low, the trend appears to be positive with more EU Member States creating important features like regulatory sandboxes to suit FinTech companies to operate in.

China, in comparison, continues to lack behind in creating a fertile environment for FinTech firms. The indicator remains at a consistently low level of 0.15 also in 2022. This is explained by China's industrial policy that doesn't classify FinTechs as strategic industry component.

²⁴ Some countries have multiple innovation hubs facilitating innovations in Banking, Insurance and Securities markets industries. The Belgian FSMA and NBB have two separate innovation hubs. For purposes of calculating the indicator, Belgium was assigned a score of 6 as the three financial services industries are covered by the two existing innovation hubs.

²⁵ Regulatory landscape: presence of regulatory sandboxes and innovation hubs in banking, insurance, and securities markets activities. Funding availability includes the value of investments into FinTech companies, the number of investor exits, and the amount of FinTech M&A. Innovation measures the number of Fintech patents registered in the local patents office and market valuation of fintech companies. Talent pool measures the percentage of 25-64 inhabitants with at least tertiary degree and the percentage of Science, Technology, Engineering and Mathematics graduates. See Annex for further details on how this indicator was constructed.

6.1: Evolution of FinTech indicator [0: Min, 1: Max] Composite indicator based on regulatory landscape, funding availability, innovation, and talent pool



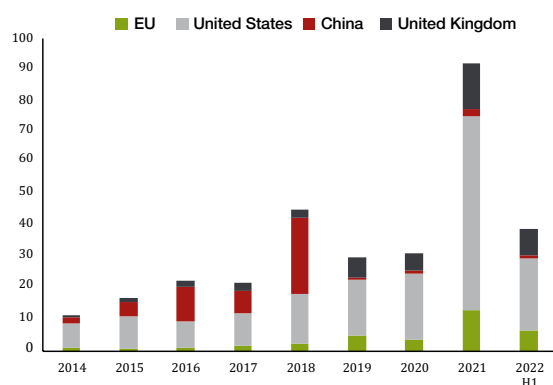
Funding availability

After an extraordinary investment year for FinTech in 2021, 2022 has seen a decline in investment activity globally. The investment reduced has declined in all major regions (see chart 6.2) from a total of around USD 90 bn in 2021 to USD 80 bn in the first half of 2022 (annualised from USD40bn). Naturally, more investment can be expected in the remaining year, however it appears unlikely that the 2021 level will be met. In the EU, Member States with pronounced relative reduction in activity include Austria, Denmark, Germany and The Netherlands.

Many financial technology companies took advantage of the boom in initial public offerings earlier in the pandemic. Investors gravitated towards companies they believed could benefit from a long-term shift toward digitisation accelerated by the pandemic. However, concerns about rising interest rates, lack of profits and untested business models as economies head towards a potential recession have led to a sharp sell-off. Shares in recently listed FinTechs have fallen by an average of more than 50 per cent since the start of the year.

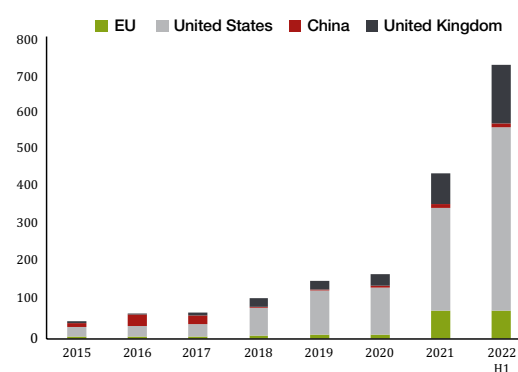
The correction in valuation, however, does not apply to FinTech Unicorns. Their value increased further and reached globally an all-time high in the first half of 2022 of around USD 700 bn up from USD 450 bn in 2021. This underlines investors' preferences for FinTechs with strong business models that can withstand adverse economic conditions.

6.2: Global investment activity in FinTech: amount 2014-2021H1 (USD bn)



Source: Dealroom

6.3: Value of FinTech Unicorns (USD bn)



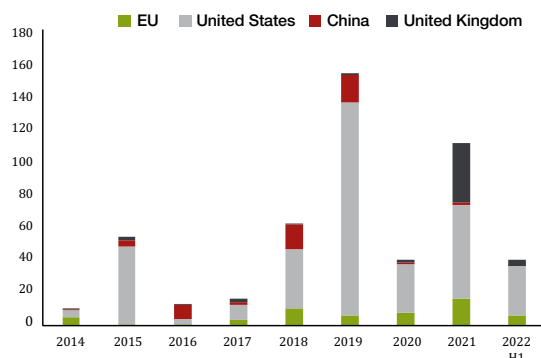
Source: CBInsights



6. FinTech indicator

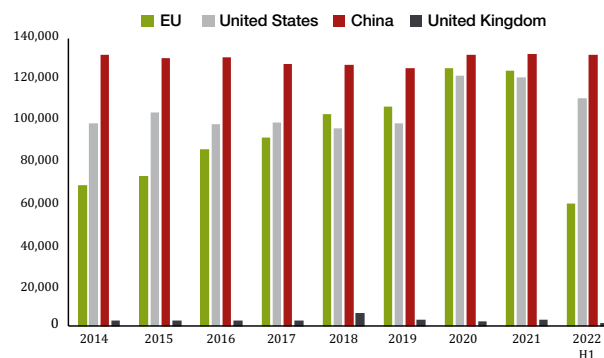
Consistent with the sharp decline in investment, M&A activity also reduced significantly in the first half of 2022. While in 2021 more than 100 M&As took place, less than 40 were observed in 2022 (H1). In terms of FinTech patents, the number of new patents remains on a relatively high level in 2022, where the EU shows a significant reduction in FinTech patents as of H1. It appears noteworthy that China, while having the lowest overall FinTech indicator, shows consistently the highest number of new FinTech patents (132.473 in 2021, and 132.377 in H1 2022); the same inverse relationship applies to the UK: while having the highest FinTech indicator value, the number of new patents is comparably low with 3019 in 2021 and 1560 in H1 2022.

6.4: FinTech M&A



Source: Dealogic

6.5: New FinTech patents registered by jurisdiction



Source: Dealroom

FinTech innovation facilitators

In recent years, competent authorities in the EU and UK have adopted various initiatives to facilitate financial innovation. These initiatives are designed to promote greater engagement between competent authorities and firms about financial innovations with a view to enhancing firms' understanding of regulatory and supervisory expectations and increasing the knowledge of competent authorities about innovations and the opportunities and risks they present. Regulatory sandboxes and innovation hubs have been identified as main categories of innovation facilitation. While a majority of countries have established innovation hubs, regulatory sandboxes are still scarce.

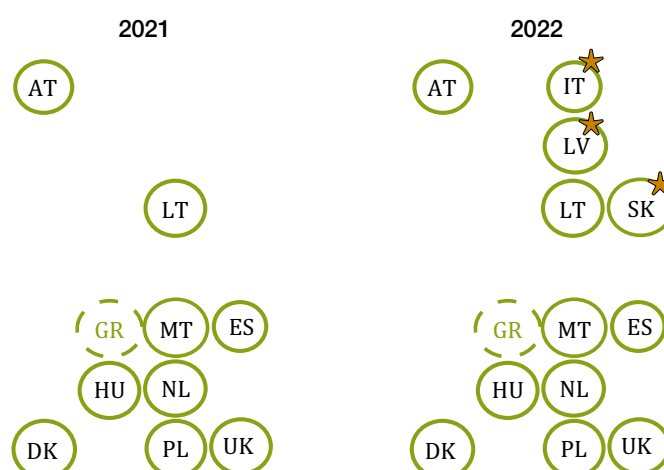
Compared to 2021, three additional countries deployed regulatory sandboxes. Now, 13 out of 28 (EU 27 and UK), and hence just under 50% of countries provide this regulatory feature. As such, Italy, Latvia and Slovakia have introduced regulatory sandboxes and thereby provide for the three major financial services activities (insurance, banking, and securities). See chart 6.6.

“In recent years, competent authorities in the EU and UK have adopted various initiatives to facilitate financial innovation”



Regulatory sandboxes provide a scheme to enable firms to test, pursuant to a specific testing plan agreed and monitored by a dedicated function of the competent authority, innovative financial products, financial services or business models. Sandboxes may also imply the use of legally provided discretions by the relevant supervisor (with use depending on the relevant applicable EU and national law) but sandboxes do not entail the disapplication of regulatory requirements that must be applied as a result of EU law.

6.6: European countries with regulatory sandboxes



Source: EBA, ESMA, EIOPA and EFIF. Dark green denotes countries that host regulatory sandbox for the three major financial services activities (insurance, banking, and securities). Light green denotes countries with regulatory sandbox for one or two (but not all) of these activities. The star indicates change for a given country (gold=upgrade to three major financial services, silver to two and bronze to one).

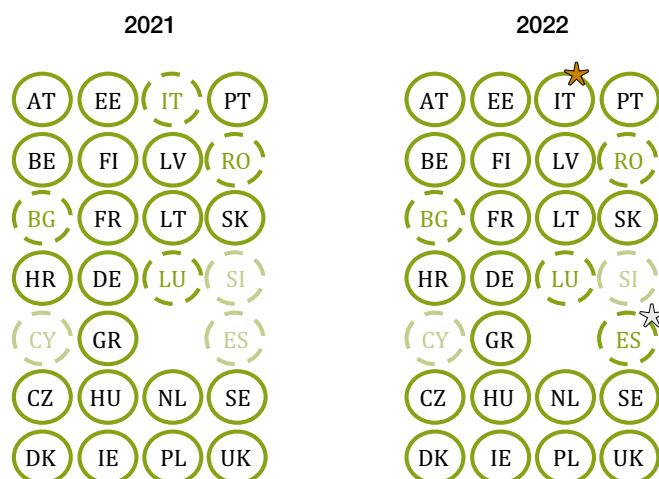
As regards innovation hubs, the picture is more optimistic. 27 out of the 28 countries provide innovation hubs of some form, with the exception of Malta. Most countries (21) have innovation hubs for all major financial services activities (insurance, banking, and securities). Four countries have innovation hubs for two major financial services, and two countries for at least one. While the recent year-on-year change is incremental, it is noted that the main development of domestic innovation hubs happened between 2018 and 2021, and a sufficient base level was achieved across Europe.

“27 out of the 28 countries provide innovation hubs of some form, with the exception of Malta”

6. FinTech indicator

Innovation hubs provide a dedicated point of contact for firms to raise enquiries with competent authorities on FinTech-related issues and to seek non-binding guidance on the conformity of innovative financial products, financial services or business models with licensing or registration requirements and regulatory and supervisory expectations.

6.7: European countries with FinTech innovation hubs



Source: EBA, ESMA, EIOPA and EFIF. Dark green denotes countries that host innovation hubs for the three major financial services activities (insurance, banking, and securities). Light green denotes countries with innovation hubs for one or two (but not all) of these activities. The star indicates change for a given country (gold=upgrade to three major financial services, silver to two and bronze to one).

FinTech performance by countries

Over the last year the positive trend with regards to improving the local ecosystem for FinTech has continued. For most countries the indicator value increased in 2022 compared to 2021. Most notably, Luxembourg, Estonia, Spain, Latvia, Italy, Slovakia and Malta have shown significant increase in the indicator compared to the previous year. Italy displays the biggest improvement by nearly doubling its indicator value, followed by Slovakia (+60%).

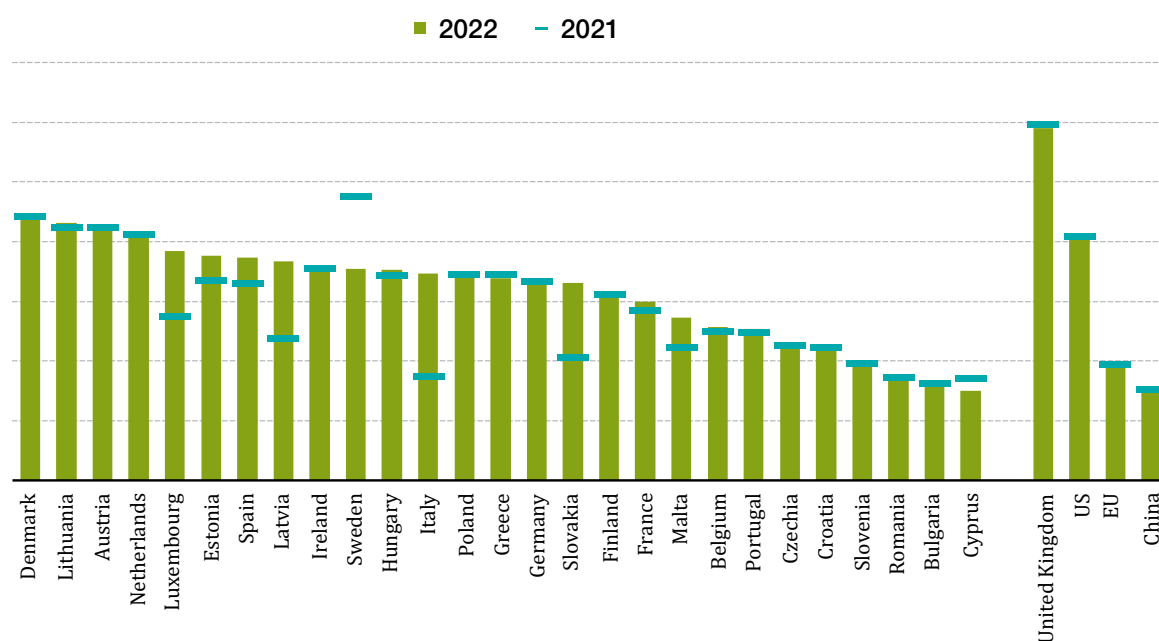
For a number of countries the indicator decreased. While the decrease is insignificant for most affected countries, Sweden shows a substantial deterioration of its indicator (-26%). This is driven by the fundamental revaluation of the Swedish FinTech “Klarna” in 2022 and hence the reduction in the “Funding” component of the indicator from 0.21 in 2021 to 0.16 in 2022. Due to Sweden’s indicator decline, it is also no longer present in the Top 5 countries.

“In 2022, the positive development of the FinTech ecosystem continues for most European countries”



6.8: Fintech indicator by countries: 2021 and 2022

Composite indicator based on regulatory landscape, funding availability, innovation, and talent pool
[0: Min, 1: Max]



Source: AFME

6.9: Fintech indicator by components. Top 5 countries (ranking 1: top; 27: bottom)

	FinTech ranking	Funding	Talent pool	Regulation	Innovation
Denmark	1	7	11	1	4
Lithuania	2	10	3	1	17
Austria	3	13	8	1	7
Netherlands	4	11	15	1	5
Luxembourg	5	1	9	23	1

6. FinTech indicator

DeFi, regulatory arbitrage and the use of DLT

This box comments on the exponential growth and sharp decline in the use of DLT in non-regulated financial services activities, and discusses some emerging risks for financial consumers and market participants.

The use of cryptoassets and DLT technology in non-regulated financial services activities has experienced a phase of exponential growth in the last years. Specialised market participants willing to tolerate the underlying risks of crypto activities can access a range of services such as savings, lending, trading, among many others. These activities are commonly undertaken via Centralised exchanges (CeFi) although in recent years a significant portion has been undertaken via Decentralised Finance (DeFi) protocols.

The use of DLT in the regulated financial sector has also grown predominantly in areas such as issuance of digital assets and asset tokenisation (e.g. DLT-form bonds), custody, and settlement of securities.

Data from Chainalysis suggests that Western, Northern and Central Europe (WNCE) is the world's largest crypto economy, with the United Kingdom being Europe's biggest DeFi district. This highlights the importance of the evolution of DLT adoption for Europe and for financial consumers²⁶.

Lending and deposits: Centralised and decentralised

Centralised lending intermediation

Centralised crypto lending activities operate under a custodial framework, where crypto platforms manage deposits on a centralised platform which stores financial records on a wallet in the form of tokens. Depositors earn interest on their resources while the platform intermediates and invests the deposits through lending origination.

Data is scarce on deposits and lending volumes intermediated by centralised platforms (CeFi). As CeFi platforms store deposits and supply lending, sound balance sheet asset liability management is crucial to safeguard appropriate management of risks. Most recently, centralised crypto platforms were subject to relevant financial distress which led them to pause withdrawals, swap, and transfers between accounts, or breaking the pegs of widely used stablecoins.

Bankruptcies of several large CeFi platforms (beginning with Celsius) in the aftermath of the collapse of Terra/Luna highlight the benefit that would be brought from the participation of banks applying capital, liquidity, risk management and other prudential regulations and supervisory oversight to the crypto asset sector.

The decentralised model (DeFi)

Lending via DeFi protocols operates under a peer-to-peer model. Depositors and lenders maintain ownership of their tokens without a custodial centralised intermediation of a platform but structured with the use of governance tokens which are specific to each DeFi protocol. Lenders earn interest and borrowers pay interest with the use of automated smart contracts via a DLT platform.

Industry data suggests that total assets (i.e. total value locked) in DeFi lending and collateralised debt positions reached \$80bn globally in November 2021, followed by a sharp decline to \$30bn as of August 2022. Industry data also suggests that yields on DeFi deposits have declined from 6% in February 2022 to 2% in August 2022.

26 The proportions are constructed based on website traffic by geography, where VPN relocation may inflate Europe's global participation. The Chainalysis indicator is based on estimates of 1) on-chain DeFi value received, 2) on-chain number of DeFi deposits, 3) on-chain retail DeFi value received

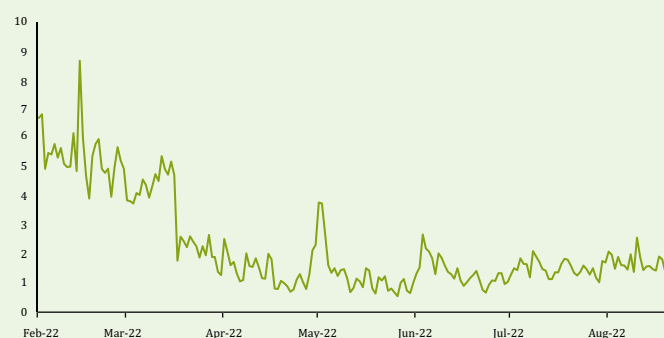


6.10: Total assets in DeFi lending and collateralised debt positions (\$bn)



Source: DeFi Llama. Total assets refers to total value locked

6.11: Evolution of deposit rates in DeFi protocols



Source: DeFi Llama

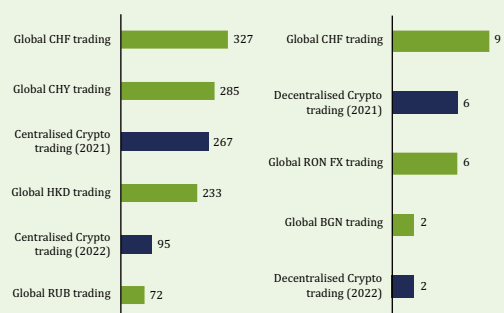
Trading and derivatives

The size of crypto trading has grown significantly in value over the last decade. Crypto trading is predominantly traded via centralised platforms, although the use of decentralised protocols has grown significantly in recent years.

During late 2021, the amount of crypto trading undertaken via centralised platforms reached \$267bn on average per day, which is above the average daily of major currencies like the HKD (\$233bn) while DeFi trading reached \$6bn in late 2021 or about the same amount of global Romanian (RON) trading.

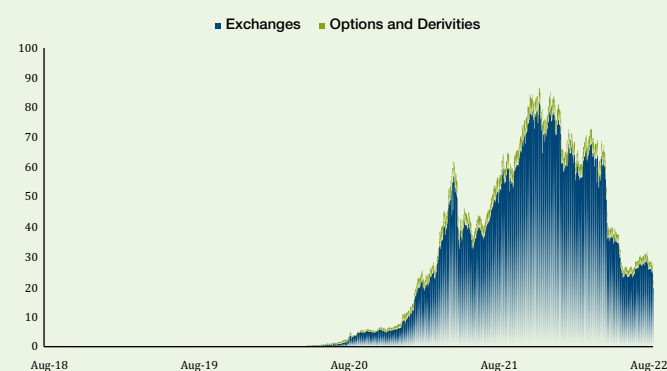
Most recently, following the early-2022 decline in crypto market valuations, centralised crypto trading declined in average turnover to \$95bn per day, comparable to currencies like the Russian ruble (\$72bn per day). DeFi trading declined accordingly to \$2bn per day, around the same amount of Global Bulgarian lev daily trading.

6.12: Average daily trading of selected currencies compared to DeFi and CeFi crypto trading (\$bn)



Source: DeFi prime, BIS

6.13: DeFi total assets in trading, options and derivatives



Source: DeFi Llama. Total assets refers to total value locked

Going forward, the challenge for regulators is to bring a balance where financial consumers can benefit from new forms of technology, while minimising any regulatory arbitrage following the principle of same activity same risk same rules between DeFi, CeFi and the regulated financial sector.



7. Loan Transfer Indicator

The Loan Transfer Indicator measures the capacity to transform bank loans into capital markets vehicles (securitisation and loan portfolio transactions), which is crucial for enabling additional lending to the real economy by freeing up bank balance sheet capacity.

The indicator is estimated as a simple ratio of securitisation issuance (placed and retained) and loan portfolio sales relative to outstanding loans to NFCs and households. The indicator is calculated by dividing flow measures by stock measures to show what proportion of outstanding loans converted into capital markets vehicles in a given period.

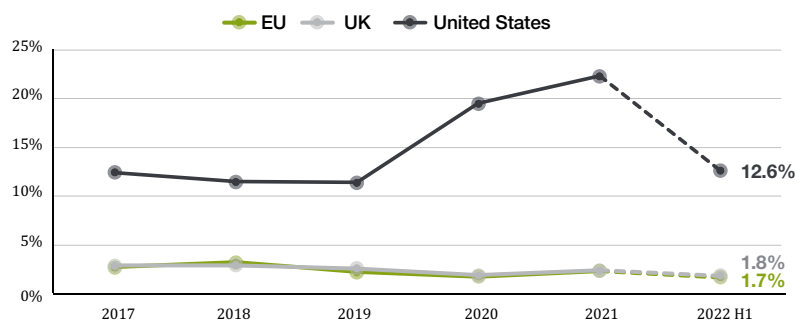
$$\frac{\text{Loan Transfer Instrument Issuance}}{\text{Outstanding Loans}} \rightarrow \frac{\text{Placed and Retained Securitisation} + \text{Loan Portfolio Sales}}{\text{NFC Loans (Outstanding)} + \text{Household Loans (Outstanding)}}$$

EU records lowest transfer of loans ever during H1 2022

During H1 2022, EUR 109.9 bn of securitised product and loan portfolio sales were issued in the EU, representing 1.6% of total EU outstanding loans when half-year figures are annualised, down from 2.3% in 2021FY and 1.8% in 2020.

The Loan Transfer Index calculated for the EU has fallen to the lowest value on record (from 2015) and half the value it was in 2018 (3.2%). This follows a significant slowdown during 2022 H1 in both loan portfolio sales, which decreased 68% YoY (annualised), and securitisation issuance, which fell 24% (annualised).

7.1: Loan Transfer Index: securitisation and portfolio sales as % of outstanding loans



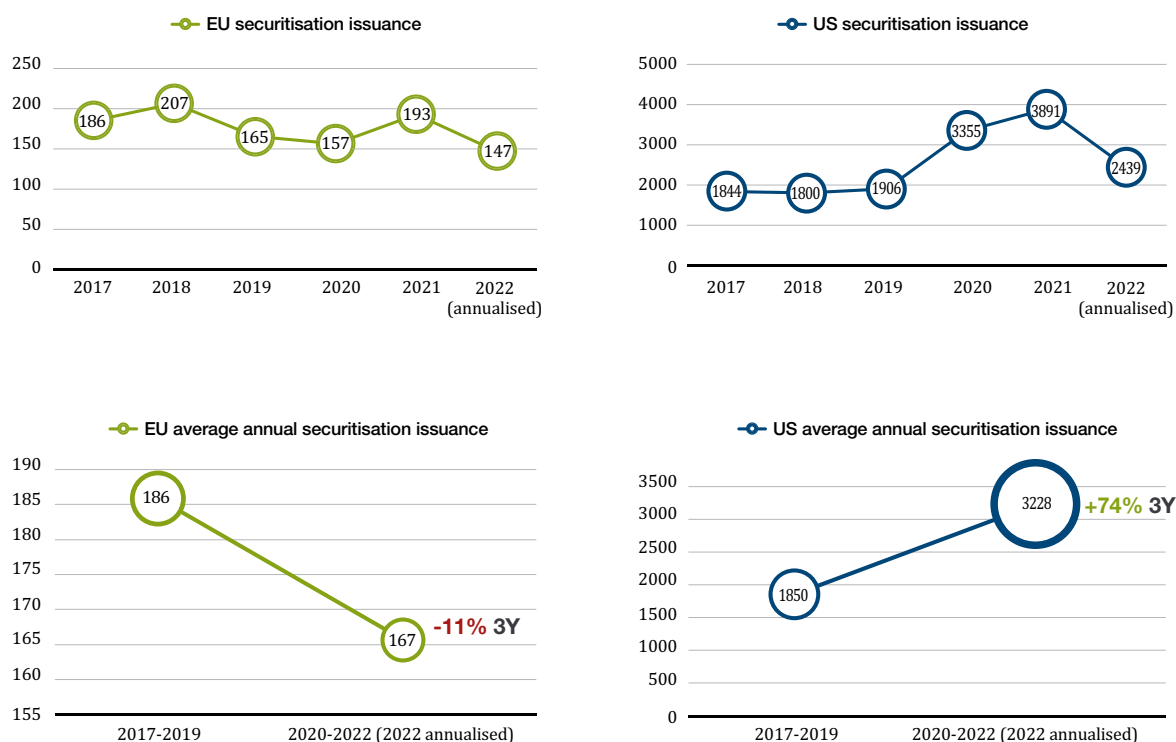
Source: AFME, SIFMA, ECBC, FDIC, ECB, US Fed, Bank of America, JP Morgan, Debtwire, Deloitte, and React News. **Indicator for 2022 annualises H1 volumes.**

7. Loan Transfer Indicator

The indicator for the US also decreased during H1 2022, from a record high of 22.3% in 2020, to 12.6% in H1 2022, just above where it scored in 2017 (12.4%). The US has negligible loan portfolio sales and as such this fall is due entirely to lower securitisation issuance volumes, which have normalised during H1 2022 after the highest issuance ever was recorded in 2020 and again in 2021.

While both the EU and US recorded falls in the Loan Transfer Indicator during H1 2022, a key difference between both markets is the way in which securitisation has played a supporting role in freeing up capacity for bank lending during the pandemic, via the transformation of loans on bank balance sheets. In the EU, average annual securitisation issuance in the three year period before the pandemic (2017-2019) was EUR 185.9 bn, which, in the years during and immediately after the pandemic (2020-2022) had fallen to EUR 165.6 bn, a decrease of 10.9%. On the other hand, the US recorded an increase in average annual securitisation issuance of 74.5% during the same period (2017-2019 vs 2020-2022).

7.2: EU and US securitisation issuance (2017-2022, EUR bn)



Source: AFME, Bank of America, JP Morgan, SIFMA

International Comparison

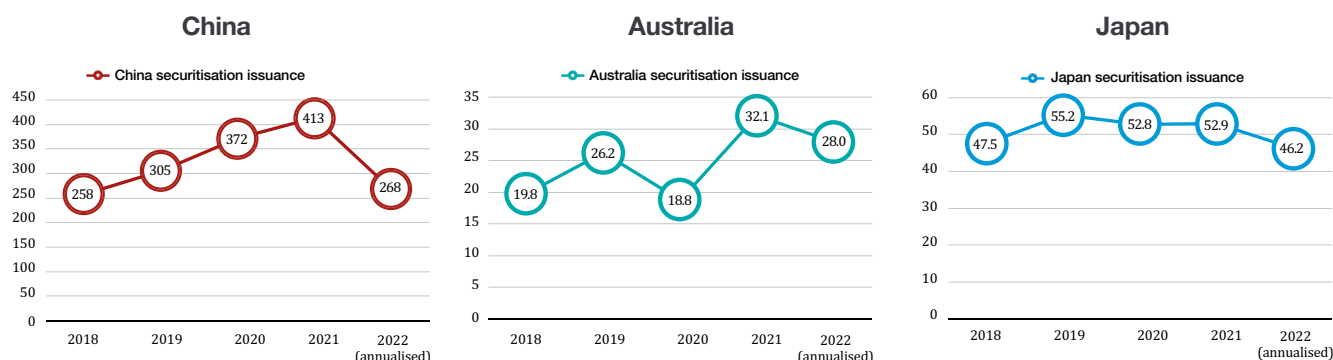
The Chinese and Australian securitisation markets have offered a greater role freeing up capacity for bank lending during the pandemic (2020-2022H1), than the period immediately before (2018-2019). Issued volumes in 2021FY reached record-highs in both jurisdictions, similarly to the US. In Japan, the market remained consistent in 2021FY with full year issuance volumes almost unchanged from the year before.

More recently, a slowdown in securitisation issuance throughout the first half of 2022 has also been observed in China, Japan, and Australia, where primary issuance decreased by 35.0%, 12.7% and 13.0% (annualised) respectively. In China, the sharp slowdown in 2022 H1 is predominantly driven by a reduction in RMBS deals amid challenges in the domestic property sector, which follows a period of consistent growth from 2013.

The medium-term trend in China and Australia (as well as the US) is one of growth in primary issuance. The trend in the Japanese securitisation market appears to be more akin to the EU, with issuance stagnating or decreasing over time. In Japan, volumes decreased by 2.7% from 2018-2022, while EU volumes decreased by 28.8% over the same period, the largest decline by a considerable margin among these global markets.



7.3: International securitisation issuance (2018-2022, EUR bn)



Source: S&P, NAB, Macquarie, JP Morgan

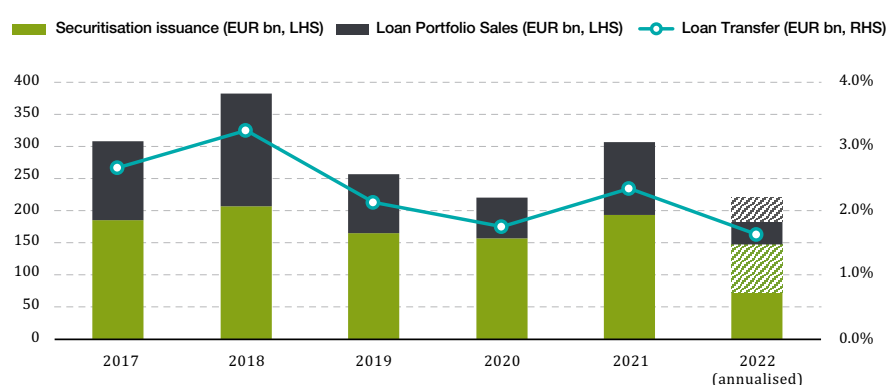
European Evolution by contributors

Total securitisation issuance (placed and retained) has been subdued during H1 2022, and was down 24% YoY compared to 2021. As a result, 2022 looks set to be a record low in the EU in terms of securitisation issuance, with approximately EUR 147 bn expected in issuance by the end of the year, which will place annual issuance volumes in 2022 slightly above the EUR 144 bn issued in 2013.

There has also been a considerable drop-off in EU loan portfolio sales during H1 2022, with volumes are down 68.2% YoY, compared to 2021. The pick-up in securitisation issuance and loan portfolio sales observed during 2021FY (+23% YoY and +78% YoY respectively), in what was a record year for EU capital markets issuance, has not continued into H1 2022, with volumes issued across both categories as of June 2022 comparable to 2020, and representing a trajectory that is stagnant at best or downwards at worst compared to pre-pandemic levels (2017-2019).

Outstanding EU bank loans rose 2.9% (YoY) during H1 2022 which deteriorated the indicator value further, following a 28.4% YoY decline in issuance of loan transfer instruments (loan portfolio sales and securitisation).

7.4: Evolution of Loan Transfer Indicator and EU Securitisation issuance and loan portfolio sales (EUR bn)



Source: AFME, SIFMA, ECBC, FDIC, ECB, US Fed, Bank of America, JP Morgan, Debtwire, Deloitte, and React News

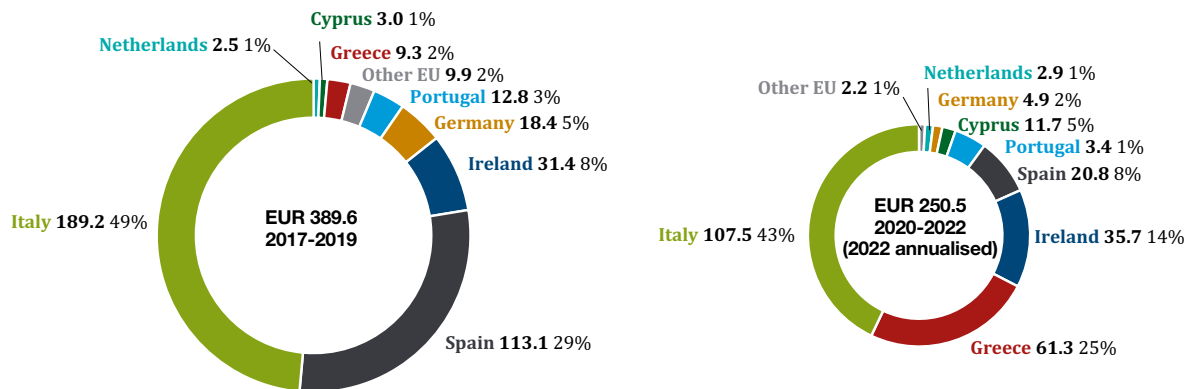


7. Loan Transfer Indicator

Deceleration of EU loan portfolio sales as NPL ratios decrease

Compared to the period 2017-2019, there has been a deceleration in loan portfolio sales transactions across EU countries, with total recorded volume equal to EUR 250.5 bn in 2020-2022, which represents a decrease of 35.7% once half year figures for 2022 are annualised. The slowdown in EU loan portfolio sales has been heterogenous across EU countries, with Ireland and Greece breaking from the general trend with both countries having increased levels of activity in the period 2020-2022, when compared to 2017-2019.

7.5: Evolution of EU loan portfolio sales (EUR bn)

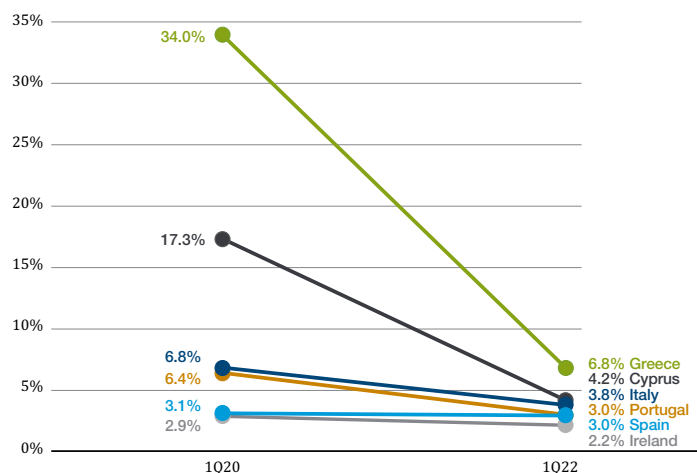


Source: Debtwire, Deloitte, and React News

Loan portfolio sales remain an important channel through which European banks can dispose of distressed and non-performing assets. As a result of increased utilisation of this mechanism, the non-performing to performing loans ratio (NPL ratio) has dropped significantly in Greece and Cyprus since 2020, which has coincided with increased loan portfolio sales in both jurisdictions in 2020-2022 vs 2017-2019. The cumulative effect over time has been decreased dispersion of NPL ratios for EU Member States as countries like Greece and Cyprus, which were relative outliers, converge to the average NPL ratio for the EU as a whole, which was 2.0% in 1Q22.

However, an increase in NPLs is now likely to take place in the end of 2022 or sometime in 2023 as a result of the economic impact of the pandemic, with prospects worsened by the recent rapid rise in energy prices and high inflation.

7.6: Evolution of EU NPL ratios

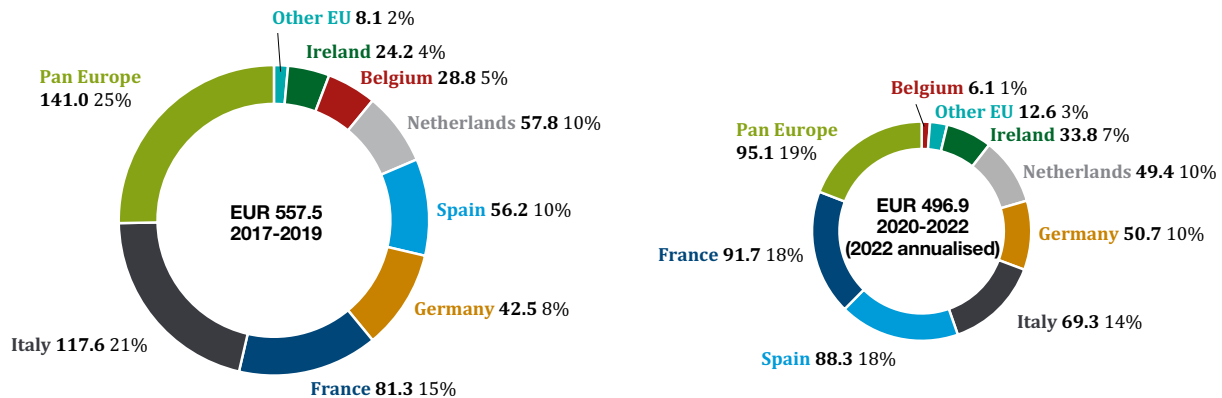


Source: ECB



Total securitisation issuance was equal to EUR 496.9 bn in 2020-2022, which represents a decrease of 10.9% compared to 2017-2019, but there was considerable heterogeneity amongst Member States, with issuers in France, Spain and Germany issuing relatively more into primary markets in recent years compared to the pre-pandemic period. Notably, PanEuropean issuance, which is comprised mostly of CLOs / CDOs with multi-country based collateral, and comprising the largest geographical category, accounts for only 19% of total issuance in 2020-2022, compared to 25% in 2017-2019.

7.7: Evolution of EU Securitisation issuance (EUR bn)



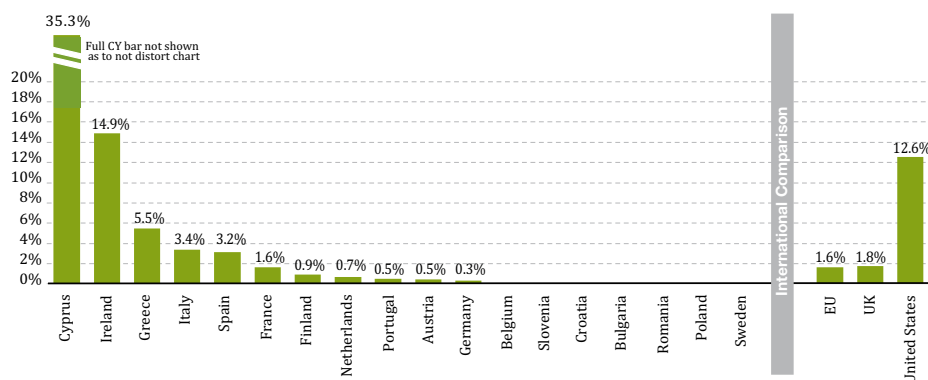
Source: AFME, Bank of America, JP Morgan

Key findings by countries

Cyprus leads European countries in the transfer of loans into marketable securities during H1 2022, with loan portfolio sales equivalent to 35.3% of outstanding Cypriot bank loans. This was driven by Cyprus' two largest financial institutions concluding NPL sales with a combined value of EUR 2.31 bn. In Ireland, the Loan Transfer Indicator was equal to 14.9% of outstanding bank loans during 2022 (annualised) which is 5.1% lower than in 2021. The drop in indicator value was driven by a reduction in both securitisation issuance, which was down 38% YoY, and loan portfolio sales which decreased 34% YoY (YoY variations based on annualisation of 2022 issuance figures). Portugal and Spain have experienced a decline in indicator value in 2022 after a substantial slowdown in loan portfolio sales in both countries, which decreased 67% YoY and 39% YoY respectively during H1 2022. The Netherlands and the Germany have also had declines in the Loan Transfer Indicator, after subdued securitisation issuance during H1 2022 (-81% YoY and -73% YoY respectively).

The number of EU countries that had zero transfer of loans increased to 16 during H1 2022, up from 15 in 2021 and 9 in 2017 as the market becomes more concentrated in terms of number of countries with active issuers in a given year.

7.8: Loan transfer indicator H1 2022 – EU Member State and international comparison (securitisation and portfolio sales as % of outstanding loans)



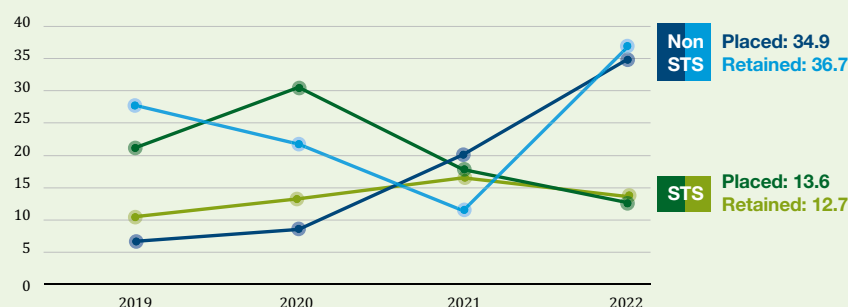
Source: AFME, SIFMA, ECBC, FDIC, ECB, US Fed, Bank of America, JP Morgan, Debtwire, Deloitte, and React News

7. Loan Transfer Indicator

Progress in the adoption of the STS framework

The EU Simple Transparent and Standardised (STS) securitisation framework has not delivered an expansion in securitisation issuance, as originally envisaged by the Securitisation Regulation (Regulation (EU) 2017/2402). STS issuance specifically and securitisation volumes in general remain low since the introduction of the regime at the start of 2019. As indicated in the chart below, H1 total (STS and non-STS, placed and retained) securitisation issuance remains subdued.

7.9: H1 securitisation issuance (placed and retained, STS and non-STS, EUR bn)

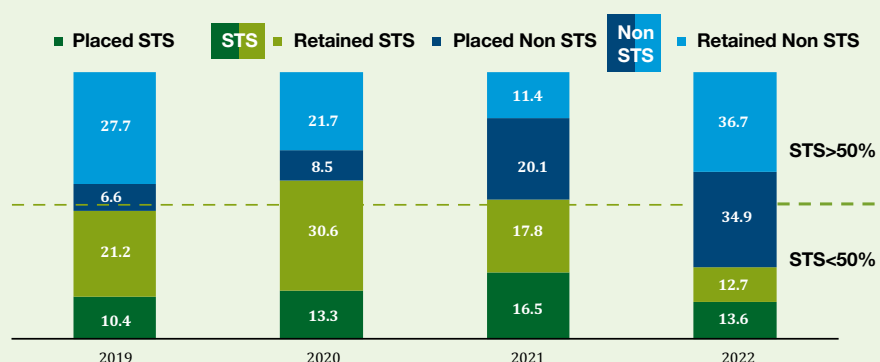


Source: AFME, Bank of America, JP Morgan

Whilst total (STS and non-STS, placed and retained) EU securitisation issuance volumes have increased 14.8% YoY during H1 2022, this followed the lowest H1 issuance ever recorded during 2021. Additionally, levels of STS issuance have fallen for the second consecutive year, to a record low of EUR 36.4 bn, with only 35% of issuance so far in 2022 has been notified to ESMA as STS, the lowest of any half-year period since the introduction of the regime to date. Compared to 2018, both pre-pandemic and prior to the introduction of the STS regime, total issuance has fallen 22.6% (18H1 vs 22H1).

Numerous securitisation deals remain in the pipeline in 22H2 but it is unclear as of yet when many of these will reach the market, and amidst heightened volatility and as a result of deteriorating market conditions, there has been a surge in private securitisations. The performance of European securitisation markets in the second half of 2022 will be heavily impacted by the ways in which governments, firms and consumers react to the persistent inflationary pressures, heightened energy costs and associated economic effects.

7.10: H1 securitisation issuance (placed and retained, STS and non-STS, % of total)



Source: AFME, Bank of America, JP Morgan

While securitisation can offer many benefits in offloading loans from bank balance sheets and freeing up lending capacity, for many European industry participants, the lack of proportionality in aspects of the Securitisation regulatory framework make this loan transfer mechanism unviable. Although regulatory frictions on the market act as an impediment to the full utilisation of the STS label, they also offer opportunities for market enhancement via regulatory adjustments.

Ongoing legislative discussions on CRR3/CRD6 and Solvency 2 offer an opening to adjust the somewhat overbearing calibrations for securitisations within these legislations. Furthermore, mandates can be included for the Commission and European Supervisory Authorities (ESAs) to develop proposals that improve proportionality and risk sensitivity.

Capital Markets Tax Efficiency

A suitable tax framework is crucial to the smooth functioning and efficiency of European and international wholesale financial markets.

This box discusses some of the pressing issues affecting wholesale markets from a tax efficiency perspective in areas such as withholding taxes (WHT), financial transaction taxes, and the existing differential treatment for debt and equity which results in debt bias for corporate funding. We have not developed an indicator on tax efficiency due to data availability to illustrate the intricacies of tax frameworks across EU Member States, including the administrative and operational complexities of complying with unharmonized tax frameworks.

However, one single data point shows the magnitude of the issue for European capital markets competitiveness: according to The Value Exchange, tax costs represent 12% of post-trade costs for European markets compared to 7% in North America and in APAC.

Although the EU does not have a direct role in collecting taxes or setting tax rates, there is room for policymakers to address the existing barriers that hamper EU tax competitiveness and assist Member States to coordinate taxation policies to make them fair, efficient and growth-friendly.

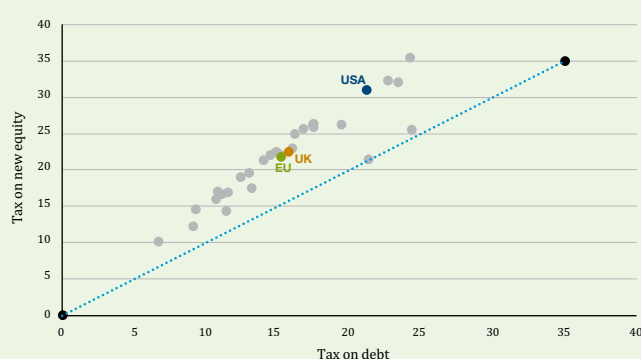
Debt-equity bias

Equity financing has traditionally benefit from a favourable treatment compared to debt financing, as interest payments on debt is deductible as a tax expense on companies' profits. This is not an EU specific issue, as the so-called debt-equity bias is also observable in other non-EU countries and was even considered in the 1958 seminal paper by Modigliani and Miller on cost of capital which set the foundation for modern corporate finance²⁷.

As shown on chart 7.11, all EU member states exhibit a more favourable tax treatment for debt compared to new equity financing. The EU average effective tax rate (EATR) for debt stands at 15.3% while for new equity (typically equivalent to retained earnings) this is equivalent to 21.7%. The respective rates are calculated based on multiple assumptions in relation to the various domestic tax features and its interaction for corporates, including: corporation tax rates, taxation on nominal interest payments, capital allowances, treatment of inventories, among other factors.

The largest gap between both forms of funding is observed in France (11.2%) and Germany (9.6%).

7.11: SF1 Tax on new equity and on debt for EU Member States, UK and the US



Source: ZEW and PwC. Blue dots represent EU member states

7.12: Size of debt-equity bias: difference between tax on new equity and debt financing



Source: ZEW and PwC

As a response to the existing tax-induced debt bias, the Commissions' Debt Equity Bias Reduction Allowance (DEBRA) initiative seeks to establish similar tax incentives for raising equity than for contracting debt.

27 Modigliani, F.; Miller, M. (1958). "The Cost of Capital, Corporation Finance and the Theory of Investment". American Economic Review. 48 (3): 261–297. JSTOR 1809766

7. Loan Transfer Indicator

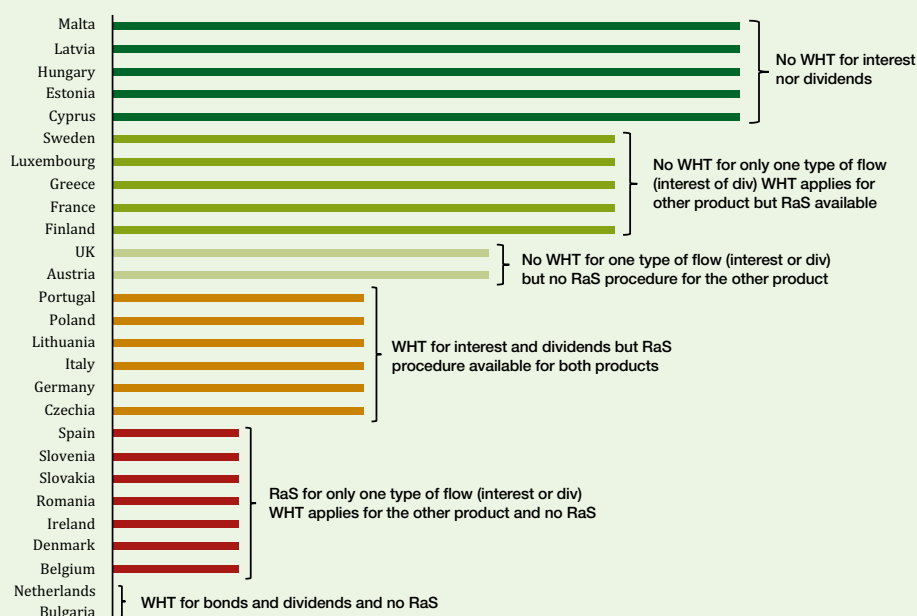
Withholding taxes

Significant tax barriers to cross-border investment are created amongst European States by both inconsistent processes in relation to the claiming of relief from withholding taxes and the inconsistent application of rules concerning who is entitled to relief from withholding taxes.

There are also widespread uncertainties in the outcomes relating to withholding tax claims. This is in large measure due to the uncertainties and varying interpretations of who is the “beneficial owner” of income from securities (“the beneficial owner test”) who is entitled to make a reclaim of withholding tax.

Chart 7.13 seeks to illustrate the existing country differences in WHT relief procedures, in a simplified way. The chart classifies countries on the basis of the WHT rate on interest and dividend payments for non-residents on non-treaty territories and the presence of a relief-at-source (RaS) mechanism for tax reclaim for interest and dividend payments. There are currently 5 EU countries that do not charge WHT on dividends or interest flows (MT, LV, HU, EE, and CY) while the Netherlands and Bulgaria are the only two EU countries that have WHT on dividends and interest payments and do not offer a relief at source system for such flows.

7.13: Withholding Tax procedures in Europe for dividends and interest payments.
Based on WHT rate on interest and dividend payments for non-residents on non-treaty territories



Source: PwC, Clearstream and AFME.

The Commission has taken many steps in recent years to identify, evaluate and propose improvements to the withholding tax procedures currently maintained by member states. Most recently, the European Commission initiative on a new EU system for the avoidance of double taxation and prevention of tax abuse in the field of withholding taxes and specifically on the Inception Impact Assessment released for comment on 28 September 2021.

Financial Transaction Taxes

Several studies have consistently concluded that financial transaction taxes levied on securities and derivative transactions has a detrimental impact on economic growth, job creation, and market depth.

Oxera in 2014 concluded on the negative impact on economic growth and jobs; Oliver Wyman in 2012 studied the burdensome impact on direct and indirect transaction costs for market participants; and Oliver Wyman in 2013 concluded that the impact to end users such as corporate and investors of between €30-50bn per year.

In the meantime, some countries have introduced its own domestic FTT: France (1 August 2012), Italy (1 March 2013) and Spain (January 2021), while others have continued to set taxes on financial transactions as shown on Table 7.14.

7.14: EU OECD Countries with FTT as of January 2021

Country	Tax rate
Belgium	0.12% - 1.32%
Finland	1.6% - 2.0%
France	0.01% - 0.30%
Ireland	1%
Italy	0.02% - 0.20%
Poland	1%
Spain	0.20%

Source: Bloomberg Tax "Country Guides" and PwC.

AFME has concentrated on assisting financial market participants with implementing the legislative requirements and help parties adhere to a set of standard provisions where transactions are subject to the Spanish, French and Italian FTT. In particular, AFME has developed the Italian FTT Equity Indemnity Protocol, Italian FTT Equity Derivatives Protocol, French FTT Indemnity Protocol, and the Spanish FTT – Indemnity Protocol.



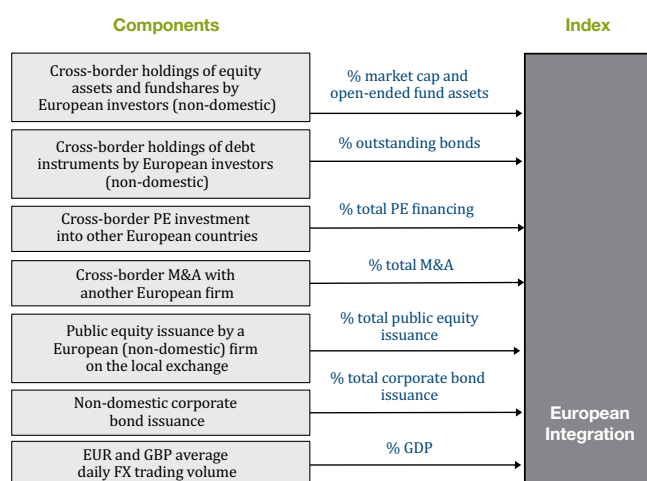
8. Cross-border finance indicator

8. Cross-border finance indicator

We have produced two indicators to quantify “intra-EU” integration and integration of capital markets activities with the rest of the world (RoW).

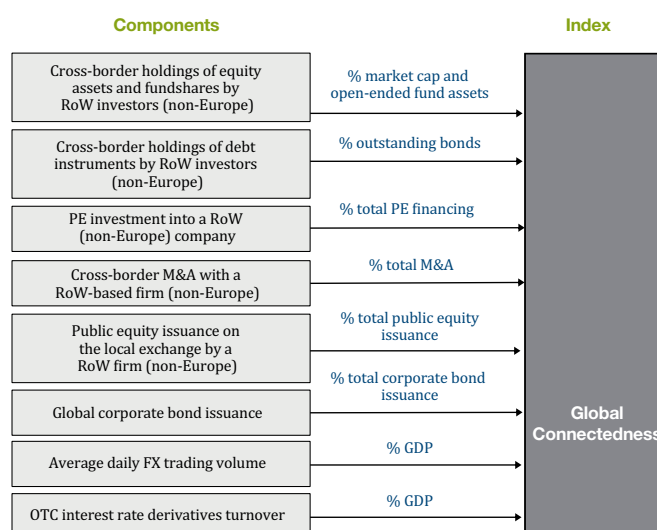
The indicators consider different capital markets dimensions by estimating two composite indicators aggregating the following features: (i) cross-border holdings of equity assets and fund shares, (ii) cross-border holdings of debt assets; (iii) cross-border private equity (PE) financing; (iv) cross-border M&A transactions; (v) cross-border public equity raising; (vi) non-domestic corporate bond issuance; and (vi) participation in intermediating foreign exchange and derivatives trading. Each of these subcomponents are quantified both for cross-border transactions within Europe and with the rest of the world for purposes of producing each of the indicators²⁸. Each component is quantified with the appropriate metrics as shown on Charts 8.1 and 8.2:

8.1: Capital markets intra-European integration index



Source: AFME

8.2: Capital markets Global integration index



Source: AFME

Each of the components seek to measure the volume of cross-border flows across jurisdictions through different capital markets activities and asset classes. The components are proxies of cross-border flows and may have limitations of their own. This is discussed in further detail in the methodologies section in Appendix 3.

Capital markets integration within EU

Our indicators show a slight deterioration in intra-EU integration over the last year, mostly driven by a decline in intra-EU private equity and M&A activity as these activities have been undertaken at a greater scale domestically. In H1 2022, 50% of M&A activity was undertaken domestically and 12% cross-border with the EU, which compares with 50% in 2021FY domestically and 16% cross-border within the EU.

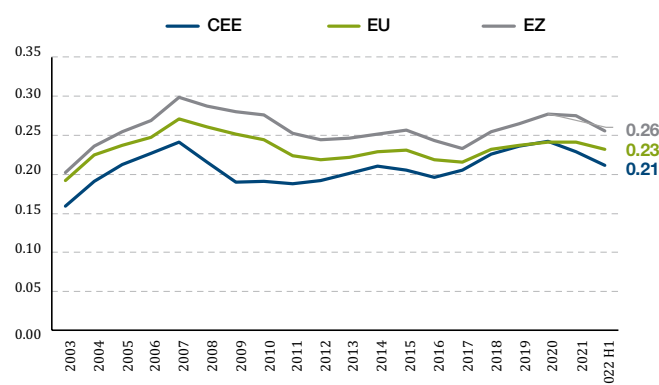
²⁸ Each of the components is standardised and aggregated in a single component by a simple average and transformed in [0-1] scale.

8. Cross-border finance indicator

Some of the other components of the indicator have not materially changed, and in some cases marginally improved over the last year.

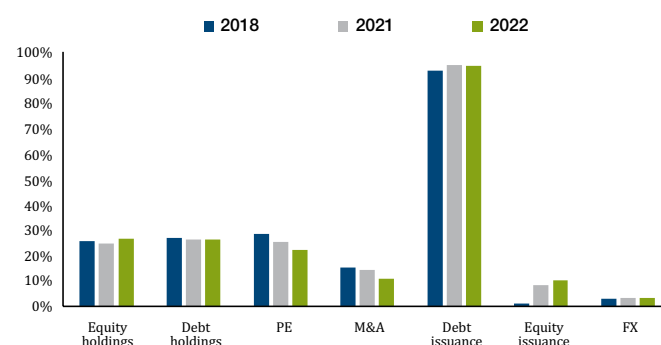
Debt issuance marketed cross-border in Europe continues at 95% of total EU corporate bond issuance, and consistently above 90% since 2015. Over the last year, corporates have increased their appetite for issuing equity cross-border on non-domestic exchanges within the EU. In H1 2022, 10% of total equity issuance was raised cross-border within the EU, an increase from 8% in 2021, although from a low base as equity issuance has significantly declined over the year. See chart 8.4.

8.3: Intra-EU integration index [0: Min, 1: Max]



Source: AFME from multiple sources

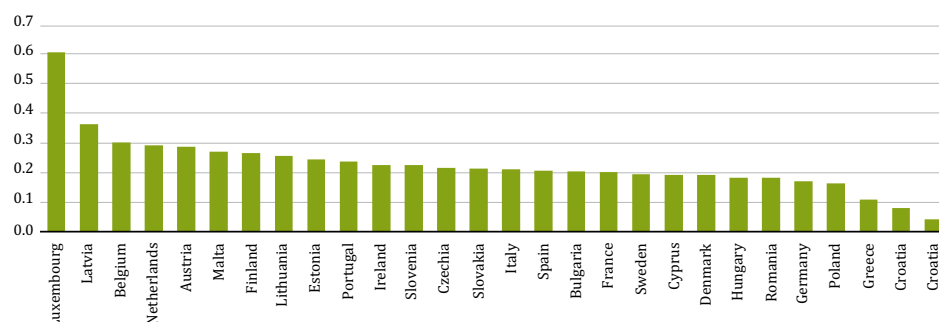
8.4: Intra-EU integration index by components and evolution²⁹



Source: AFME from multiple sources

Luxembourg continues to lead in intra-EU integration as the EU's hub for the cross-border distribution of investment vehicles with the largest domicile of UCITS and AIFS in the EU. Latvia stood as a closely integrated EU market, predominantly driven by the large portion of securities held cross-border within the EU³⁰.

8.5: Intra-EU capital markets integration by countries: 2022 [0: Min, 1: Max]



Source: AFME

²⁹ Equity holdings: cross-border holdings within the European of equity shares and fund shares issued by European companies as percentage of market capitalisation of listed shares and assets of open-end investment funds; Debt holdings: cross-border holdings within the European of bond instruments issued by European companies as a percentage of outstanding public and corporate bonds; PE: cross-border private equity investment by European funds into European companies (non-domestic) as percentage of total PE investment; M&A: cross-border M&A transactions with European companies (excluding domestic transactions) as percentage of total M&A activity; Debt issuance: issuance of corporate Eurobonds as percentage of total issuance of corporate bonds; Equity issuance: issuance of public equity in the national exchange by European companies (excluding domestic companies) as percentage of total public issuance; FX: average daily turnover of EUR and GBP as percentage of GDP.

³⁰ See <https://ec.europa.eu/eurostat/web/products-eurostat-news/-/ddn-20220615-1>

8. Cross-border finance indicator

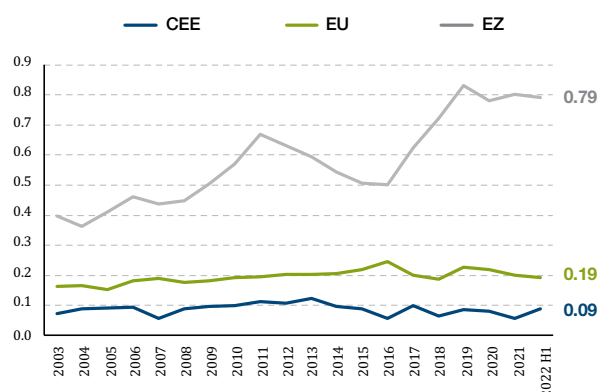
EU capital markets integration with the rest of the world (RoW)

Capital markets integration of the EU with the RoW deteriorated during the last year, predominantly due to an increase in private equity and M&A activities undertaken domestically, and a lower proportion of debt marketed globally.

In H1 2022, 38% of M&A activity was undertaken cross-border with the rest of the world, which compares with 41% in 2021 and 50% in 2020.

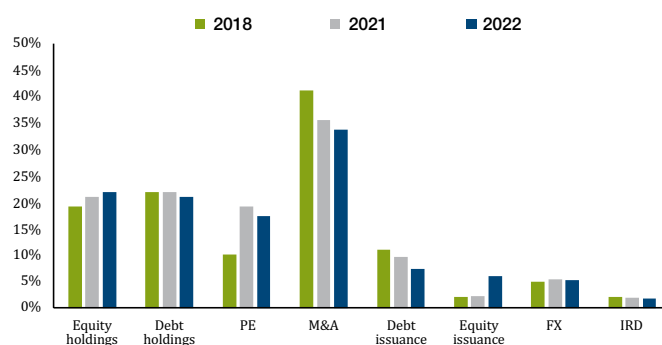
We have also observed a deterioration in the proportion of EU corporate marketed globally. According to Dealogic, 7.4% of debt issuance was marketed globally from 9.7% in 2021 and 19.2% in 2016. Equity issuance on EU exchanges by non-EU companies marginally rose from 2% of total equity raised in 2021 to 6% in H1 2022. See chart 8.7

8.6: Global integration index [0: Min, 1: Max]



Source: AFME from multiple sources

8.7: Global integration index by components³¹

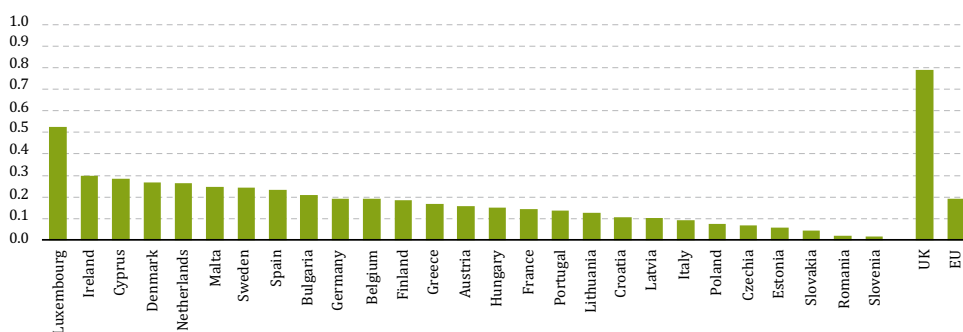


Source: AFME from multiple sources

According to our indicator, the UK continued as the most globally interconnected regional capital market, driven by its large role in intermediating global flows of interest rate derivatives and FX transactions.

Within the EU, Luxembourg's is the regional leader driven by the large portion of global equity and fund shares registered in Luxembourg.

8.8: Cross-border RoW indicator: 2022 [0: Min, 1: Max]



Source: AFME

³¹ Equity holdings: cross-border holdings in the RoW of equity shares and fund shares issued by European companies as a percentage of market capitalisation of listed shares and assets of open-end investment funds; Debt holdings: cross-border holdings in the RoW of bond instruments issued by European companies as a percentage of outstanding bonds (public and private); PE: cross-border private equity investment by European funds into RoW companies as a percentage of total PE investment; M&A: cross-border M&A transactions with RoW companies as percentage of total M&A activity; Debt issuance: issuance of global corporate bonds as percentage of total corporate bond issuance; Equity issuance: issuance of public equity in the national exchange by RoW companies as percentage of total public equity issuance; FX: average daily turnover of FX instruments as percentage of GDP; IRD: average daily interest rate derivatives trading as percentage of GDP.

Settlement efficiency data

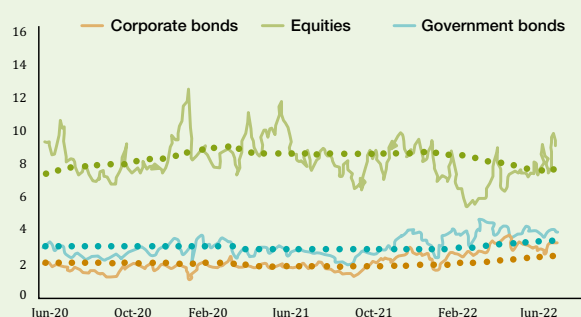
It is in the best interest of the financial market ecosystem to reduce settlement fails, delivering improved safety and efficiency in EU capital markets. In this regard, the entry into force of CSDR cash penalties on 1 February 2022 represents a major step forward.

Financial market participants have, in recent years, spent significant time and resources on reviewing and enhancing internal processes, with the aspiration of reducing the number of settlement fails.

Settlement efficiency in numbers

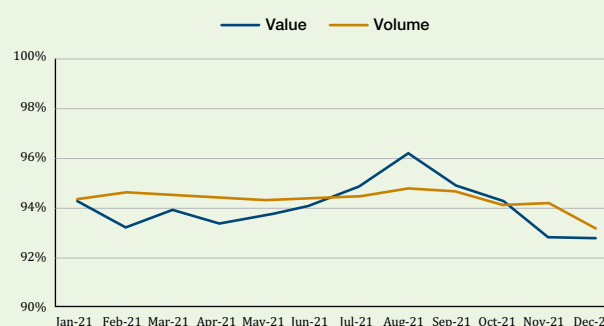
There is currently a lack of granular public information available regarding settlement fail rates. This is despite the large volume of data collected by National Competent Authorities from CSDs, and shared with ESMA. Most recent public information for market and policy analysis is from ESMA's Trends, Risks and Vulnerabilities Report (Sep 22)³² and T2S 2021 Annual Report (May 22)³³.

8.9: Settlement fails in EU CSDs



Source: NCAs, ESMA

8.10: Settlement efficiency during 2021 (% end of day)



Source: T2S, ECB

The latest publicly available data (as of 2022) shows an increase in levels of settlement fails in EU CSDs following the COVID pandemic, which for equity markets has not returned to the 2019 averages. Most recently, in February 2022 there seems to be a temporary decline in equity fails (which coincides with the introduction of the penalties regime) followed by an increase in March 2022 likely driven by the Russian invasion of Ukraine which led to increased volumes and volatility in EU markets, and had an operational impact on EU CSDs. With the currently available data it is highly challenging to evaluate the impact of the cash penalties regime (introduced in February 2022) on settlement efficiency.

The need for more data on settlement efficiency

In order to continue to improve settlement efficiency and evaluate success of reform, it is crucial that high-quality, granular information about current settlement efficiency rates is made publicly available. This information will enable market participants to better identify current areas of deficiency, and ensure that initiatives are targeted accordingly.

Providing more detailed information to market participants and relevant stakeholders would support the settlement efficiency objective. Information such as breakdown by age of settlement fail; breakdown by instrument type; breakdown by fail reason; breakdown by country of issuance of the security or by settlement location; comparison of settlement rates for domestic instructions vs cross-border instructions; or total and average volume and value of CSDR cash penalties issued per day, would be beneficial for market analysis.

³² https://www.esma.europa.eu/sites/default/files/library/esma50-165-2229_trv_2-22.pdf

³³ <https://www.ecb.europa.eu/paym/intro/publications/pdf/ecb.targetsecar202205.en.pdf>

8. Cross-border finance indicator

Further consideration should be given to the appropriate methodology for measuring settlement efficiency. For example: should an instruction which fails for multiple days be counted for each day it fails, or only once; should certain types of CSD activity be excluded.

Settlement efficiency rates in EU markets are generally accepted to be lower than, for example, the US market, although we note that there is limited data publicly available to make a direct comparison. Further to this, EU markets are notable for their diversity, for the complexity of their legal, fiscal and regulatory frameworks, and for the large number of regulatory, supervisory and infrastructure bodies, and other stakeholders.

Infrastructure Type	United States	EU
Listings Exchanges	3	32
Trading Exchanges	16	35
CCPs	2	16
CSDs	1	29
Local Currencies	1	12

Source: Sources: New Financial³⁴, ECSDA, AFME

34 <https://newfinancial.org/wp-content/uploads/2021/03/2021.03-The-problem-with-European-stock-markets-New-Financial.pdf>

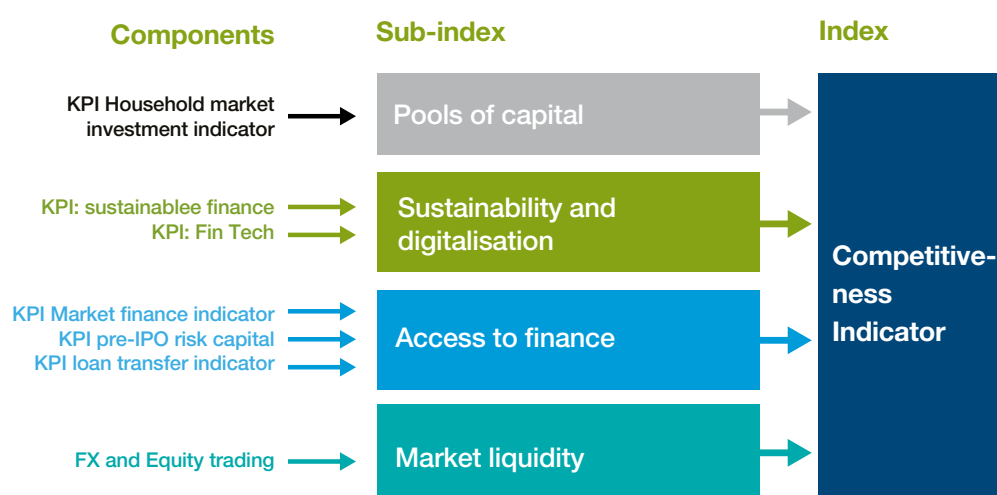


9. Market competitiveness

Successful capital markets ecosystems depend on the well-functioning of several factors. Each factor contributes to build the wider ecosystem which enables market participants and end users to access capital, allocate resources efficiently, diversify risks across jurisdictions, and facilitate economic growth.

This indicator seeks to measure capital markets competitiveness from a holistic perspective, recognising the multiple factors behind deep, liquid and efficient capital markets.

This indicator is estimated as a composite indicator that considers the following dimensions: (i) availability of pools of capital, (ii) sustainability and digitalisation, (iii) access to finance, and (iv) equity and FX market liquidity³⁵. Each of the four dimensions is composed by individual metrics as illustrated in the Figure below:



Measured as a composite indicator, it helps identify whether EU markets have improved as an ecosystem and how they compare with other third countries such as the UK and the US. It also helps identify the areas where policy intervention can be prioritised, and track progress for the various EU Member States.

Evolution and convergence

Chart 9.1 shows the evolution of capital markets competitiveness as measured by the indicator for the EU, the UK and the US. Over the last five years, EU capital markets have improved in global competitiveness although at a slower pace than that observed for the UK and the US.

By components, and consistent with the main findings of this report, EU markets underperform compare to the UK and the US in all features, except in developing a sustainable finance market ecosystem, where the EU continues as global leader. The slower progress in sustainable finance for the US and the UK highlights the large potential of the deepest global capital markets to facilitate a sustainable transition for the global economy.

³⁵ FX turnover relative to GDP and equity trading liquidity based on depth, immediacy, tightness, and breadth.

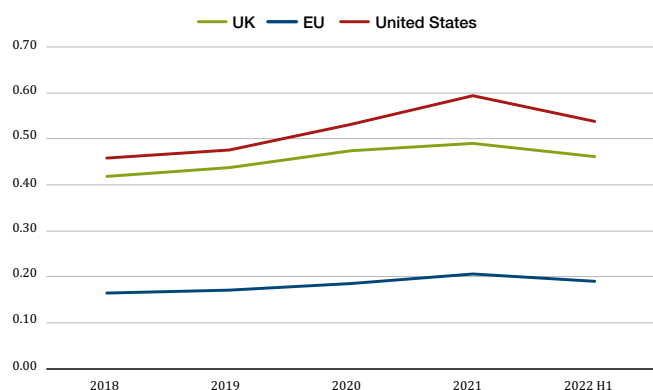


9. Market competitiveness

Among the largest gaps for the EU relative to the UK and the US are in the availability of pools of capital and in access to finance, predominantly due to the imbalance in sources of funding by corporates and SMEs which continue to over-rely on bank lending. See chart 9.2.

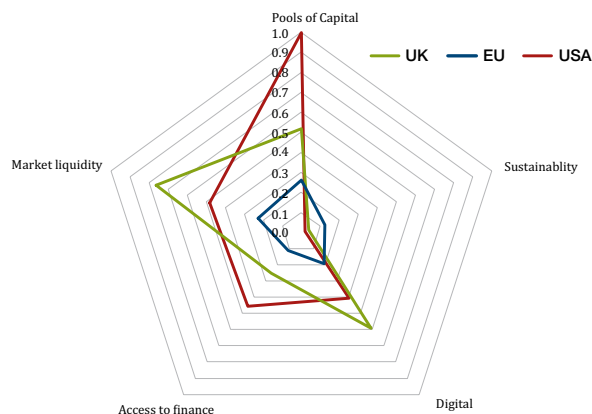
The evolution of the EU indicator is constructed as the EU weighted average by countries, and admittedly there are significant differences within the EU which are discussed later in this section.

9.1: Global competitiveness indicator
[0: Min, 1: Max]



Source: AFME from multiple sources

9.2: Global competitiveness indicator by components
[0: Min, 1: Max]

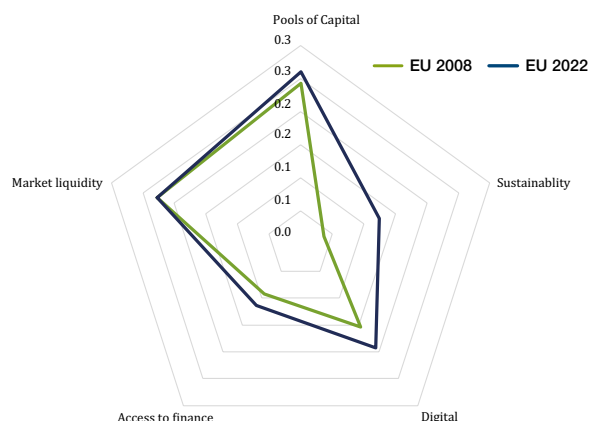


Source: AFME from multiple sources

Chart 9.3 shows the evolution of the EU's capital markets competitiveness broken-down by the various subcomponents. The most significant progress over the last five years has been observed in the area of sustainable finance, where as noted in the ESG Finance indicator chapter, the EU continues as the global leader. Progress has been more limited in developing deeper pools of capital or in improving market liquidity (here aggregated for equity and FX).

The chart also shows availability of pools of capital with limited access to finance and limited sustainability products.

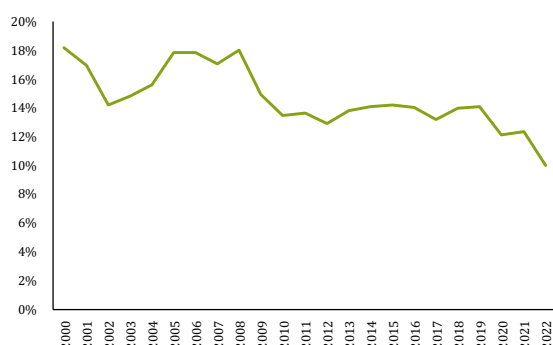
9.3: Evolution of EU competitiveness by component



Source: AFME



9.4: EU stock market capitalisation as % of world market capitalisation



Source: Datastream, AFME, Exchanges

9.5: US stock market capitalisation as % of world market capitalisation



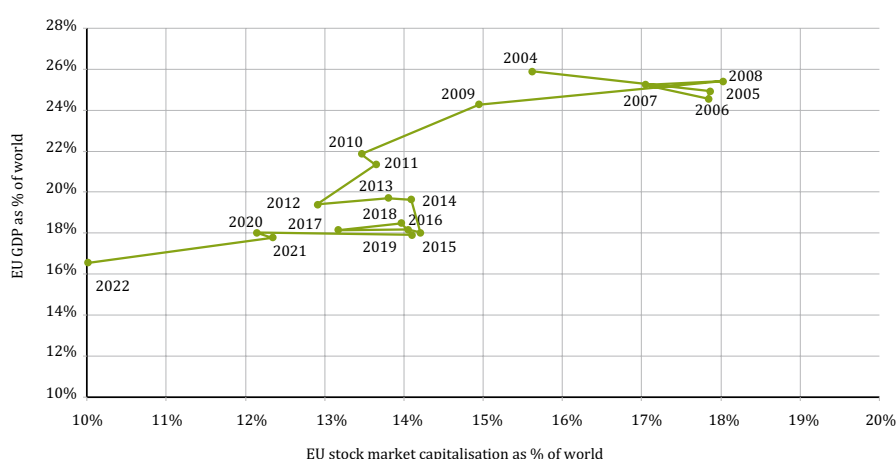
Source: Datastream

The slow progress in the EU's capital markets competitiveness is also reflected in the reduction observed over the last 20 years in the global share of equity market capitalisation of listed shares. As shown in charts 9.4 and 9.6, the EU economy represents 17% of global GDP but its domestic market capitalisation of listed shares accounts for 10% of the global. This contrasts with the proportions observed in 2000, when the EU's market cap was 18% of the global total and the GDP was 22% of the world's total, or more notably in 1899 when the EU countries represented c40% of global stock market cap³⁶.

The decline in the EU's participation in global market capitalisation is a result of a combination of factors, including an ongoing trend of company delistings (from 7600 domestic listed companies in 2000 to 7200 in 2022), fewer IPOs (from an annual average of 370 in 2000-06 to an expected 100 in 2022), and most recently lower company valuations (Price-to-earnings ratio of 12x in the euro area against 19x in the US and 17x in Asia).

The relevance of the US in global capital markets outweighs its share of global GDP. The US economy represents 24% of global GDP but market cap is c 50% of the global, with steady growing participation since 2009. See chart 9.5.

9.6: Trajectory of EU stock market capitalisation and GDP as % of world (2004-22)



Source: IMF, Datastream, AFME, Exchanges

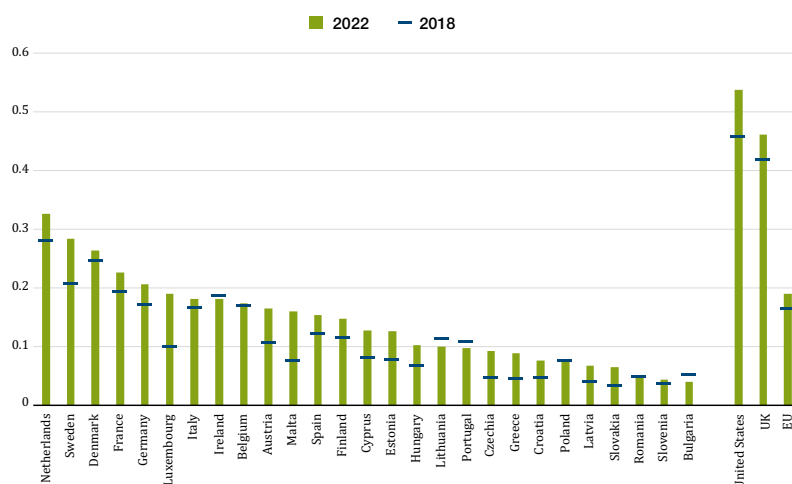
9. Market competitiveness

Competitiveness within the EU

Over the last five years 21 of the 27 EU countries have improved their capital markets competitiveness, with the exceptions being Romania, Poland, Bulgaria, Lithuania, Portugal and Ireland. See chart 9.7.

The largest progress has been observed in Luxembourg and Sweden. Sweden has improved competitiveness as measured by all the features, with the most notable increase in facilitating access to finance for companies. Luxembourg's improvement has been driven by the large proportion of ESG debt relative to the total that has been originated by local market participants and the sovereign.

9.7: Competitiveness by countries

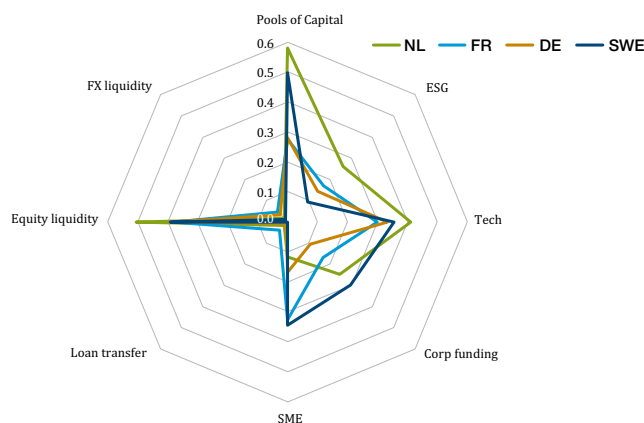


Source: AFME

A closer inspection of selected EU countries allows to identify the areas where these countries stand out the most. There is a deep geographical diversity where countries like The Netherlands, Sweden and Denmark are well ahead of other EU Member States for access to capital as well as for sustainability products, which in turn contributes significantly for a wider competitive ecosystem.

Sweden and the Netherlands stand as the EU countries with deepest pools of capital, and certainly deeper than those in France and Germany. Swedish companies have a more diversified funding mix, with a higher proportion of market-based finance compared to the Netherlands and to a larger extent than France and Germany. Equity and FX liquidity is of similar depth across the four selected jurisdictions, with the Netherlands leading in the equity liquidity ecosystem. Dutch market participants have a larger portion of debt funding labelled as ESG compared to France and Germany (which jointly originate the highest volume of ESG debt on an absolute basis) and to a larger extent than Sweden.

9.8: Competitiveness for selected EU countries: 2022



Source: AFME



Research coverage of listed companies: a data update

From January 2018, MiFID 2 required research to be priced separately from execution. This represented a shift from previous market practices whereby research was supplied as part of a bundle of services, with no explicit charge. Some market participants and policymakers have noted that among the unintended consequences of the research unbundling rules is the decline in equity research coverage and the deterioration in the quality of company research.

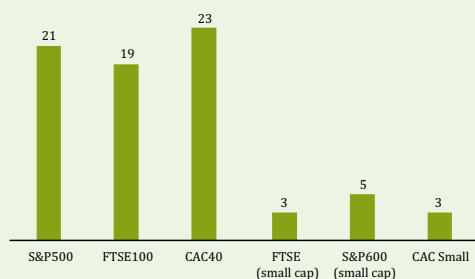
As illustrated in this Box, data suggests that there has been a reduction in the number of European equity analysts over the last years. The decline is more significant for shares listed on smaller European exchanges (including in the CEE region). There has also been a decline in analyst coverage of blue chip shares listed on some of the largest European exchanges. The declining trend, in some cases, pre-dates MiFID 2 entry into force. However, in many cases there is an abrupt coverage decline in 2017-18.

Number of equity analysts is positively correlated with company size and market cap

Firm size is a major determinant of analyst coverage. The largest companies constituents of the French CAC40 have a median of 23 analysts producing notes and valuation forecasts. Small companies constituents of the CAC small cap index have a median of 3 analysts, while 25% of the constituent companies have no research coverage at all. The same trend holds in the US, UK and other EU exchanges, such as the companies listed on the Italian stock exchange. See charts 9.9 and 9.10.

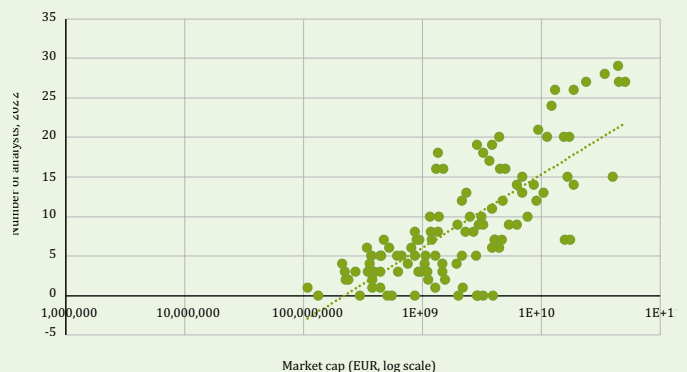
This illustrates that, even in the absence of MiFID unbundling rules, sell-side coverage of small companies is structurally scarce and small publicly listed companies face a disadvantage against larger companies from a research coverage perspective.

9.9: Median number of analysts of constituent companies of selected equity indices: Aug 2022



Source: Eikon

9.10: Italy: Market capitalization of Italian listed shares and number of analysts per share: Aug 2022



Source: Eikon. Each dot represents a listed company

Decline in analyst coverage in some blue chip indices post-MiFID 2

According to Eikon data, over the last two years there has been a decline in analyst coverage of some blue chip shares listed on some of the largest European exchanges.

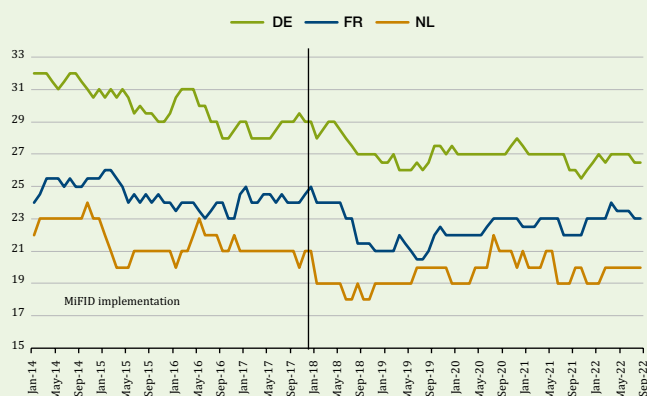
The decline is not of the same magnitude across all exchanges. In Germany, the median number of analysts covering DAX30 companies has declined from 32 in 2014 to 26 in 2022. A similar pattern is observed for CAC40 companies, while there is a large and significant steep decline in analyst coverage of shares listed on Central and Eastern European (CEE) exchanges as shown on chart 10.12 for the case of CEE “New Europe” constituent shares.

The declining trend, in some cases, pre-dates MiFID 2 entry into force, although in some cases (like in Germany and France) there was an abrupt decline in analyst coverage in 2018-19. Most recently, the numbers have stabilized in Western Europe, while they have continued to decline in CEE. As comparison, the number of analysts of S&P500 and FTSE100 constituent shares has not materially changed over the last years. See charts 9.13 and 9.14.



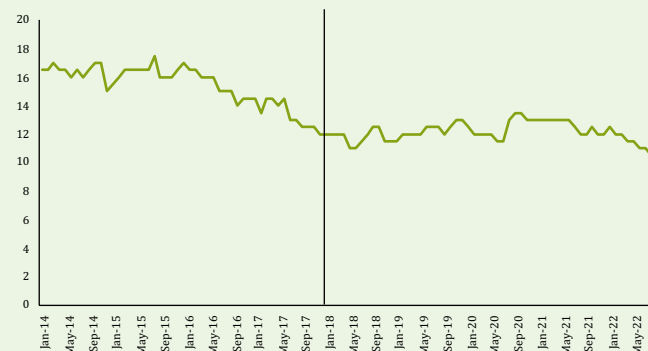
9. Market competitiveness

9.11: Median number of analysts of AEX [Netherlands], CAC40 [France], Dax30 [Germany] constituent shares



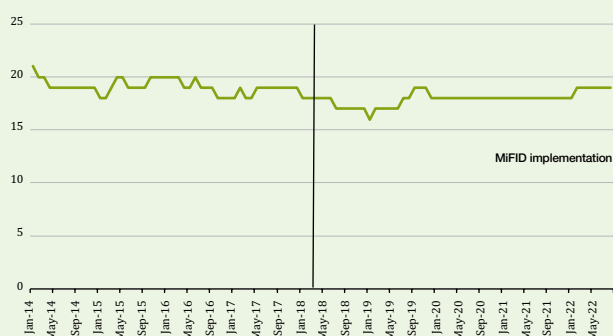
Source: Eikon

9.12: Median number of CEE “New Europe” constituent shares



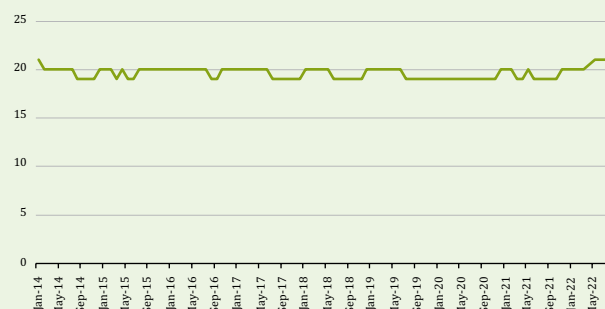
Source: Eikon

9.13: Median number of analysts of FTSE100 constituent shares



Source: Eikon

9.14: Median number of analysts of S&P500 constituent shares



Source: Eikon

Analyst coverage of small cap companies

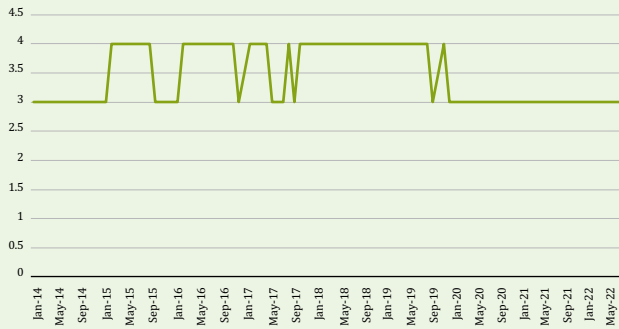
We find a decline in the number of sell-side analysts covering small cap European firms after MiFID 2 implementation in some countries. As shown on chart 9.15, the number of analysts cover German small caps has declined from 15 in 2014 to 10 in 2022, with a notable decline from 12 to 10 between 2017 and 2019.

Analyst coverage for FTSE small caps and S&P600 small caps constituent shares has not materially changed.

The additional challenge for SME companies is that the decline in analyst coverage can also imply a complete loss of equity coverage. According to Fang et al (2019)³⁷, 334 firms completely lost their analyst coverage in Europe following the implementation of MiFID 2. Most of these firms (305 firms; 91%) had only one analyst following them in 2017.

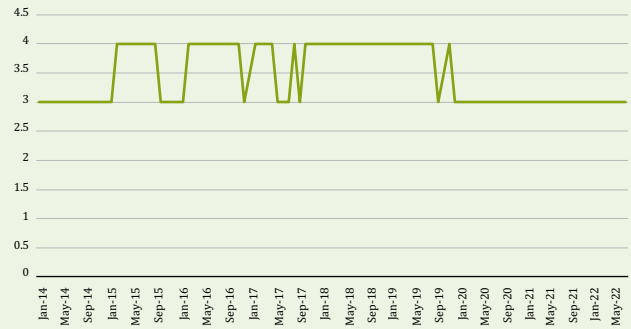
37 Bingxu, Fang, Hope, Ole-Kristian, Huang, Zhongwei and Moldovan, Rucsandra, Rotman School of Management Working Paper, ‘The Effects of MiFid II on Sell-Side Analysts, Buy-Side Analysts and Firms’, 2019

9.15: Median number of analysts of CBOE Germany, CAC Small, Amsterdam Small and Eurostoxx small cap index constituent shares



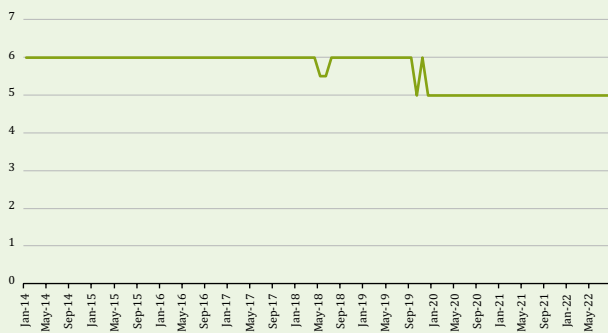
Source: Eikon

9.16: Median number of analysts of FTSE small cap constituent shares



Source: Eikon

9.17: Median number of analysts of S&P small cap constituent shares

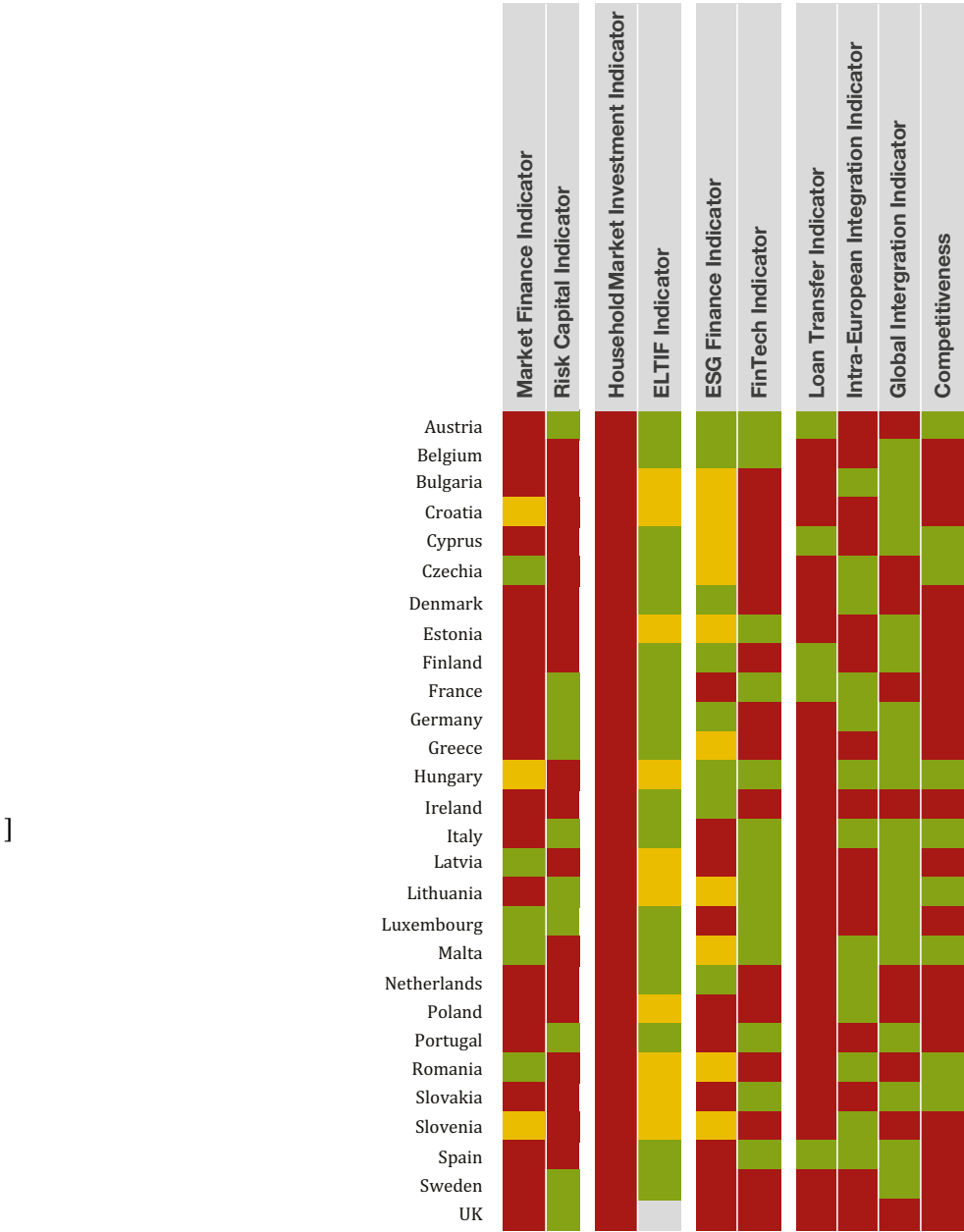


Source: Eikon

This box addresses the recent trends on the number of analysts covering listed companies, but does not evaluate any potential impact on the quality of research or on pricing and potential cost reduction for asset managers.



Appendix 1: Key performance indicators by countries and components:
Comparison of progress between 2022 and 2021



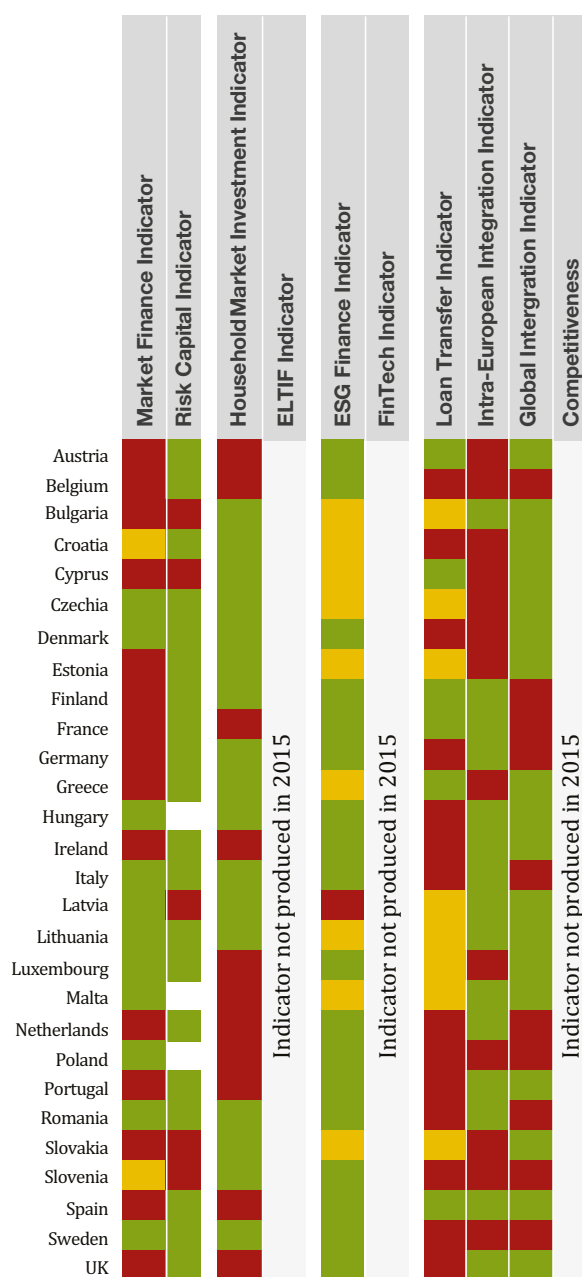
Green: Increase in 2022 vs 2021
Red: Decrease in 2022 vs 2021
Yellow: No variation between 2022 and 2021

We have produced the above scorecard chart which seeks to assist in keeping track of evolution of the key performance indicators at the Member State level. Each cell shows in colour coded form if a country has increased, decreased, or shown no change in the indicator value over the last year.

The variation in the Loan Transfer Indicator takes into consideration the recent methodology changes as noted in section 7.



Appendix 2: Key performance indicators by countries and components: Comparison of progress between 2022 and 2015³⁸



Green: Increase in 2022 vs 2015
Red: Decrease in 2022 vs 2015
Yellow: No variation between 2022 and 2015

We have produced the above scorecard chart which seeks to assist in keeping track of evolution of the key performance indicators at the Member State level. Each cell shows in colour coded form if a country has increased, decreased, or shown no change in the indicator value over the last five years.

³⁸ Risk capital indicator not available for Hungary, Malta and Poland for 2015 due to loan data unavailable.

Appendix 3: Methodology and Data Sources

Scope of data collection

We have constructed nine Key Performance Indicators (KPI) in the form of composite indicators and ratios to assess progress across the seven political priorities of the CMU action plan.

The focus of the study is primarily European, although we have tried to compare EU capital markets with other non-EU jurisdictions on a best efforts basis where data is available.

The data is drawn from a wide range of sources, including contributions from trade associations, data platforms, Central Banks, Eurostat, and other international organisations.

All data is expressed in euros (€) unless otherwise indicated and translated using period-end exchange rates as reported by the ECB.

Data collection and methodology

Market Finance Indicator

Data sources - IPOs, Secondary Offerings, Investment Grade and High Yield Bonds (all Dealogic), NFC loans new issuance (ECB, National Central Banks, Federal Reserve, OECD, Mortgage Bankers Association).

For the EU, NFC loans are estimated using bank loans to NFCs due to the relatively low participation of non-bank lenders. For some EU countries in which data provided by the ECB for bank loans to NFCs is incomplete, issuance is estimated using central bank data or longer-term trends. In the US, there is significant participation of non-banks in the loan market and so lending from non-banks needs to be accounted for in the indicator.

A recent [OECD](#) study published the amount of commercial and industrial (C&I) lending originated by banks in the US, using data originally sourced from the US Federal Reserve. The aggregation does not include loans originated by non-banks such as finance companies and insurers, and doesn't include commercial real estate (CRE) or farm lending. Data from the [Kansas City Fed](#) was used to account for bank lending to farms and the [Mortgage Bankers Association](#) to account for bank and non-bank lending for CRE.

After adding the farm and CRE lending with C&I lending, this provides an estimate total US bank lending to NFCs, however the comparison of lending between EU and the US is not complete as non-bank lending to farms and C&I in the US needed to be accounted for (CRE lending data already included non-banks).



The Federal Reserve website states that bank lending represents c30% total **outstanding** lending to NFCs. This proportion is stable over the last 3 years and was used to estimate the total amount of C&I and farm lending originated by banks and non-banks. This gives the following breakdown and comparison:

US Bank lending= €2.28tn

CRE: \$584bn

C&I: \$501bn / 0.3 = \$1.7tn

Farm: \$90.1bn / 0.3 = \$300bn

US bonds = €872bn

US equity = €136bn

Total financing for US NFCs = €3.29tn

EU bank lending= €3.5tn

EU bonds= €479bn

EU equity = €50bn

Total financing for EU NFCs = €4.1tn

The indicator does not consider NFC finance provided by unlisted equity and trade credit.

Loan Transfer Indicator

Data sources - Securitisation (AFME/SIFMA, JPMorgan and BofA), Portfolio sales (Deloitte, React News, FDIC for the US), outstanding loans (ECB, Federal Reserve).

As was the case with the Market Finance indicator, outstanding loans in Europe are estimated using outstanding bank loans, due to the relatively low participation of non-banks in the lending market in Europe. For the US, both bank and non-bank lending is considered when calculating outstanding loan volumes.

Sustainable Finance Indicator

Data sources – Green, social and sustainable/dual purpose bonds (Climate Bonds Initiative), securitisation (AFME/SIFMA, JPMorgan, BofA), NFC and Financial bonds (Dealogic), government bonds (ECB, SIFMA, national central banks), municipal and agency bonds (Dealogic), covered bonds (ECBC).

FinTech indicator

Data sources— Regulatory sandbox and innovation hubs (ESMA, EBA and EIOPA), investments in FinTech companies (Crunchbase); exits (Crunchbase); number of patents filed with the following key terms: “G06Q”, “G07F”, “G07G”, “finance”, “banking”, “fintech”, “crypto”, “insurance”, “asset management” (google patents); valuation of FinTech unicorns (CB insights); M&A activity (Dealogic); percentage of working age population with tertiary degree (US FED, World Bank, Eurostat); STEM graduates (OECD, UNESCO, World Bank and Accenture).

Household market investment indicator

Data sources –Household financial assets for EU countries (Eurostat and OECD), and household financial assets for the US (US Federal Reserve, Balance Sheet of Households and non-profit organisations) and for non-EU countries (OECD), GDP (Eurostat and World Bank). Cash, deposits and unlisted shares are excluded from the aggregation to include only capital markets instruments. Includes equity shares, mutual fund shares, bonds, life insurance reserves and pension fund holdings.



Appendix 3

ELTIF indicator

Data sources – ESMA ELTIF [register](#).

Risk capital indicator

Data sources – SME loans new issuance (ECB, National Central Banks), Business Angel (EBAN, Crunchbase, and University of New Hampshire), Equity Crowdfunding (Crunchbase), and Private Equity (Invest Europe, Crunchbase and NVCA)

SME loans in this context are loans to NFCs with amount below €1m

Invest Europe private equity (PE) statistics do not include infrastructure funds, real estate funds, distressed debt funds, primary funds-of-funds, secondary funds-of-funds and PE/VC-type activities that are not conducted by PE funds. The aggregation basis for these statistics are the location of the private equity firm where the resources are invested.

Business angel statistics are EBAN estimates which assume that survey results (i.e. “visible market”) represent 10% of the total market. This report includes both visible and non-visible market based on EBAN’s methodology.

Cross-border finance indicator

Data sources – cross-border holdings of equity shares and fund shares issued by European companies ([IMF](#)); cross-border holdings of bond instruments issued by European companies ([IMF](#)); cross-border private equity investment based on the location of the fund (Invest Europe and Eikon); cross-border M&A transactions (Dealogic); issuance of global corporate bonds (Dealogic); issuance of corporate Eurobonds (Dealogic); cross-border issuance of public equity in the national exchange (Dealogic); FX average daily turnover (BIS); average daily interest rate derivatives trading (BIS).

Both the European integration indicator and the global integration indicator are estimated as weighted averages of the standardised value of the different inputs. The results are later normalised into an index that ranges from 0-1 subtracting from each score the minimum score value from the sample divided by the maximum and minimum values: $(X - \min) / (\max - \min)$

The results were validated using principal components analysis, with minor differences in trends and rankings. A sensitivity analysis was also undertaken by removing FX and cross-border equity issuance (using principal components analysis), which resulted in a significantly lower integration level in 2017 compared to that pre-crisis— the country rankings also exhibited variation compared to those presented in the report.

Competitiveness indicator

Data sources: the “availability of pools of capital” component follows the same methodology as the Household market investment indicator; “sustainability and digitalisation” follow the ESG and FinTech indicators; access to finance follows the market finance indicator. For the construction of the liquidity component, FX average daily turnover is sourced from the BIS; equity from BigXYT, and Eikon.

All subcomponents (availability of pools of capital, sustainability and digitalisation, access to finance, and market liquidity) have the same weight for the construction of the indicator. The results are standardised and normalised into an index that ranges from 0-1 subtracting from each score the minimum score value from the sample divided by the maximum and minimum values: $(X - \min) / (\max - \min)$

Considerations on the indicators

In the report we have compared average values for 2015 to 2021 with 2022 H1 values to assess how values have changed with respect to longer term averages and to the prior year. There can though be significant annual volatility in the values especially for countries with relatively small capital markets.

For the construction of the cross-border composite indicators, it is important to consider that each of the components are proxies of the cross-border flow they intend to measure and may have limitations of their own.



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