EUROPEAN FINANCIAL STABILITY AND INTEGRATION REVIEW 2023

Banking and Finance

An interactive version of this publication, containing links to online content, is available in PDF format at:

https://europa.eu/!hywqdP

scan QR code to download

European Financial Stability and Integration Review 2023

European Commission

Directorate-General for Financial Stability, Financial Services and Capital Markets Union

European Commission

1049 Bruxelles/Brussel

Belgium

© European Union, 2023

Reuse is authorised provided the source is acknowledged. Distorting the original meaning or message of this document is not allowed. The European Commission is not liable for any consequence stemming from the reuse of this publication. The reuse policy of European Commission documents is implemented by the Commission Decision 2011/833/EU of 12 December 2011 on the reuse of Commission documents (OJ L 330, 14.12.2011, p. 39).

For any use or reproduction of photos or other material that is not under the copyright of the European Union, permission must be sought directly from the copyright holders.

All images © European Union, 2023, except:

cover photo: © alphaspirit - stock.adobe.com

Brussels, 7.6.2023
SWD(2023) 171 final

COMMISSION STAFF WORKING DOCUMENT

European Financial Stability and Integration Review (EFSIR)

This document has been prepared by the European Commission's Directorate-General for Financial Stability, Financial Services and Capital Markets Union (DG FISMA).

This document is a European Commission staff working document for information purposes. It does not represent an official position of the Commission on this issue, nor does it anticipate such a position. It is informed by the international discussion on financial integration and stability, both among relevant bodies and in the academic literature. It presents these topics in a non-technical format that remains accessible to a non-specialist audience. For information on the methodology and quality underlying the data used in this publication for which the source is neither Eurostat nor other Commission services, users should contact the referenced source.

CONTENTS

Acknowledgements **3**

List of abbreviations **4**

Executive summary **5**

Chapter 1 The macroeconomy, market developments, financial stability and financial integration **8**

1.1 Macroeconomic developments 8

1.2 Financial market developments 10

1.3 Financial stability 13

1.4 Financial integration 17

Chapter 2 Developments in non-performing loans and challenges in the EU **21**

2.1 How the stock of NPLs was reduced after the global financial crisis 22

2.2 Recent challenges for non-financial corporations and households 27

2.3 Challenges for EU banks 33

2.4 Structural reforms to ensure efficient resolution of NPLs 37

2.5 Conclusion 41

Chapter 3 Financial literacy in the EU: trends, relevance and policy contribution **43**

3.1 Introduction 43

3.2 Financial literacy in the EU 44

3.3 Financial sector trends 47

3.4 The relationship between financial literacy and financial behaviours 50

3.5 Financial literacy and financial services policy 55

3.6 Challenges and conclusion 59

References **62**

ACKNOWLEDGEMENTS

This document was prepared by the European Commission's Directorate-General for Financial Stability, Financial Services and Capital Markets Union (DG FISMA) under the direction of John Berrigan (Director-General), Paulina Dejmek Hack (Director, general affairs) and Klaus Wiedner (Director, financial system surveillance and crisis management).

The production of the document was coordinated by the editor, Geert Van Campenhout. The principal contributors were (in alphabetical order) Chris Bosma, Alexandros Tavoutsoglou, Mariana Tomova, Geert Van Campenhout and Nicolas Willems.

Several colleagues from DG FISMA and other parts of the Commission provided comments, suggestions or assistance that helped to improve the report. We are particularly grateful to (in alphabetical order) Leonie Bell, Alexis Borremans, Paulina Dejmek Hack, Valerie De Bruyckere, Stan Maes, Alessandro Malchiodi, Simone Marino, Benoit Mesnard, Elena Pavlova, Almoro Rubin De Cervin, Cornelius Schmidt, Michal Strojwas, Michael Thiel, Corina Weidinger Sosdean and Klaus Wiedner.

Comments are welcome and can be sent to:

Directorate-General for Financial Stability, Financial Services and Capital Markets Union (DG FISMA)

Unit A5: Economic analysis and evaluation

Unit E1: EU/euro-area financial system

European Commission

1049 Brussels

Belgium

or by email to leonie.bell@ec.europa.eu or benoit.mesnard@ec.europa.eu.

LIST OF ABBREVIATIONS

Countries (in alphabetical order)

AL	Albania	IT	Italy
AT	Austria	JP	Japan
BE	Belgium	LT	Lithuania
BA	Bosnia and Herzegovina	LU	Luxembourg
BG	Bulgaria	LV	Latvia
CH	Switzerland	MC	Monaco
CN	China	MK	Republic of North Macedonia
CY	Cyprus	ME	Montenegro
CZ	Czechia	MT	Malta
DE	Germany	NL	Netherlands
DK	Denmark	NO	Norway
EE	Estonia	PL	Poland
EL	Greece	PT	Portugal
ES	Spain	RO	Romania
FI	Finland	SE	Sweden
FR	France	SG	Singapore
HR	Croatia	SI	Slovenia
HU	Hungary	SK	Slovakia
IE	Ireland	UK	United Kingdom
IS	Iceland	US	United States

Others

APP	Asset purchase programme	NFC	Non-financial corporation
CRR	Capital Requirements Regulation	NPE	Non-performing exposures
EA	Euro area	NPL	Non-performing loan
EEA	European Economic Area	OECD	Organisation for Economic Co-operation and Development
EBA	European Banking Authority	PEPP	Pandemic emergency purchase programme
ECB	European Central Bank	PI	Portfolio investments
ESA	European supervisory authorities	PRIIPs	Packaged retail investment and insurance products
ESMA	European supervisory authorities	QE	Quantitative easing
FDI	Foreign direct investments	RRF	Recovery and Resilience Facility
GACS	Garanzia sulla Cartolarizzazione delle Sofferenze	RRP	Recovery and Resilience Plan
GDP	Gross domestic product	SMEs	Small and medium-sized enterprises
HAPS	Hellenic Asset Protection Scheme	SPVs	Special purpose vehicles
IFRS	International Financial Reporting Standards	SSM	Single Supervisory Mechanism
IMF	International Monetary Fund	STS	Simple, transparent and standardised
LSTI	Loan-service-to-income ratios	TLTRO III	Targeted longer-term refinancing operations
NAMA	National Asset Management Agency	TPI	Transmission protection instrument
		UCITS	Undertakings for collective investment in transferable securities

EXECUTIVE SUMMARY

The European Financial Stability and Integration Review is published annually. It looks at recent economic and financial developments, and discusses some specific issues pertaining to the financial sector that might pose challenges to financial integration and stability and raise policy issues.

This edition describes developments in 2022 and early 2023 [1], a period that was marked by Russia's invasion of Ukraine and the resurgence of inflation and other economic challenges. In addition to assessing the overall impacts on financial stability and integration, the review zooms in on developments for non-performing loans and financial literacy in the EU, two topics that are relevant for the functioning and resilience of the financial sector.

Chapter 1 reports on the economic challenges that the EU's economy faces due to Russia's invasion of Ukraine in early 2022. The war reduced economic growth and led to new pressures on supply chains. Most notably, it triggered a major energy price shock that pushed inflation to historical levels with important social implications. Central banks reacted swiftly to contain inflation by sharply tightening monetary policy. Fiscal policy continued to support efforts to mitigate the effect of high energy prices on businesses and households. Growth had come to a standstill by the end of 2022, but the growth outlook improved at the start of 2023 thanks in part to falling energy prices.

Financial market conditions tightened significantly in 2022 in response to increased economic uncertainty. Stock markets declined and bond yields increased significantly, thus abruptly ending the low-for-long interest rate era of previous years. At the end of 2022, however, the prices of risky assets rallied on expectations that interest rate increases would be lower than forecast and this positive market trend continued at the beginning of 2023 when growth expectations picked up. In March 2023, however, the failure of three US mid-to-small-sized banks and concerns about several other banks prompted an abrupt market correction, particularly for listed banks. Longer-term interest rates stopped rising in 2023 amid financial stability concerns.

Overall, risks to both financial stability and financial integration increased in the period under review. After the pandemic shock in the two preceding years, the recovery of financial integration in the EU was once again tested by the economic repercussions of Russia's invasion of Ukraine. Financial integration has been more resilient than in previous stress periods, but the full impact might not yet be captured and needs to be monitored closely. Financial stability concerns are predominantly related to repricing risk in major financial asset classes, the worsened economic conditions and the impact of tighter financial conditions on the private sector and governments. Valuations in financial and real estate markets are under pressure because the period of low interest rates has ended. Higher interest rates had supported bank profitability in 2022, but the events in March 2023 in the US and Swiss banking sector refuelled financial stability concerns. However, EU financial institutions have robust capital and liquidity positions to support their resilience. Going forward, however,

[1] The report covers the period up to 5 April 2023 and does not report on more recent developments.

tighter financing conditions may weaken the financial soundness of sovereigns and parts of the private sector.

Chapter 2 reviews recent developments related to non-performing loans (NPLs). The stock of NPLs at EU and national level has fallen significantly due to the concrete measures taken by the most affected Member States to speed up the clean-up of banks' balance sheets in the aftermath of the 2008 financial crisis. In addition, national and EU structural reforms have made the resolution of NPLs more efficient and contained the accumulation of new NPLs. The structural reforms focus on two main policy areas: frameworks for credit servicers and credit purchasers (with proportionate safeguards for borrowers) and insolvency (with in- and out-of-court debt restructuring and collateral recovery). These reforms should make it easier to resolve NPLs in the future.

The risk of loans to households and non-financial corporates becoming non-performing has increased recently due to the unanticipated surge in inflation, rising interest rates and soaring energy prices. The amount of NPLs has not increased yet, but this may simply be because the impact of the changing macroeconomic conditions on NPLs might take time to materialise. EU banks also have to deal with these challenging macroeconomic conditions. Nevertheless, the EU banking sector is now more resilient and better equipped to manage NPLs. This makes it easier for banks to contain NPLs and continue to support the EU's economy by extending loans to households and companies, and by contributing to economic growth and stability.

Chapter 3 looks at financial literacy in the EU and how it relates to economic behaviours and financial services policy. Levels of financial literacy are low in the EU and vary significantly between Member States and groups of people. Ongoing digitalisation and innovation make it all the more important for people to have the financial literacy necessary to navigate the financial landscape successfully, emphasising the importance of delivering on the European Skills Agenda. Economic and health shocks can also deepen the divide between those with strong financial literacy skills and those without. Addressing financial literacy is also important because it is related to a wide range of desirable financial behaviours such as good debt management, stock market participation and retirement preparedness. Improved financial literacy not only benefits the individual but also contributes more broadly to financial stability and the better functioning of the financial system.

The Commission accordingly sees financial literacy as a priority and part of a balanced policy approach in which it contributes to other policy goals. The Commission has taken specific measures to support financial literacy. The Mortgage Credit Directive requires Member States to promote measures that support the financial education of consumers in relation to responsible borrowing and debt management. The Commission has also developed a joint EU/OECD-INFE financial competence framework for adults and is developing one for youth and children. It has also recently conducted Eurobarometer surveys on financial literacy and financial behaviour to monitor levels in the EU and inform future financial services policy. The Commission also takes financial literacy into account in the policy design of disclosure regulation for retail investors.

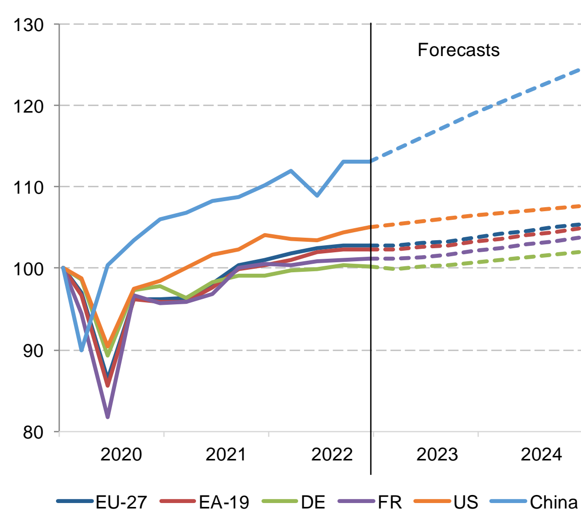
Financial literacy is not without challenges. Education is a Member State competence, so a coordinated effort is needed at both EU and national level, as well as by public and private stakeholders. In addition, targeted measures to improve the financial literacy of vulnerable groups have promise but require a more granular approach.

Chapter 1 THE MACROECONOMY, MARKET DEVELOPMENTS, FINANCIAL STABILITY AND FINANCIAL INTEGRATION

1.1 Macroeconomic developments

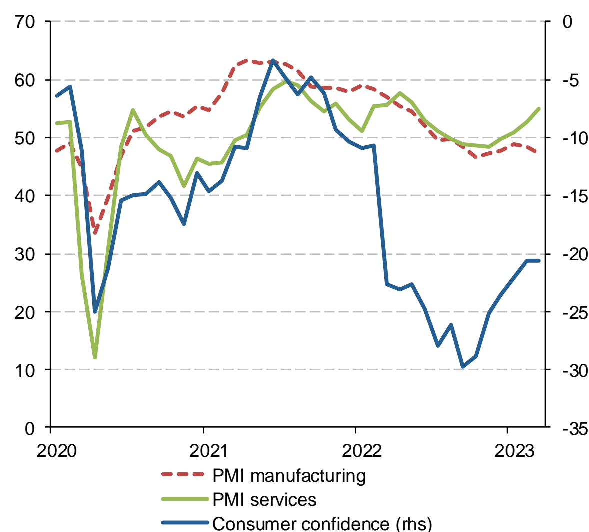
In the first half of 2022, the EU's economy[2] performed strongly with quarter-on-quarter (q-o-q) growth in the first and second quarters of 0.8% and 0.7% respectively (see Chart 1.1). Consumer spending was robust as those sectors that had been most affected by the COVID-19 pandemic-related restrictions reopened and consumer confidence strengthened. Businesses nevertheless were already suffering from increasing energy costs and continued supply bottlenecks when Russia invaded Ukraine in February and new lockdowns were implemented in China. This led to commodity market disruptions (including shortages of materials) and triggered a major energy price shock. Severe disruptions in the supply of gas aggravated the situation. These developments weighed significantly on the confidence of consumers and businesses (see Chart 1.2). High inflation dampened spending and production throughout the economy by reducing people's real incomes and pushing up costs for firms, while worsening terms of trade weighed on incomes. This led to a serious slowdown in economic activity in the EU in H2 2022 with quarter-on-quarter growth falling back to 0.3% in Q3 and 0.0% in Q4[3].

Chart 1.1: Real GDP growth



Source: OECD and European Commission (2023), *European economic forecast winter 2023*; Institutional Paper 194, February 2023; and IMF, *World economic outlook update*, February 2023.
Note: Indexed data (Q1 2020 = 100). Q-o-q growth of quarterly GDP (except that forecasts for US and China are based on y-o-y growth of yearly data).

Chart 1.2: Euro-area business and consumer sentiment indicator



Source: S&P Global and European Commission (DG ECFIN) (2023), *Business and consumer survey results*, 30 March 2023.
Note: Monthly data, index points.

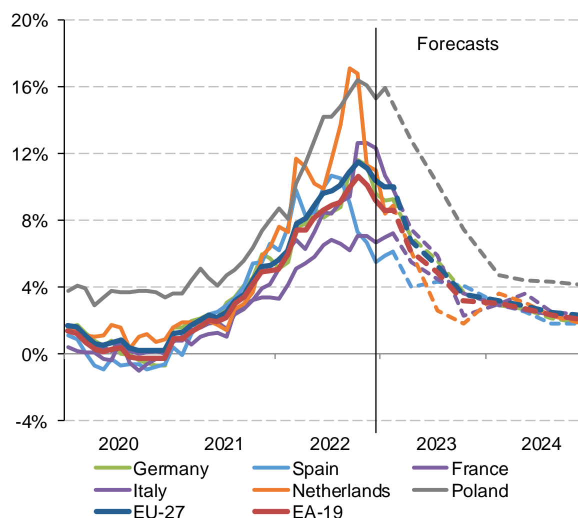
Headline inflation in the EU was 5.6% year-on-year (y-o-y) in January 2022 but increased steadily over 2022 to peak at 11.5% y-o-y in October, before declining in the first months of

[2] Growth (q-o-q) for the euro area (EA) for Q1 2022 and Q2 2022 was 0.6% and 0.9% respectively. For further details, see European Commission (2023), *European economic forecast winter 2023*, Institutional Paper 194, February 2023.

[3] In the euro area, q-o-q growth fell back to 0.3% in Q3 and 0.1% in Q4.

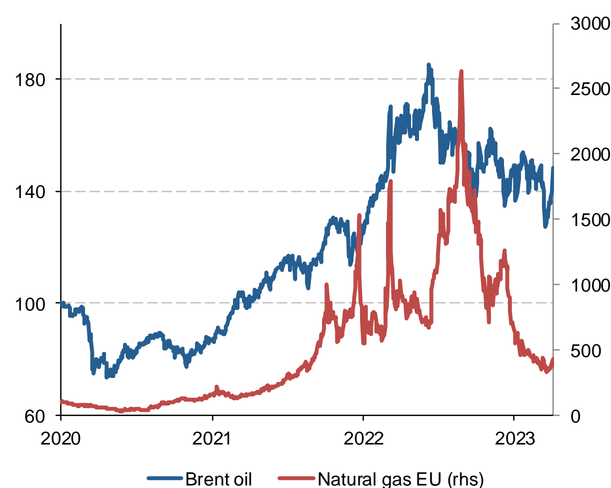
2023 (see Chart 1.3)[4]. The rise in inflation over 2022 was primarily driven by increasing energy costs and food prices, but inflation gradually spread to other components of the inflation index. Strengthening of demand put upward pressure on prices, and Russia's strategic use of gas supplies to gain geopolitical leverage and high level of uncertainty related to Russia's invasion in general accelerated the rise in energy prices (particularly gas and electricity prices) in Q1 2022. In early 2023, however, a sharp fall in gas consumption and diversification of supply sources helped the benchmark to fall back to levels prevailing before Russia's invasion (see Chart 1.4), although gas prices still remained above 2019 levels and future spells of volatility cannot be ruled out.

Chart 1.3: HICP inflation – EU Member States



Source: Eurostat and European Commission, *European economic forecast winter 2023*, Institutional Paper 194, February 2023.
Note: Headline data, y-o-y change. Monthly data (except forecasts which are based on quarterly data).

Chart 1.4: Natural gas and Brent oil prices



Source: Bloomberg Finance L.P.
Note: Daily data, indexed (January 2020 = 100). Brent oil in USD/barrel and natural gas in EUR/MWh.

Labour markets continued to perform well in 2022 and the EU unemployment rate dropped to a historically low level of 6.0%[5] in February 2023. Wages continued to increase gradually but the wage growth remained contained.

Fiscal stances in the EU tightened in the first half of the year but loosened somewhat in the latter half as governments adopted fiscal support measures to counter the rising energy costs and general cost of living. To a lesser degree, the financing of new defence capacities and support for Ukrainian refugees following Russia's invasion also weighed on budgets. In May 2022, the European Commission recommended extending the general escape clause of the Stability and Growth Pact until 2023[6]. Over 2022[7], the EU government budget deficit

---

[4] In the EA, headline inflation was around 5.1% y-o-y at the start of the year and increased to 9.2% y-o-y in December.
[5] EA unemployment fell to 6.5% in December 2022.
[6] European Commission (2022), *2022 European Semester: spring package communication*, COM(2022) 600 final of 23 May 2022.
[7] Based on data for Q3 2022.

declined slightly to 3.2% of GDP in Q4 2022 from 3.1% in Q4 2021, while the public debt level dropped to 85.1% from 88.6% in the previous year [8].

In its fight against inflation, the European Central Bank (ECB) ended quantitative easing in the first half of the year [9] before starting to raise policy rates from July 2022 onwards. The ECB lifted policy rates 250 basis points (bps) in the second half of the year and hiked further in 2023 [10].

All in all, the EU economy remained resilient despite the extraordinary challenging environment of high inflation, soaring energy prices and tighter financial conditions. A recession was narrowly avoided, thanks in part to policy initiatives at national and EU level to contain the impact of higher energy prices on households' and firms' purchasing power, and to major efforts by all economic actors.

1.2 Financial market developments

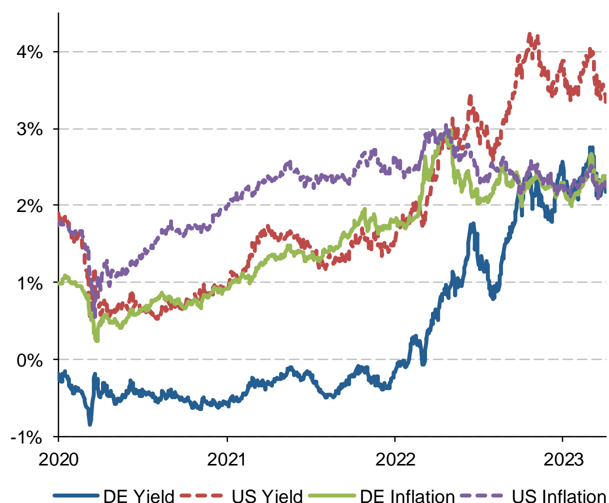
In 2022 financial markets had to face a significant increase in interest rates and the shock to energy prices resulting from Russia's invasion of Ukraine. Soaring inflation (and inflation expectations), uncertainty about the economic impact of the omicron coronavirus variant and reduced monetary policy support put investors on a cautious footing and led to pressure on bond yields and stock prices in early 2022. The rapid escalation of the crisis in Ukraine and geopolitical concerns caused widespread risk aversion by mid-February. Anticipation that monetary policy would be normalised in order to address accelerating inflation caused yield curves to steepen strongly in the first half of the year, thus bringing an abrupt end to the low-for-long interest rate period. Equity markets dropped significantly in the EU, reflecting worsening economic prospects, higher inflation expectations and ongoing supply disruptions. In the second half of the year, the ECB started to tighten its policy stance more significantly. Markets remained volatile due to the economic slowdown, geopolitical developments, energy concerns and the tighter monetary conditions. Prices of risky assets rallied in the last months of 2022 and the first months of 2023, initially on expectations that central banks would not raise rates as much as previously expected, and, entering 2023, on stronger-than-expected growth. This rally came to a halt in March following strains in the US and Swiss banking sectors.

[8] The EA government overall budget deficit declined to 3.3% of GDP from 3.2% in Q4 2021. The public debt level dropped to 93.0% from 96.3% a year earlier.

[9] The ECB ended purchases in the context of its pandemic emergency purchase programme (PEPP) in March 2022 and asset purchase programme (APP) in July 2022 but continued reinvesting in full the principal payments from maturing securities purchased under these programmes. From the beginning of March 2023, the APP portfolio will decline at a measured and predictable pace because the Eurosystem will not reinvest all principal payments from maturing securities. From March 2023 onwards, the Eurosytem has no longer been reinvesting all principal payments from maturing securities under the APP. Holdings of securities under the APP will decline by EUR 15 billion per month on average until the end of Q2 2023. The pace of reduction after Q2 2023 is still to be determined.

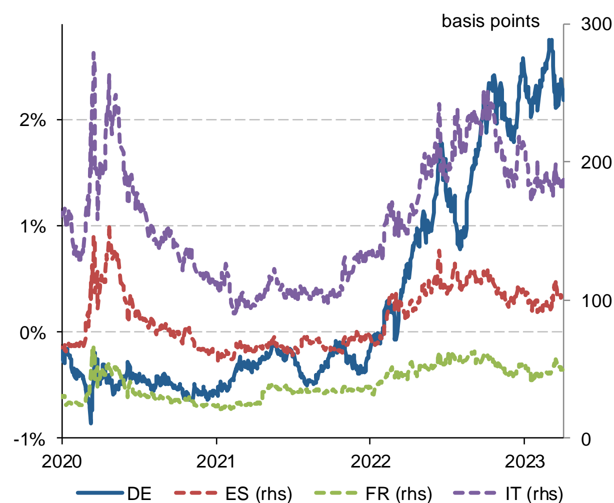
[10] The interest rate on the main refinancing operations and the interest rates on the marginal lending facility and the deposit facility ended the year at 2.50%, 2.75% and 2.00% respectively. To reinforce the transmission of policy rate increases to bank lending conditions, the ECB Governing Council decided to change the terms and conditions of the third series of targeted longer-term refinancing operations (TLTRO III) and to offer banks additional voluntary early repayment dates.

Chart 1.5: Sovereign bond yields and expected inflation



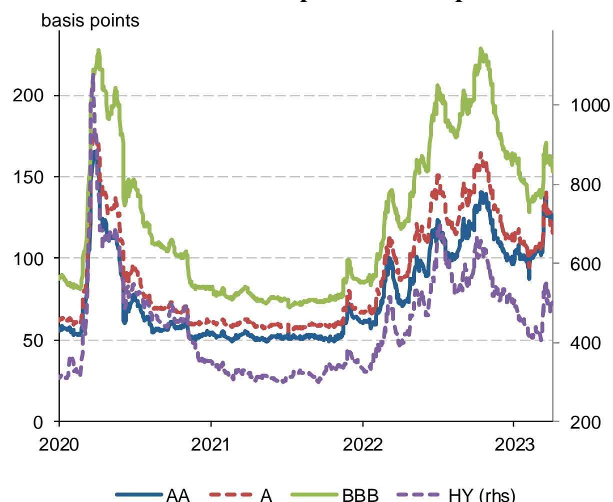
Source: Bloomberg Finance L.P.
Note: 10-year maturity bond daily data. 10-year inflation expectations based on the break-even inflation rate on inflation-linked bonds.

Chart 1.6: Sovereign bond spreads



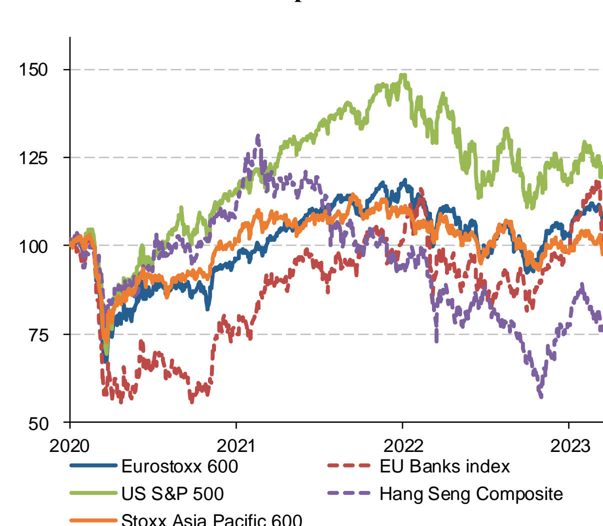
Source: Bloomberg Finance L.P.
Note: Spreads are calculated against the 10-year German Bund.

Chart 1.7: Euro-area corporate bond spreads



Source: Bloomberg Finance L.P. DG FISMA calculations.
Note: 5-year maturity bond data. Daily data. Spreads are calculated against the 5-year German Bund yield. HY stands for high yield.

Chart 1.8: Stock market performance



Source: Bloomberg Finance L.P.
Note: Daily data, indexed (January 2020 = 100).

In sovereign bond markets, the EA benchmark (German Bund) nominal yields became positive in the first weeks of 2022, except for the short-term yield segments (see Chart 1.5). Nominal yields rallied strongly until the end of June (albeit from very negative levels) due at first to significantly rising market-implied inflation expectations. By the end of 2022, the 10-year German Bund yield was at 2.6%. Real yields moved from -2% (on the 10-year German Bund) at the start of the year to a slightly positive 0.1%, driven by the prospects of a tighter monetary policy stance amid contained market-implied inflation expectations. In early 2023, German Bund yields increased further as indicators of expected inflation showed that inflation may prove more persistent than expected. In March, however, German Bund yields

dropped significantly as investors rallied to sovereign debt instruments in the aftermath of the closure of three US banks and the takeover of Credit Suisse by UBS.

EA sovereign bond spreads widened vis-à-vis the German Bund benchmark in the first half of the year (see Chart 1.6) given the prospect of PEPP purchases coming to an end and a faster exit from the asset purchase programme. As the spreads widened, the ECB made a commitment to carefully monitor the developments of yields and spreads in the EA. The spreads for the most-indebted EU Member States increased significantly (in particular, Italian spreads widened to over 239 bps, while Greek 10-year spreads widened to 135 bps). To counter a further widening of yields and avoid severe market dislocations, the ECB announced in June the Transmission Protection Instrument (TPI) to counter fragmentation and ensure the smooth transmission of the monetary policy stance [11]. This announcement succeeded in reversing the spread's widening, with spreads in markets such as Spain and Greece getting substantially narrower. The Italian 10-year spread continued to float around its pre-TPI peak levels amid concerns about political and fiscal developments. From October 2022 onward, Italy's spreads started to decline in line with its peers. On top of the TPI, EU joint bond issuance is also likely to have softened the impact on spreads as it reduces issuance at national level. Credit default swap (CDS) spreads of EA sovereigns remained contained, although they did enter a slight upward trend. All in all, spreads increased over 2022 despite the strong moderating effect of the TPI announcement.

Ten-year bond spreads of non-EA EU Member States to the Bund widened significantly during 2022 amid strong inflation pressures. However, central bank policies caused spreads to narrow in the second half of the year. Overall, the spreads tightened back to where they had started the year in Czechia and Poland but remained wider in Hungary.

In corporate credit markets, bond spreads in both the investment-grade and high-yield segments widened strongly, albeit from very low levels (see Chart 1.7). This substantially increased the market-based cost of funding for EU non-financial corporations while credit conditions for bank loans still remained favourable. As a result, corporate bond issuances in the primary market almost came to a standstill from June onwards, only to pick up again in December in parallel with a decline in bond spreads. Meanwhile, corporate default rates are below pre-COVID-19 levels, although defaults may still increase as the economy slows, in particular as regards small and medium-sized enterprises (SMEs) and corporates that are strongly exposed to the energy crisis.

Stock markets fell back strongly during 2022 (see Chart 1.8). In early 2023, investors took a more cautious stance as interest rates increased. In late February 2022, equity markets dropped severely following Russia's invasion of Ukraine and concerns about rising commodity prices. Bear market conditions persisted until Q3 2022 amid soaring inflation, restrictive monetary policy, rising sovereign bond yields and deteriorating macroeconomic fundamentals. Equity markets recovered significantly from mid-October due to lower energy prices and better-than-expected corporate earnings. Entering 2023, EU markets rose further due to better EU economic data, lower gas prices and the re-opening of China following the COVID-19 lock-down. Looking at the bank sector, the Europe 600 banking sub-index was

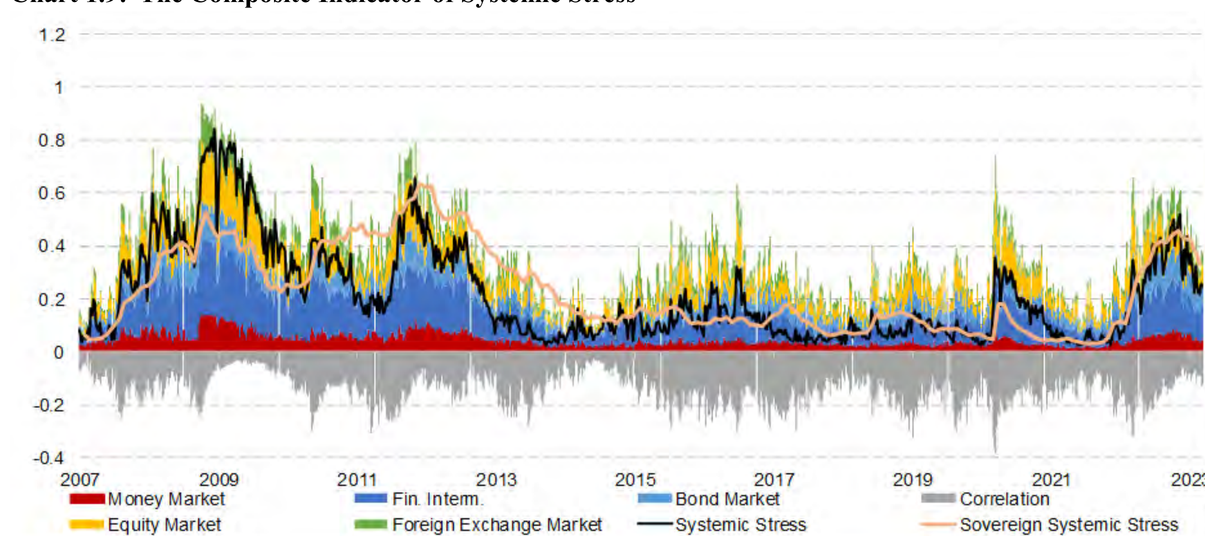
[11] ECB (2022), The Transmission Protection Instrument, 21 July 2022.

particularly volatile in 2022, with strong sell-offs early in the year and stocks of banks active in Russia being hit particularly hard. Banks significantly outperformed in Q4 2022 due to strong fundamentals and robust profitability as improved net interest margins balanced expectations of higher provisions amid a deteriorating asset quality outlook. This outperformance of banking indices ended in March when the closure of three US banks forced investors to reassess risks in the sector.

1.3 Financial stability

Against the background of a rapid and pronounced increase in nominal and expected real interest rates across major bond markets [12], a more subdued macroeconomic outlook and Russia's invasion of Ukraine [13], risks to financial stability substantially increased in 2022 from levels that were already high. The events of the past year have exacerbated some pre-existing vulnerabilities and created new risks. The short-term financial stability outlook improved somewhat in early 2023 (benefiting from an improvement in macroeconomic outlook), but the failure of three US mid-to-small sized banks and the rescue of Credit Suisse in March refuelled financial stability concerns – as reflected in the ESRB Composite Indicator of Systemic Stress (see Chart 1.9).

Chart 1.9: The Composite Indicator of Systemic Stress



Source: European Systemic Risk Board.

Note: The Composite Indicator of Systemic Stress (CISS)[14] measures the current state of instability – defined as the current level of frictions, stresses and strains (or the absence of these) in the financial system as a whole or, as an equivalent, the level of 'systemic stress'. The CISS comprises the following five financial system segments: the sector of bank intermediaries, non-bank financial intermediaries; money markets; securities (equities and bonds) markets; and foreign exchange markets.

The financial stability risk outlook is broadly shaped by three major themes. Firstly, major financial market asset classes (including real estate) do risk a further repricing. Secondly,

[12] This is not only the first time in 40 years that a cycle of interest rate hikes has surpassed the top level of the previous interest rate cycle, but it is also the fastest rate hike ever. The impact is exacerbated by the fact that the degree of global synchronisation in interest rate hikes is the greatest in 50 years.

[13] The EU's direct financial exposures to Russia and Ukraine were limited at the start of the war and have since further even fallen, but the EU's economic and geopolitical context has changed dramatically following Russia's invasion of Ukraine.

[14] The CISS assesses the systemic nature of existing stresses in the financial system on a daily basis (where systemic stress is interpreted as an *ex post* measure of systemic risk).

financial sector institutions continue to face their own intrinsic challenges. The softer growth outlook, and high and persistent inflation have both tested bank resilience, but bank liquidity and capital positions still remain good. Thirdly, tighter financing conditions are gradually weakening the financial soundness of parts of the private sector and sovereigns. These themes are further developed below.

1.3.1 *Stability risks related to repricing in major financial market asset classes*

A paradigm shift took place from an extremely 'low-for-longer' interest rates period in the years before 2022 to a 'higher-rates-for-longer' period. This shift has been triggered by the largely unexpected inflation surge and the acknowledgement that monetary support (non-conventional quantitative easing (QE); excess liquidity) and fiscal support had to be reined in [15]. This shift is accompanied by substantial volatility [16] even in more stable and liquid sovereign bond markets. Most EA sovereign bond spreads to the German Bund have remained contained amid ECB support. Liquidity pressures increased in sovereign bond markets, however, and the market depth for government bond forward contracts was at its lowest level since the market stress related to the COVID-19 pandemic in the spring of 2020. A substantial increase in price volatility has led to higher initial margins, higher demand for collateral and reduced trading activity. Significant interest rate movements tend to result in lower liquidity as collateral requirements on interest rate derivatives positions need to be met, impacting other parts of the system. In the UK, for instance, the sharp rise in bond yields in September 2022 resulted in major liquidity strains for liability-driven investment strategies and prompted the Bank of England to rescue UK pension funds [17].

As interest rates rise and financial asset prices move to a new equilibrium, many equity and real estate valuations no longer hold. Valuation adjustments often take time as the pass-through of tightening policy materialises with a significant time lag. The lagging effect of rising interest rates on the economy may prove to be stronger than many expect. Moreover, the very high level of debt in some parts of the economy and across the globe means that risks remain particularly high.

In real estate markets, vulnerabilities that accumulated in past years have increased further and made it more likely that tail risks will materialise. In residential real estate markets, rising mortgage rates and a deterioration in debt-servicing capacity due to a decline in real household incomes are likely to temper house prices. Vulnerabilities also remain significant in commercial real estate (CRE) markets, particularly because the macroeconomic slowdown and tighter funding conditions have not been fully priced in yet. This could increase default risks and concerns about CRE-related NPLs [18].

---

[15] Grimm, M. and Jordà, Ò. (2023), *Loose monetary policy and financial instability*, Federal Reserve Bank of San Francisco Working Paper 2023-06, February 2023.

[16] The EU's largest asset manager warned that the tremors in the UK pensions market should be a wake-up call to investors and regulators about the dangers of hidden leverage in the financial system (shadow banking). See Agnew, H. and Cumbo, J. (2022), *Amundi warns on hidden leverage in the financial system,* Financial Times, 25 October 2022.

[17] For detailed information, see Bank of England (2022), *Financial stability report*, December 2022.

[18] See Chapter 2 for a further discussion of developments for non-performing loans.

1.3.2 *Challenges in financial sector institutions*

Rising interest rates initially bolstered the profitability of many banks. However, they also exposed banks with a positive duration gap [19] to possible losses. The failures of Silicon Valley Bank, Signature Bank and Silvergate Bank in the US in mid-March 2023 have demonstrated that banks that do not adequately manage interest risk might run into problems, especially if they also hold unstable deposits such as large uninsured corporate deposits that can be quickly withdrawn. The EBA stated [20] that EU banks do not have a similar business model and are not subject to the same mix of risks which led to the failure of the banks in the US and the acquisition of Credit Suisse by UBS. Firstly, EU banks hold a large portion of their high-quality liquid assets in cash or central bank reserves, which make them resilient against potential outflows. Second, large amounts of uninsured deposits (beyond EUR 100 000) can be managed better by banks with different business models and well-diversified and liability sides. Third, EU banks invest less in securities that could suffer from sudden interest rate swings. Moreover, those banks which experienced deposit outflows maintained comfortable liquidity levels by issuing debt securities and (to a lesser extent) reducing interbank lending.

Shortly after the failure of the US banks, the global systemically important bank Credit Suisse was also exposed to major liquidity issues despite being under strict supervision and subject to strict liquidity requirements. After the turmoil in the US, market participants ultimately lost confidence in Credit Suisse, which had been confronted with several negative events and scandals in recent years. Despite current risks and a challenging outlook, the EU banking sector remains fundamentally robust, helped by the regulatory reform agenda implemented since the 2008 global financial crisis and an effective centralised supervisor (the SSM). Banks are now better capitalised and more liquid, but pockets of stress in parts of the EU banking sector may re-emerge.

Besides bank-related challenges, risks stemming from the investment fund sector remain high. Liquidity risk in investment funds remains significant amid potential liquidity mismatches between redemption frequency and assets held in funds, particularly for some bond funds [21]. Liquid holdings in corporate bond funds remain low on average. The deteriorating macroeconomic environment negatively impacted the credit quality of bond funds. Managers are further challenged by illiquidity and valuation problems regarding Russian and Ukrainian assets. Finally, as funds applying environmental, social, and governance (ESG) criteria in their investment strategies are becoming increasingly attractive for both investors and managers, there is a risk of overvaluation of ESG assets building up.

The events in the UK have prompted the EU pension fund industry to reassess whether its current stress testing has been sufficient. However, important structural differences between EU and UK pension funds may mean that EU pension funds pose less of a risk to financial stability. As regards the insurance sector, insurers' solvency and profitability have remained

---

[19] This implies that bank assets lose value more than liabilities in a scenario of rising interest rates.

[20] See e.g., the opening remarks by Andrea Enria, Chair of the Supervisory Board of the ECB on the failure of Silicon Valley Bank and its implications for financial stability in the EU at the Committee on Economic and Monetary Affairs of the European Parliament on 21 March 2023.

[21] See also the ECB (2022), *Financial stability review*, November 2022.

strong and this is reinforced by their negative duration gap in times of interest rate increases. However, persistent inflation could affect profitability if future claims payments in the non-life sector exceed current expectations. This could also affect insurance affordability and increase lapse rates. The insurance sector's exposure to commercial and residential real estate investment remains a weakness. As is the case for other sectors, the risk of cyberattacks is still rising in the insurance and pension fund sector.

1.3.3 *Debt sustainability risks stemming from tightening of financial conditions*

As financial conditions tighten, concerns about vulnerabilities in the more indebted parts of the private sector [22] and sovereigns have risen. Non-financial corporations (NFCs) are facing increased challenges from cost inflation, a deteriorating economic outlook and tightening financing conditions. In particular, NFCs with high debt levels could face challenging times if inflation and interest rates remain high. The impact of the increased cost of finance will gradually pass through as fixed-rate debt securities and bank loans mature. NFCs rely on shorter maturities for financing than sovereigns or households, so the pass-through of rising interest rate payments will occur faster in the NFC sector. This will affect NFCs' cash flows and debt-servicing capacity. Some companies that were only viable because of historically low funding costs may go out of business [23]. Balance-sheet stress increased in the household sector amid a deteriorating economic outlook together with tighter financing conditions and surging prices. Overall, household gross disposable income has not kept pace with household expenses [24]. Household debt sustainability concerns are stronger in Member States where residential property is overvalued, where households have high debt-to-disposable income ratios and where most mortgage loans are linked to variable rates.

As regards sovereigns, debt sustainability concerns have so far remained in check thanks to the ECB's bond purchases (although it is phasing these out), the Recovery and Resilience Facility (RRF) [25], TPI, and EU joint bond issuances which have put downward pressure on interest rates and reduced the debt-service burden. The EU's aggregate government debt-to-GDP ratio declined in the last quarters of 2022 due to the favourable interest-growth rate differential effect [26], but a slowing macroeconomic outlook and an upward shift in the yield curve imply a deterioration in public debt dynamics. Moreover, growing concerns about the functioning and liquidity [27] of sovereign markets in the EU could create additional stress.

---

[22] See also Section 2.2 in Chapter 2.

[23] See Chapter 2 for a further discussion.

[24] Eurostat, quarterly sector accounts.

[25] The Recovery and Resilience Facility (RRF) is the centrepiece of NextGeneration EU, the EU's recovery plan. It will finance reforms and investments in Member States until 31 December 2026. The European Commission will finance NextGenerationEU by borrowing on the capital markets on behalf of the EU.

[26] The current negative interest-growth rate differential makes it possible to reduce debt ratios even in the absence of primary surpluses.

[27] See also ESMA (2023), *ESMA report on trends, risks and vulnerabilities, No 1 2023,* 9 February 2023; and ESMA's quarterly liquidity assessment of bonds.

1.3.4 *Other challenges*

Apart from the major concerns mentioned above, some other cross-cutting stability risks (e.g. cybersecurity risks, risks stemming from volatility in the energy markets and risks posed by climate change) are weighing on the financial system.

The cyberthreat is becoming increasingly comprehensive and complex. Russia's invasion of Ukraine has exacerbated this. The number of threats to EU businesses has increased significantly and cyberattacks can have significant ripple effects through related economic actors and operations. Financial information theft, data theft and manipulation have increased significantly. The financial sector is three times more likely to be targeted by cyberattacks than any other economic sector [28].

Developments in energy markets had a material impact on the macroeconomic developments in the EU and continue to massively affect risks in financial markets. These developments, and particularly energy market volatility have become a challenge to financial stability. Wholesale gas prices were extremely volatile throughout and also affected retail gas and electricity prices. This weighed on existing macroeconomic vulnerabilities and accentuated several risks. Possible further price swings represent a significant threat to the macroeconomic outlook, especially in the light of possible OPEC actions or actions by Russia related to oil and gas exports. Another round of turbulence in the commodity markets would lead central counterparties and clearing members to make further margin calls on commodities positions; banks to limit their credit exposures to the commodities sector; and market participants to reduce their trading in commodities markets [29]. These actions could exacerbate liquidity mismatches on market participants' balance sheets, thereby spreading shocks in commodities markets more widely.

Finally, the risks posed by climate change may create vulnerabilities for individual financial institutions and for the financial system as a whole [30]. They manifest themselves in existing risk categories (e.g. credit, market, operational and liquidity risks). Empirical evidence [31] confirm that, while the extent of climate-related financial stability risks for the EU's financial system at this current juncture is manageable overall, vulnerabilities across EU regions, sectors and financial institutions are uneven and have not come down.

1.4 Financial integration

European financial integration was recovering from the COVID-19 pandemic shock until late 2021. The geopolitical tensions resulting from Russia's invasion of Ukraine and changing macroeconomic and financial conditions put integration again to the test in 2022. Quantity- and price-based composite indicators of financial integration [32] declined during 2022 (see

---

[28] European Parliament (2017), *Report on FinTech: the influence of technology on the future of the financial sector*, Report A8-0176/2017, 28 April 2017.

[29] ESMA (2023), *ESMA Report on trends, risks and vulnerabilities No 1 2023,* 9 February 2023.

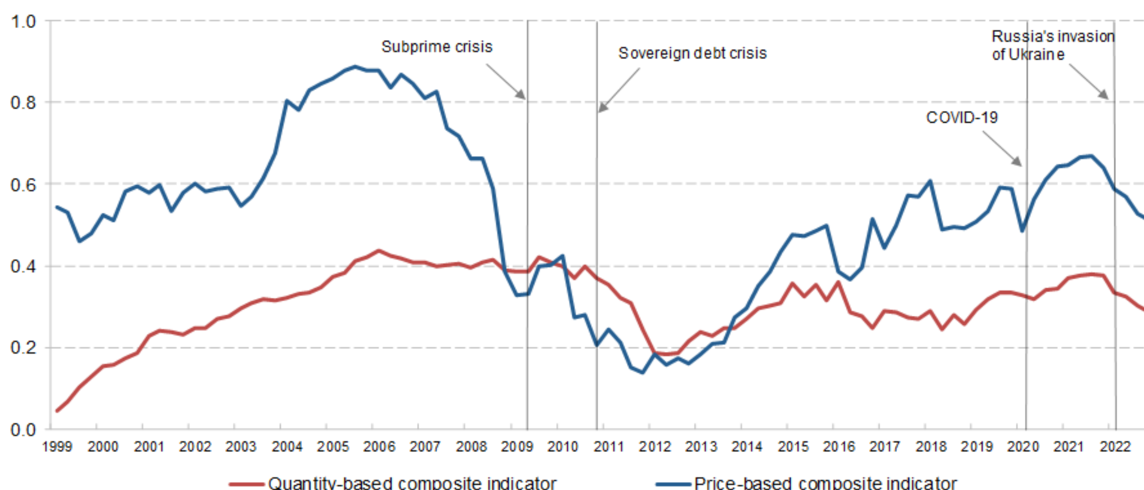
[30] See also European Commission, *European financial stability and integration review (EFSIR),* SWD(2021) 113 final of 25 May 2021.

[31] European Systemic Risk Board (ESRB); and ECB (2021), *Climate-related risk and financial stability*, July 2021.

[32] The price-based composite indicator aggregates ten indicators, while the quantity-based composite indicator aggregates five indicators. The indicators range from zero (full fragmentation) to one (full integration). For further details, see the

Chart 1.10). The price-based composite indicator had started to decline already in Q4 2021, but its decline accelerated with the start of Russia's invasion of Ukraine and in Q1 2022 was more than 7% lower than in Q4 2021. The trends in the two indicators diverge when compared with the onset of the pandemic in 2020: the quantity-based indicator (calculated on the basis of data until Q3 2022) was still 9% lower, but the latest available estimate of the price-based indicator (based on data until the end of November 2022) was 15% higher than after the onset of the pandemic thanks to a recovery in the second half of 2022 and the fact that the price-based indicator tends to react faster.

Chart 1.10: Composite indicators of euro-area financial integration



Source: ECB.

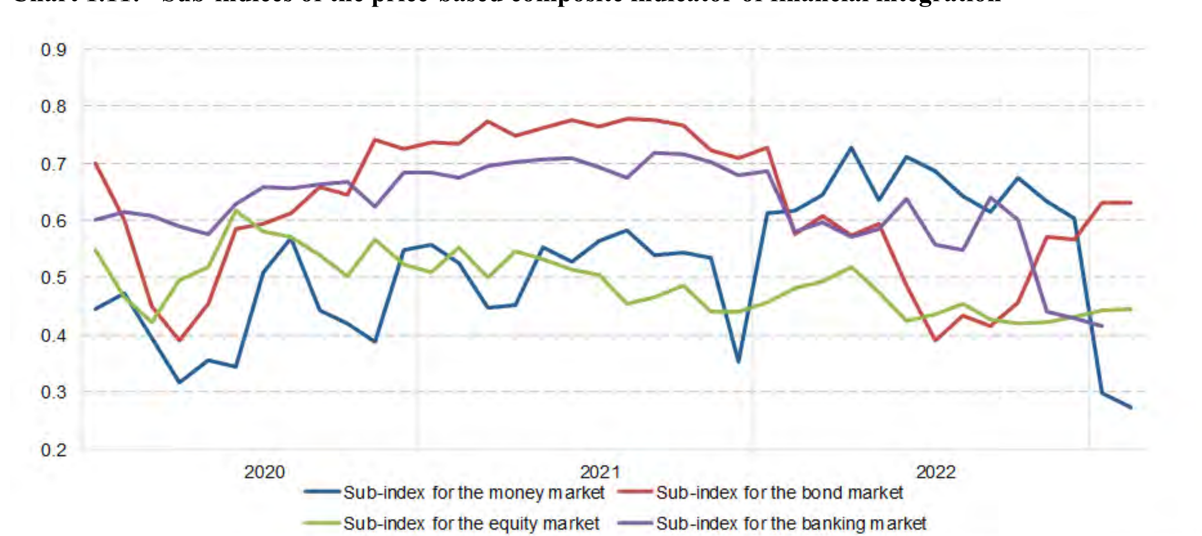
Note: The price-based composite indicator aggregates 10 indicators. The quantity-based composite indicator aggregates 5 indicators. A value of 1 corresponds to the highest degree of integration. The quantity-based indicator uses quarterly data between Q1 1999 and Q4 2022. The price-based indicator uses monthly data (converted into quarterly data) between Q1 1999 and Q4 2022.

The price-based composite indicator can be broken down into several sub-indices in order to help unravel what has driven changes in financial integration. The recovery in the composite price-based index in late 2022 was driven mostly by the rapid rise of the bond market index. Looking at its longer-term evolution, the money market sub-index was at the end of 2022 about 43% above its value at the onset of the pandemic in Q1 2020. In Q3 2022, the sub-indices for bond, equity and banking markets were below their values in Q1 2020[33] (see Chart 1.11) and have therefore yet to make a sustainable recovery to their pre-COVID-19 pandemic levels. Compared with other market segments, financial integration was held back the most by developments in equity markets – as demonstrated by the fact that the sub-index for those markets remained flat until the end of 2022. Financial integration in other market segments was also under pressure. The bond sub-index deteriorated significantly in early and mid-2022 due to less favourable monetary conditions but evolved positively afterwards and its improvement made a major contribution to the overall improvement of the price-based indicator by the end of the reporting period.

statistical annex to the ECB (2020), *Financial integration and structure in the euro area;* and Hoffmann, P., Kremer, M. and Zaharia, S., (2019), *Financial integration in Europe through the lens of composite indicator*s, ECB Working Paper 2319, September 2019.

[33] The subcomponents for the bond, equity and banking markets were 18%, 23% and 9% lower respectively.

Chart 1.11: Sub-indices of the price-based composite indicator of financial integration



Source: ECB.
Notes: Monthly data for the period between January 2020 and February 2023, except for the banking market (January 2023).

In times of economic stress, it is important to look at not only the level but also the quality and resilience of financial integration. Higher levels of foreign direct investment (FDI) and equity-like cross-border holdings are generally considered to contribute more to high-quality and resilient financial integration [34]. Cross-border holdings of FDI are less volatile than holdings of portfolio investment (PI) because they represent long-term (and often larger) stakes in domestic enterprises. Equity-like cross-border holdings of financial instruments are similarly more conducive to high-quality and resilient financial integration than debt-based ones. The two indicators in Chart 1.12 capture the relative importance of FDI and equity cross-border holdings in the EU and provide insights into the evolution of the resilience and quality of financial integration [35].

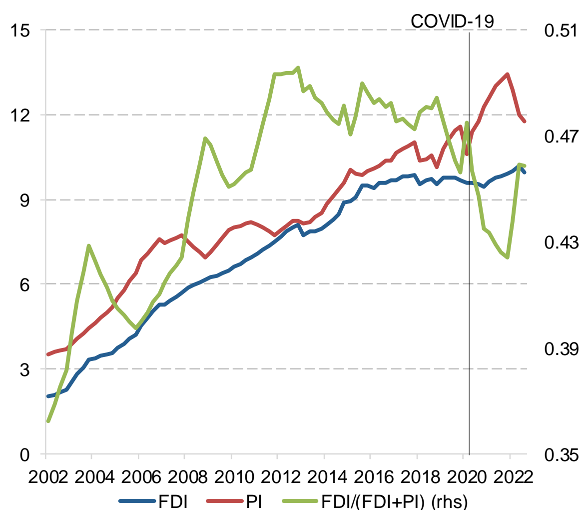
The ratio of FDI to total equity holdings had been on a downward trend since the start of the COVID-19 pandemic but improved rapidly from the beginning of 2022 (see Panel A of Chart 1.12). The recent strong increase is due to the fact that FDI maintained its momentum throughout the pandemic and into 2022, while PI experienced an exceptionally strong increase that started in the post-COVID-19 period but recently started to decline. PI suffered from Russia's invasion of Ukraine and geopolitical tensions. The resulting increase of FDI as a proportion of intra-EU cross-border investment holdings indicates improved financial integration resilience, based on this indicator.

[34] For an in-depth analysis of the euro area and more information on calculating the indicators for quality and resilience of financial integration, see ECB (2020), *Financial integration and structure in the euro area*, March 2020. A further analysis for the EU-27 is included in the study prepared by CEPS for the European Commission: Alcidi, C., Postica, D. and Shamsfakhr, F. (2023), *Analysis of European capital flows in the global context*, March 2023.

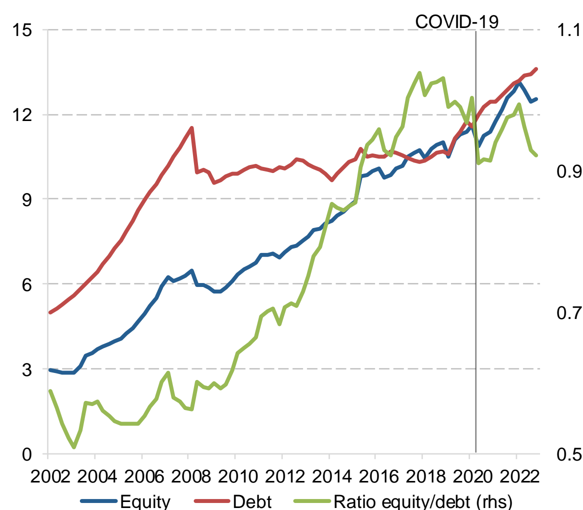
[35] For a detailed discussion (including longer-term trends), see the CEPS report cited in the previous footnote; and European Commission (*2023*), *Annual Single Market report,* SWD(2023) 26 final of 31 January 2023.

Chart 1.12: Cross-border investment in the EU by type of financial instrument

Panel A: Intra-EU-27 foreign direct investment and portfolio investment



Panel B: Intra-EU-27 cross-border holdings of equity and debt instruments



Source: Alcidi, C., Postica, D. and Shamsfakhr, F. (2023), *Analysis of European capital flows in the global context*, March 2023. CEPS calculations based on data from Eurostat BoP statistics (series BOP_IIP6_Q) and Finflows database [36].

Note: Data are expressed in EUR trillion. The data period runs from Q1 2002 to Q3 2022. In Panel A, figures refer to end-of-period positions based on quarterly data for the EU (changing composition). Foreign direct investment and portfolio investment in EUR trillion are on the left-hand side. The ratio (green line) is on the right-hand side. In Panel B, equity and debt figures refer to end-of-period positions reported in EUR trillion on the left-hand side. The ratio of equity to debt is on the right-hand side. Equity is defined as the sum of foreign direct equity investment (FDI), portfolio equity investment and equity investment funds. Debt instruments are defined as debt securities in portfolio investment and other investment loans. Debt securities in FDI, which are intra-group operations and cannot lead to default, are excluded. The data are for the EU according to its membership on the dates in question.

The ratio of equity holdings (see Panel B of Chart 1.12) had recovered to pre-COVID-19 levels in 2021 but then started deteriorating again in Q3 2022. Cross-border holdings of debt instruments increased significantly during the COVID-19 pandemic, while equity holdings were affected by negative market developments following Russia's invasion of Ukraine. Despite the negative pressure, the indicator did not yet fall below its pre-COVID-19 level during the reporting period.

Overall, European financial integration has made significant progress since the creation of the Single Market in 1993 30 years ago [37]. Both the extent (or the quantity) and the quality of financial integration are much higher now. The important regulatory and supervisory reforms of the last decade have made financial integration more resilient. Financial integration recovered much faster from the two most recent shocks (the COVID-19 pandemic and Russia's invasion of Ukraine) than from previous crises. The longer-term effects of the current shock nevertheless remain to be seen and continued efforts are needed to further advance financial integration and improve its resilience [38].

---

[36] https://data.jrc.ec.europa.eu/collection/id-00149

[37] European Commission (2023), *Annual Single Market report*, SWD(2023) 26 final of 31 January 2023.

[38] For recent policy work in this area, see e.g. European Commission (2021), *Communication on Capital Markets Union - delivering one year after the Action Plan*, COM(2021) 720 final of 25 November 2021. See also data updates on the indicators to monitor progress on Capital Markets Union that are based on European Commission (2021), *Monitoring progress towards a Capital Markets Union: a toolkit of indicators*, SWD(2021) 544 final of 9 June 2021.

Chapter 2 DEVELOPMENTS IN NON-PERFORMING LOANS AND CHALLENGES IN THE EU

Non-performing loans (NPLs) are bank loans for which borrowers' repayments are more than 90 days overdue or for which borrowers are considered likely to cease repaying in the near future [39]. For various reasons, including the global financial crisis and the subsequent recession, many households and companies found it difficult to repay their loans and even filed for bankruptcy after 2008. This was particularly the case in Member States that faced long or more severe recessions following a credit-driven pre-crisis boom. Many banks were thus confronted with an accumulation of NPLs on their balance sheets over several years. Since the global financial crisis, EU banks have struggled with a significant number of NPLs, which peaked at around EUR 1.2 trillion in 2014 (corresponding to an NPL ratio [40] of 6.7% in Q4 2014).

NPLs can have a severe impact on bank stability and the broader economy. High levels of NPLs can reduce bank capital and liquidity, making it more difficult for banks to provide funding to the real economy. Banks may also charge higher lending costs to new borrowers to cover the costs stemming from the NPLs in their balance sheets. This can in turn trigger a decline in economic activity and lead to other knock-on effects such as higher unemployment that further reduce the quality of banks' loan books. NPLs can also increase risk and reduce profitability for banks, thus making them less attractive for investors and increasing their long-term funding costs.

The COVID-19 pandemic in 2020 brought back concerns about bank asset quality. The shock resulted in a sharp economic contraction and potential financial vulnerabilities. The fallout from the pandemic was met with a significant and decisive fiscal and regulatory response that mitigated the worst short-term consequences. As a result, the EU's banking sector did not accelerate the crisis but actually weathered the COVID-19 storm well and acted as a shock absorber [41].

Inflationary pressures have picked up more recently, mostly due to supply chain bottlenecks, rising food and energy prices and their spill-over effects (see Chapter 1). Major central banks are tightening financial conditions globally. The combination of high inflation and rising interest rates has continued to restrain economic growth. There are indications that credit risk is rising. The asset quality outlook has worsened in a context of greater uncertainty.

This chapter reviews the recent developments in NPLs. Section 2.1 analyses the reduction in the stock of NPLs on banks' balance sheets in the Member States which were most affected by the global financial crisis and discusses national and EU measures to address the high levels of NPLs that emerged after the global financial crisis. Section 2.2 outlines the recent macroeconomic challenges facing households and non-financial corporations (NFCs). Section 2.3 explains the implications for EU banks. Section 2.4 outlines the structural reforms

---

[39] For banking prudential purposes, see Article 47a(3) CRR for a more extensive definition of non-performing exposures. Regulation (EU) No 575/2013 of the European Parliament and of the Council of 26 June 2013 on prudential requirements for credit institutions and investment firms and amending Regulation (EU) No 648/2012.

[40] Gross NPLs and advances as a percentage of total gross loans and advances.

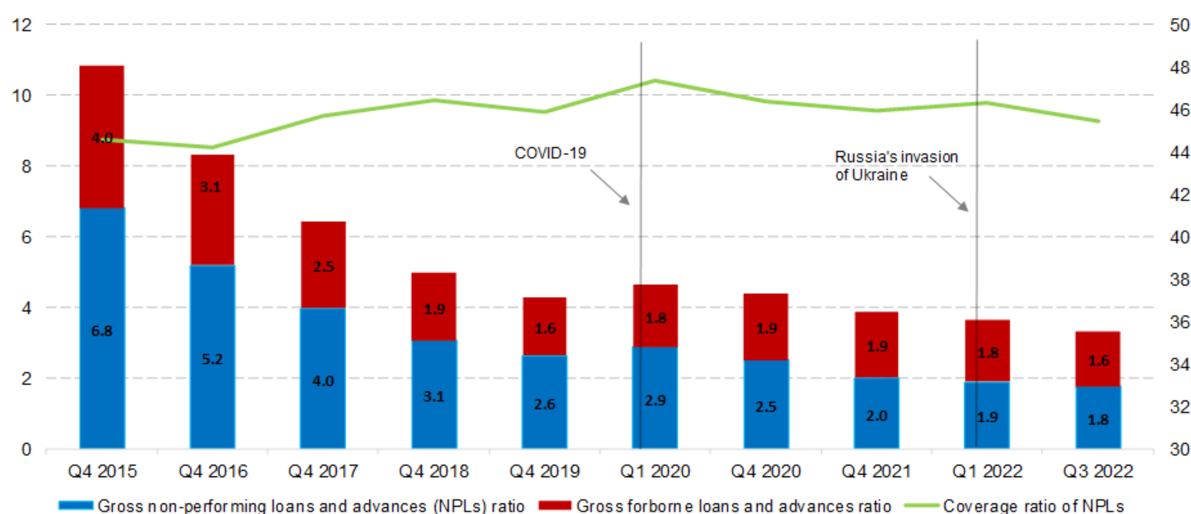
[41] According to the 2021 Commission State Aid Scoreboard, the total amount of State aid to the financial sector based on Commission approval was significantly lower in 2020 than during the global financial crisis.

implemented at national and EU level that should facilitate the resolution of NPLs going forward. This section concentrates on (i) frameworks for credit servicers and credit purchasers, and proportionate safeguards for borrowers; and (ii) insolvency, in- and out-of-court debt restructuring and collateral recovery.

2.1 How the stock of NPLs was reduced after the global financial crisis

The total stock of NPLs peaked in 2014 and fell to around EUR 646 billion by the end of 2019 thanks to the positive impact of economic growth, regulatory action and bank-specific measures to reduce the NPL portfolios. The average NPL ratio peaked at the end of 2015 and then declined steadily (see Chart 2.1). Banks also gradually built up their provisions for their non-performing loan books. In Q3 2022, the NPL coverage ratio of EU banks amounted to 45.5%, while the gross forborne loans ratio was 1.6% (its lowest level since 2014) [42].

Chart 2.1: Evolution of NPLs, forborne loans and NPLs coverage ratio in the EU



Source: ECB. Consolidated banking data.
Note: Gross NPLs and forborne loans as a percentage of total gross loans and advances (lhs). The coverage ratio (rhs) is defined as total accumulated impairment on non-performing debt instruments as a percentage of total non-performing debt instruments (gross carrying amount). Forborne loans are loans that have been granted temporary or permanent repayment relief by the lender due to the borrower's financial difficulty. This relief can include measures such as payment holidays, interest rate reductions and extended loan terms.

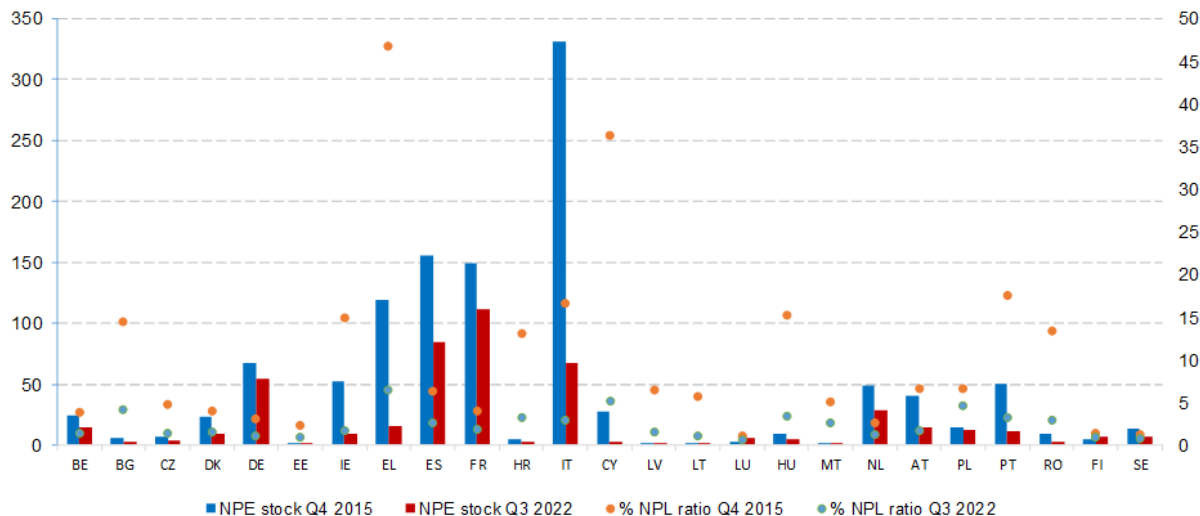
Aggregate NPLs at EU level were low at the end of 2022, both as an absolute amount and as a share of total loans and advances. NPL levels were nevertheless uneven across the Member States and, despite some convergence since 2015, there were clear outliers both in terms of the absolute amount of non-performing exposures and in terms of NPL ratios, (see Chart 2.2).

Member States with high levels of NPLs in the aftermath of the global financial crisis adopted concrete measures to reduce NPLs, usually as part of a wider programme or following targeted country-specific recommendations under the European Semester process. Most of these efforts had common elements, such as the development at national level of secondary markets for impaired assets, or reforms to make viable the out-of-court workout of debt by debtors and creditors and the improvement of insolvency procedures. The latter aimed to

[42] ECB consolidated banking data (data for Q3 2022).

allow swift debt discharge for debtors and better collateral recovery values for creditors. The measures taken include certain country-specific initiatives that played a major role in the reduction of NPLs in banks' balance sheets in countries such as Greece, Italy, Cyprus and, before 2015, Ireland and Spain.

Chart 2.2: Non-performing exposures – Member States



Source: ECB. Consolidated banking data.
Note: Non-performing exposures (NPE) are reported in EUR billion (lhs). NPL ratios as a percentage of gross loans and advances (rhs). Based on data by domestic banking groups and stand-alone banks, foreign (EU and non-EU) controlled subsidiaries and branches. Q1 2016 data used for CZ and FI (for the NPE stock) as a proxy for Q4 2015 data.

2.1.1 *State-sponsored securitisation schemes*

One specific set of measures concerned the promotion of NPL securitisation schemes backed by state guarantees to facilitate the disposal of legacy NPLs (see Box 2.1). State guarantees made these schemes more attractive for large institutional investors and this helped to diversify the investor base. The schemes also contributed significantly to the development of the secondary market for impaired assets and the revival of NPL securitisations. For instance, the market for NPL securitisations in Italy came to a halt after the onset of the global financial crisis and only took off again after the GACS scheme was set up.

Box 2.1: NPL securitisation schemes in Italy and Greece

The Garanzia sulla Cartolarizzazione delle Sofferenze (GACS) was introduced in Italy in early 2016 as a temporary tool and alternative to a system-wide asset management company (AMC). It was followed by the Hellenic Asset Protection Schemes (HAPS) adopted by the Greek authorities in 2019 [43]. These state-sponsored NPL securitisation schemes have reduced the bid/ask spread for impaired asset portfolios, thus allowing banks to obtain higher prices for the securitised NPL portfolios than they would have obtained through outright sales. The GACS and HAPS schemes are based on a similar model but also differ in some aspects in order to account for country-specific elements. Under these schemes, banks ('originators') transfer their NPL portfolios at net

[43] The GACS scheme expired on 14 June 2022 and discussions are currently ongoing regarding the renewal of the scheme. The HAPS scheme expired in October 2022.

book value to special purpose vehicles (SPVs) that finance the transfer through the issuance of senior, mezzanine and junior notes. The senior notes are secured by an unconditional and irrevocable state guarantee granted on the interest and principal of the notes against a fee paid by the SPVs. The guarantee fee ensures that the protection for the NPL securitisation transaction is offered at market conditions and therefore State-aid-free. The schemes become effective when the originating bank sells at least 50% plus one of the junior notes and an amount of the mezzanine notes (if issued) sufficiently large to ensure the accounting derecognition of the securitised portfolios.

The NPL securitisation schemes contributed significantly to the decline in NPL ratios in Italy and Greece. In Italy, the 46 NPL securitisation transactions under the GACS scheme led to the deconsolidation of EUR 117.8 billion (gross book value) of NPLs from the balance sheet of banks, which accounted for roughly 41% of the nominal value of NPLs disposed of by Italian banks since the peak in asset impairment in Q3 2015. The NPL ratio fell from 18.1% in 2015 to 3% in September 2022. The largest GACS securitisation of EUR 24 billion took place in 2018 in the context of the State-aided restructuring of Banca Monte dei Paschi di Siena, but Italy's largest banks (UniCredit and Intesa Sanpaolo) have also had several large NPL securitisation transactions.

With the support of the HAPS scheme, Greek banks have securitised impaired assets amounting to roughly EUR 50 billion (gross book value) through 15 transactions. This corresponds to more than half of the NPL reduction achieved by Greek banks since the peak in the stock of domestic NPLs in March 2016. These NPL securitisations have been the main driver behind the sharp decline in the system-wide NPL ratio in Greece from roughly 47% in 2015 and 35.5% in 2019 to 6.4% in September 2022.

In terms of the NPL securitisation transactions' performance, there has been a similar trend under the two schemes, albeit with some differences. Transactions under the GACS scheme have a longer track record and some transactions were underperforming even before the onset of the COVID-19 pandemic. However, the pandemic significantly affected the workout process by slowing down the pace of debt collection. This had an impact on the performance of securitised portfolios under both schemes. The state guarantee on senior notes has not been called upon for any transaction under the two schemes, but the senior tranches issued by several SPVs were subject to rating downgrades in the case of GACS. This has not been the case so far for transactions under HAPS. However, in Greece too, there are a number of cases where the securitised portfolios have underperformed their initial business plan targets (mainly due to lower recoveries from collateral liquidations).

2.1.2 *The role of national asset management companies*

Three EU Member States (Ireland, Spain and Cyprus) have set up national asset management companies (AMCs) since the 2008 financial crisis (see Box 2.2). An AMC takes over the burden of corporate restructuring from the banks in order to achieve economies of scale, concentrate expertise and reduce the number of parties involved in the negotiations. The transfer of impaired assets to an AMC is intended to accelerate the clean-up of the banking system by disposing of the assets of failed banks. This allows these banks to start afresh and regain market access. It also makes it easier to reprivatise those banks that have been nationalised. Smoothing out the liquidation of assets should also help to stabilise markets and avoid downward price spirals caused by fire sales.

Box 2.2: Asset management companies in Ireland, Spain and Cyprus

The National Asset Management Agency (NAMA) was established in 2009 in Ireland during the banking crisis to deal expeditiously with property NPLs acquired by banks in Ireland. From its establishment under the NAMA Act on 21 December 2009, NAMA invested EUR 31.8 billion in assets with a face value of approximately EUR 74.4 billion (the haircut applied to the gross value of the assets was 57%). NAMA enjoyed a broad legal mandate. The Irish state held a 49% stake in the entity and the remaining 51% was divided equally between three private companies. It was one of the best performing asset management companies of its time and generated a profit when it was wound down. Macroeconomic conditions and portfolio composition contributed significantly to its success. Given that its portfolio consisted of commercial real estate loans – mostly connected to properties in urban centres in Ireland and the UK – it benefited from the faster recovery of the UK's economy. NAMA was wound down after it had repaid all its senior debt 3 years ahead of schedule in October 2017.

In Spain, the Management Company for Assets arising from the Banking Sector Reorganisation (SAREB) was set up at the end of the 2012 for a period of 15 years to deconsolidate the impaired assets of the banks requiring State aid following the 2012 stress test of the Spanish banking sector. It took over the impaired real estate and construction sector assets of banks that had been recapitalised with State aid support. SAREB was set up as a majority privately owned asset management company (51% of the capital was held by banks, insurance companies and investment funds) and had assets of roughly EUR 51 billion. The assets transferred to SAREB had an average haircut of 52.7% of gross book value. The deterioration of asset quality in Spain continued after the transfer of impaired assets to SAREB, but this transfer had an important one-off effect on the system-wide NPL ratio (which declined from 11.7% in November 2012 to 10.4% in February 2013) and contributed significantly to the restructuring of State-aided banks. Since 2012, SAREB has sold 45% of its total assets and redeemed one third of the issued senior debt. In June 2022, SAREB had accumulated losses of about EUR 10.5 billion and further losses are expected in the future. SAREB is therefore expected to be a burden on public finances when it is wound down in 2027.

Since 2018, the Cyprus Asset Management Company (KEDIPES) has been managing the impaired assets left from winding down the Cyprus Cooperative Bank (CCB). This bank surrendered its banking licence on 3 September 2018, when the sale of the performing assets and liabilities to Hellenic Bank was effectively completed. The assets and liabilities of the residual entity were transferred to a fully government-owned asset management company supervised by the Central Bank of Cyprus. With a net book value of 20.5% of GDP at inception, KEDIPES was the largest asset management company (relative to the size of the economy) set up in the EU after the financial crisis. The activity of KEDIPES manages the NPLs within its portfolio (with an initial gross book value of EUR 5.7 billion and a 41% haircut) with a view to maximising recovery and repaying the state. The portfolio is mainly made up of residential mortgages in Cyprus, loans secured by land and some unsecured credit. Since its inception in 2018, KEDIPES has repaid of EUR 800 million of State aid. The slower than anticipated resolution of the residential segment of the portfolio was due to the adverse effects of the COVID-19 pandemic, recurrent foreclosure suspensions, very low participation in the ESTIA [44] scheme and delays in launching the mortgage-to-rent (MTR) scheme.

[44] ESTIA is the state support scheme for NPLs backed with primary residences in Cyprus.

AMCs in the EU differ in terms of their ownership structure. This has significant fiscal implications because Eurostat [45] considers that publicly controlled asset management structures (for which there is evidence that the government is assuming the majority of the risks) are to be classified as part of the general government sector. Therefore, when fiscal space is limited, governments tend to privilege a private majority in order to avoid having to consolidate the AMC debt into the public gross debt. In addition, the establishment of an AMC also entails certain operational challenges, notably in relation to the transfer price [46], the type of loans to be transferred and the governance of the AMC. A correct valuation at the time of transfer is key to a successful recovery of the distressed assets in any AMC and a requirement under the EU State aid and bank recovery and resolution frameworks.

2.1.3 *Prudential and supervisory treatment of NPLs*

The Commission proposed the NPL prudential backstop as part of its March 2018 package to tackle NPLs in the EU [47]. This measure encourages banks to proactively manage their NPLs by requiring them to establish minimum loss coverage levels for newly originated loans that are later classified as NPLs, thus preventing future builds-up of NPLs across the EU. The measure was calibrated to increase over time and according to a pre-defined calendar that starts from the classification date and varies according to the nature of the collateral. It was adopted in April 2019 [48] and has since applied uniformly to all banks in the EU. The measure was amended [49] in response to the COVID-19 pandemic in order to align the minimum coverage requirements for NPLs that benefit from guarantees provided by central governments or other public entities in the context of the COVID-19 pandemic with the preferential treatment envisaged for NPLs that benefit from guarantees provided by official export credit agencies.

The Single Supervisory Mechanism (SSM) has also played a major role in the process of balance-sheet de-risking by allowing for a better coordinated and more coherent supervisory strategy for monitoring NPL levels. Through its supervisory activities and guidance, the SSM has encouraged banks to accelerate the reduction of NPLs in their balance sheets, thereby reducing the risk of future losses and promoting a healthier banking system. This approach includes requests for banks to establish medium-term plans for NPL reduction, with concrete annual targets.

In addition and as part of its response to the COVID-19 pandemic, the Commission proposed in 2020 a set of rules under the Capital Market Recovery Package [50] to help financial markets

[45] Eurostat (2012), *The impact of bank recapitalisations on government finance statistics during the financial crisis*, 18 July 2012 (updated on 14 May 2013).

[46] In the EU, the transfer price cannot be higher than the Commission's estimate of the long-term real economic value, which usually falls between the market price and the book value. Transfer of impaired assets thus often creates losses in a bank's balance sheet because the transfer price is in practice lower than the book value.

[47] European Commission (2018), *Commission measures to address the risks related to NPLs*, 14 March 2018.

[48] Regulation (EU) 2019/630 of the European Parliament and of the Council of 17 April 2019 amending Regulation (EU) No 575/2013 as regards minimum loss coverage for non-performing exposures, OJ L 111, 25.4.2019, p. 4.

[49] Regulation (EU) 2020/873 of the European Parliament and of the Council of 24 June 2020 amending Regulations (EU) No 575/2013 and (EU) 2019/876 as regards certain adjustments in response to the COVID-19 pandemic, OJ L 204, 26.6.2020, p.4.

[50] Coronavirus response: How the Capital Markets Union can support Europe's recovery, 24 July 2020.

support the EU's recovery from the COVID-19 crisis. The package included certain improvements to the securitisation rules in order to support lending to SMEs and the banks' management of NPLs. The European Banking Authority (EBA) [51] had highlighted the fact that the capital requirements for banks' exposure to NPLs' securitisations stemming from the existing regulatory framework were disproportionate and not entirely fit for the purpose of securitising NPLs. The proposed improvements were intended to remove regulatory obstacles to the securitisation of NPLs by adjusting banks' capital treatment of NPLs' securitisations to the specific features of simple, transparent and standardised (STS) securitisations, and making them more risk-sensitive, while also ensuring that adequate prudential safeguards are in place to preserve financial stability. In addition, the risk retention rules [52] were amended to (i) reflect the non-refundable purchase price discount when transferring non-performing exposures for the purpose of securitisation; and (ii) acknowledge the role of the servicer in such transactions by allowing it to act as retainer. The measures were finally adopted in 2021 [53] and have applied since then to all EU banks.

2.2 Recent challenges for non-financial corporations and households

The non-financial corporate sector (NFCs) and several household segments, in particular the lower-income segments, have faced significant challenges over the last few years (e.g. the economic fallout due to the COVID-19 pandemic, disruptions in trade and the subsequent unexpected inflation surge that was fuelled further by the effects of Russia's invasion of Ukraine). To avoid economic and financial instability, governments at all levels (including the EU level) have taken extraordinary measures to support the economy over the last few years, first as a response to the COVID-19 pandemic and then to Russia's invasion of Ukraine. In particular, these measures have included measures in 2022 to shield the economy from the impact of exploding energy prices. Thanks to those policy support measures, corporate defaults rates have remained low, at least until recently (see below).

The inflation surge which started in mid-2021 has nevertheless forced central banks to tighten financing conditions sharply and quickly. Meanwhile, support measures related to the COVID-19 pandemic have been unwound further over 2022. Tighter macroeconomic and financial conditions will weigh on economic sectors going forward, albeit with a delay, and the existing vulnerabilities of more indebted NFCs and households are more likely to become apparent.

2.2.1 *Developments in the NFC* sector

The surge in energy prices in 2022 initially had a severe impact on energy-intensive industry sectors, but corporate stress subsequently spread to all economic sectors as inflation

[51] EBA (2019), *Opinion of the European Banking Authority to the European Commission on the regulatory treatment of non-performing exposure securitisations*, EBA-Op-2019-13, 23 October 2019.

[52] To ensure the proper alignment of interest between the sell-side and buy-side in a securitisation, a material net economic interest of at least 5% of the securitisation must be retained by the originator, sponsor, or original lender so that they have skin in the game.

[53] Regulation (EU) 2021/558 of the European Parliament and of the Council of 31 March 2021 amending Regulation (EU) No 575/2013 as regards adjustments to the securitisation framework to support the economic recovery in response to the COVID-19 crisis, OJ L 116, 6.4.2021, p. 25.

broadened. Public support measures have nevertheless mitigated the worst adverse effects of these energy price pressures. Corporate earnings for the whole corporate sector have consequently fared well, at least at the aggregate level. Net value added by EU NFCs increased at an annualised rate of 9.8% in Q3 2022[54]. The gross operating surplus grew by 10.4% and gross entrepreneurial income (broadly equivalent to cash flow) increased by 9.9%. However, many corporates (mostly SMEs) were confronted with lower operating margins because they were unable to fully pass on their cost inflation to customers [55].

The impact of the increasing cost of finance will gradually pass through to NFCs and households as fixed-rate debt securities and bank loans mature. Credit spreads have widened (see Section 1.2) on top of the major rise in benchmark yields. With yields expected to increase, tight financing conditions will persist for the foreseeable future [56]. 2022 (and particularly the second half of the year) saw a very substantial decline in issuance of debt securities and a preference for bank loan financing [57] as the pass-through of monetary policy rates was faster for bond markets than for bank borrowing rates. However, credit standards for bank loans to NFCs have tightened more recently [58] in line with banks' declining risk tolerance. This will penalise highly indebted NFCs.

NFCs rely more on short-term financing than sovereigns and households, so changes in interest rates will affect interest rate payments of NFCs quicker than sovereigns and households [59]. Rising interest rates will quickly have an adverse impact on NFCs' free cash flow margins and debt-servicing capacity.

A more moderate growth outlook may, together with further tightening financing conditions and more difficult access to capital, pose a particular challenge to those NFCs that have higher debt levels, more subdued earnings and lower liquidity levels. In aggregate, corporate debt levels in consolidated terms declined to 77.6% of GDP in Q3 2022 (from 79.4% a year earlier); and in non-consolidated terms declined to 140.7% (from 142.5%). The decline was due real GDP growth and the surge in inflation. However, these aggregate numbers hide pockets of highly indebted companies. Compared with companies with low debt levels, more highly indebted companies applied for State-guaranteed loans and moratoria [60]. These support measures expired in June 2022 and the underlying debt will mature over the coming years.

[54] Eurostat, quarterly sector accounts.

[55] See also Section 1.3 in ECB (2022), *Financial stability review*, November 2022.

[56] Fitch (2022), *Special report: european high-yield market insight - 3Q22 update*, 12 October 2022.

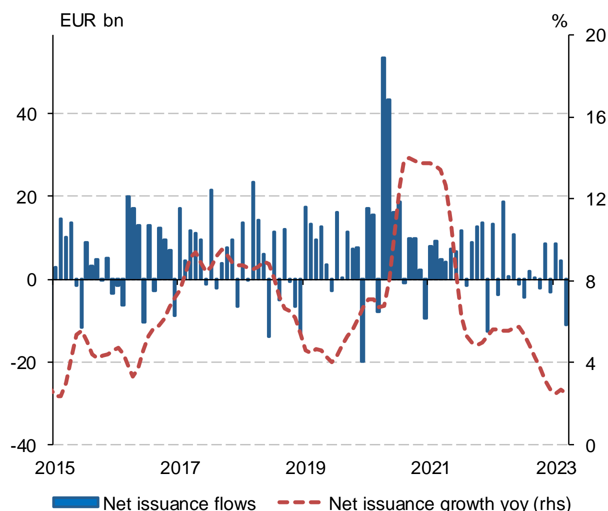
[57] The annual growth rate of adjusted bank loans to NFCs stood at 6.3% in December 2022 (8.3% in November 2022).

[58] ECB (2023), *January 2023 euro area bank lending survey*, 31 January 2023.

[59] This is particularly the case in countries where households have mainly fixed-interest mortgages, but less so in countries where variable interest rate loans are prevalent. Moreover, it will depend on the bargaining power of corporates to avoid a full pass-through of interest rate increases by banks (large corporates with strong balance sheets may have more bargaining power than households).

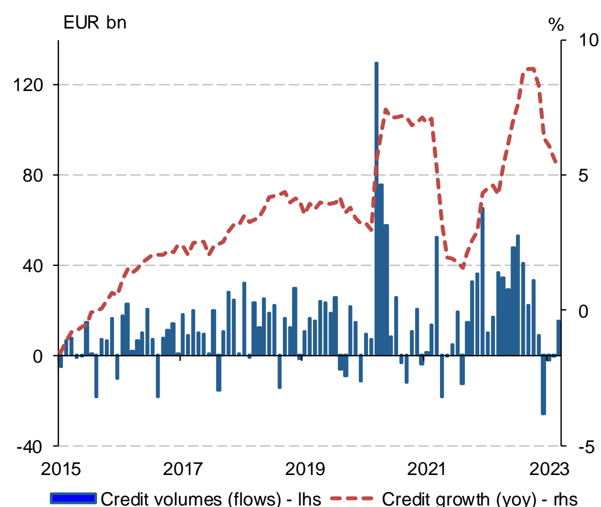
[60] Loans subject to public guarantees related to the COVID-19 pandemic stabilised at EUR 366 billion (i.e. 1.8% of total EU gross loans and advances) in Q1 2022.

Chart 2.3: Debt securities issued by NFCs



Source: ECB.
Note: Monthly data.

Chart 2.4: Bank credit to NFCs



Source: ECB. DG FISMA calculations.
Note: Monthly data.

The number of bankruptcy declarations in the EU has increased strongly in recent months [61]. They had dropped to low levels during the COVID-19 pandemic due to the temporary suspension of bankruptcy listings in many jurisdictions and the extensive state support schemes but rebounded sharply in the second half of 2022. In Q4 2022, the number of declarations reached the highest level seen since the start of data collection in 2015 (see Chart 2.5). EU corporate debt default rates have risen in parallel with bankruptcy declarations over 2022 to 0.4%. However, some market analysts expect default rates to rise significantly. Rising refinancing costs will challenge heavily indebted corporations and/or those that have a weak or unstable cash flow, especially if the economic slowdown proves to be worse than currently expected.

Chart 2.5: Evolution of bankruptcy declarations in the EU

Source: Eurostat (based on data series sts_rb_q).
Note: Quarterly data for Q1 2015 to Q4 2022. Data are indexed, with Q1 2015 equal to 100. The chart is based on available data since 2015 from 19 Member States: BE, BG, DK, DE, EE, ES, FR, HR, IT, CY, LT, LU, MT, NL, PL, PT, RO, SI and SK.

[61] Eurostat, based on series sts_rb_q.

Overall, it is expected that the NFC sector will face a slight earnings contraction in the medium term. The manufacturing and construction sectors are expected to be more exposed to higher energy prices, supply disruptions and deteriorating economic conditions, which may negatively affect the asset quality of banks in the EU. Data on bank loans show that the banking sector is significantly exposed to the energy-intensive manufacturing sector in many Member States [62]. More specifically, 20% or more of the total NFC loan book relates to manufacturing in Bulgaria, Ireland, Greece, Spain, Italy, Hungary, Austria, Poland, Portugal and Slovenia (the EU average is 15.8%). In Greece, Poland and Portugal, the NPL ratio for the manufacturing sector is also significantly above the EU average, which points to the need to closely monitor developments. Banks are significantly exposed to the construction sector in Belgium, Cyprus, Luxembourg, Portugal and Slovenia (oscillating at around 10% of the total loan book and about three percentage points above the EU average of 7%). Real estate exposure is high in the Danish and Swedish banking sectors with loans to the real estate sector amounting to about 60% of the loan book – well above the already significant EU average of 25%. These developments should therefore also be monitored.

2.2.2 *Developments in the household sector*

The financial conditions of the household sector were adversely affected over 2022 by a tightening in financing conditions and surging inflation. Aggregate EU household gross disposable income (+7.3% year-on-year [63], Q3 2022) has not kept pace with household consumption expenditure (+9.9%) with uneven effects across income groups. Lower-income households are more affected than other households because they spend a larger part of their income on food and energy.

In the housing market, a turn in the financial cycle has been emerging since Q4 2022 and Q1 2023. The growth rate of loans to EA households was still strong in February 2023 but is now clearly weakening (+3.7% y-o-y for mortgages when adjusted for loan sales, securitisation and notional cash pooling) [64]. The demand for loans from households for house purchases has meanwhile declined sharply. The January 2023 ECB bank lending survey recorded the largest ever recorded number of banks reporting a decline in the demand for mortgages in a single quarter – even larger than during the global financial crisis. For Q1 2023, banks expected a further net decrease in households' demand for housing loans, mainly driven by the general level of interest rates, declining consumer confidence and tightening credit standards. Growth in prices of residential real estate is meanwhile cooling down in real terms and residential real estate prices started to decline in the second half of 2022 in several Member States such as Germany, Austria and Sweden. Orderly price declines should be welcome as a way to reduce existing concerns about overvaluation. A further acceleration in price declines cannot be excluded, however, as the impact of higher borrowing costs, high inflation and other headwinds are transmitted to households [65].

---

[62] EBA (2023), *Risk dashboard: data as of Q3 2022*, 12 January 2023, p. 35.

[63] Compensation of employees grew at an annual rate of 7.7% (y-o-y, Q3 2022) while the gross operating surplus and mixed income of the self-employed increased at a lower rate of 5.7% (see Eurostat, Quarterly Sector Accounts).

[64] ECB (2023), Monetary developments in the euro area, 23 February 2023.

[65] See also Battistini, N., Gareis, J. and Roma, N. (2022), The impact of rising mortgage rates on the euro area housing market, *ECB Economic Bulletin*, 22 September 2022.

The average cost of these mortgages increased to 2.9% in Q2 2022 from 1.7% at the beginning of 2022. The sensitivity of rising interest rate changes for loan-service-to-income ratios (LSTI) is driven by several mortgage loan characteristics, including the loan-to-income ratio and the interest rate at origination, the maturity, the interest fixation period and the amortisation type. ECB simulations show that, in the case of an interest rate shock of +200 basis points from end-2021 levels, LSTI increases would be manageable for most loans but that pockets of vulnerabilities exist [66]. The increase in interest rates will be swiftly passed through and have a larger impact on debt-service burdens for households in Member States with a relatively higher proportion of variable-rate mortgages (e.g. EL, EE, CY, LV, LT, MT, AT, PT and FI; and, to a lesser extent, IE, ES, IT, LU and SI) than on those for households where fixed-rate mortgages are prevalent (e.g. BE, DE, FR, NL and SK) [67].

Box 2.3: Impact of increasing interest rates on fixed-rate and variable-rate mortgage loans

The impact of rising interest rates on borrowers' debt burdens depends on the type of loan. Fixed-rate loans offer protection from large shifts in interest rates over the medium term, while variable-rate loans are subject to faster repricing (especially for short fixation periods of up to 1 year). However, protective clauses such as caps on repricing amounts exist in some jurisdictions.

The share of variable-rate loans with a fixation period of up to 1 year in the euro area has decreased in recent years in terms of new business but this trend has begun to reverse in the past few months. Differences exist between Member States: some exhibit a stable and low share of variable-rate loans as a proportion of new mortgages granted, but the share is more volatile in others and has often gradually decreased in recent years from higher levels. This makes it difficult to predict near-term repricing on outstanding mortgage loan stocks based on new business data only. This can be addressed by considering a proxy for the share of variable-rate loans in the outstanding mortgage loan stock. This proxy is constructed by taking the ratio of the volume of new variable-rate mortgage loans with a fixation period of up to 1 year granted over the past 10 years to the total amount of new loans for house purchases granted over the same period. Chart 2.5 shows that the euro area average is reduced by the large weight of the mortgage loan books in countries exhibiting a very low share of variable-rate loans with a one-year fixation period. By contrast, other euro area Member States have a high share of variable-rate mortgage loans, which indicates that repricing over the next 12 months is very likely.

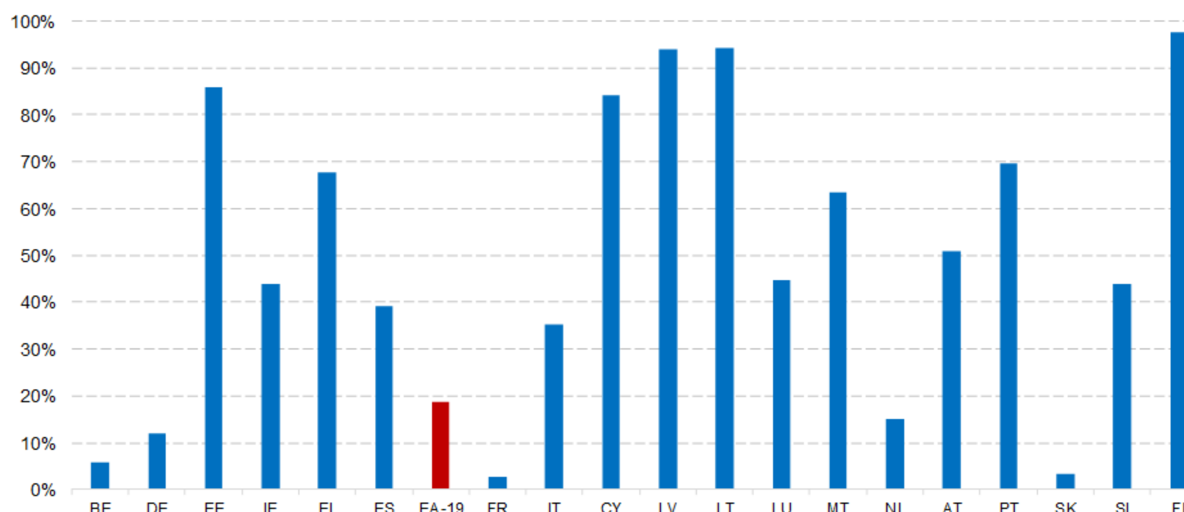
The actual extent of repricing on a bank's loan book may nevertheless be higher for one of several reasons. Firstly, variable-rate mortgage loans with longer fixation periods that will be repriced within the next 12 to 24 months were not considered. Secondly, the result above also depends on the sample period used to build the proxy. Longer periods (that reflect the long-term duration of mortgage loans (i.e. 20 years)) were not selected due to lack of data for some countries, but they would imply there may be a higher share of variable-term loans because older vintages of loan production (where variable-rate loans prevail) gain in weight. Thirdly, the analysis above reveals that the share of variable-rate loans with a fixation period of up to 1 year may represent only 18.7% of the total outstanding stock of mortgage loans in the euro area, but a

[66] Bandoni, E., Jarmulska, B. and Lang, J.H. (2022), Gauging the sensitivity of loan-service-to-income ratios to increases in interest rates, *ECB Macroprudential Bulletin*, 10 October 2022.

[67] Albertazzi, U., Fringuellotti, F. and Ongena, S. (2019), *Fixed rate versus adjustable-rate mortgages: evidence from euro area banks*, ECB Working Paper 2322, October 2019.

similar analysis for household and NFC loans suggests that the respective share for loans granted over the same period could be significantly higher.

Chart 2.6: Share of variable-rate loans as a proportion of total new mortgage loans granted



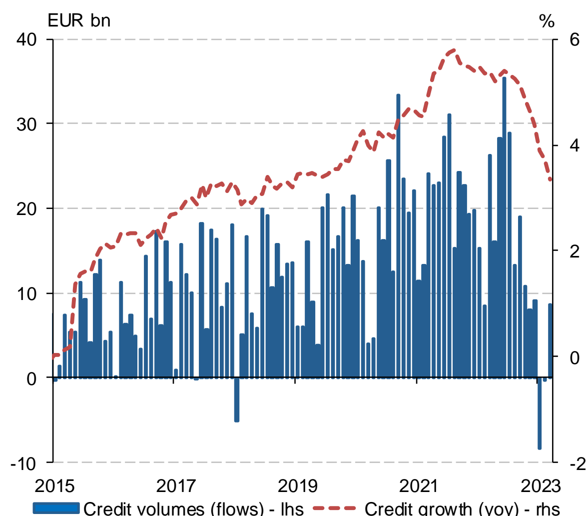
Source: ECB. DG FISMA calculations.

Note: Calculations based on (i) the ECB risk assessment indicator (RAI) on the share of variable-rate loans as a proportion of total loans for house purchases; and (ii) the ECB's MFI interest rate statistics indicator for bank business volumes on loans to households for house purchase (new business). The data covers the period from March 2013 to February 2023 for all euro area Member States and the euro area average. Gaps in the data series exist for EL, LV and MT, and this may affect the accuracy of the results. RAI statistics data for EE and LT are for euro and domestic currency loans for the period from March 2013 to December 2013 and from March 2013 to December 2014 respectively but only for euro-denominated loans after that point.

On the positive side, concerns about household debt sustainability [68] are, at least for now, mitigated by strong labour markets and very low debt-servicing costs. The EU and EA unemployment rates dropped to 6.0% and 6.5% respectively in December 2022, their lowest levels in the last 20 years. However, the household sector shows higher vulnerabilities in some Member States and particularly in Member States with high unemployment rates (e.g. Greece and Spain) and those where residential property is overvalued (including Luxembourg and Sweden) or the debt-to-disposable income ratio is high (e.g. Denmark, Cyprus, Luxembourg, the Netherlands, Finland and Sweden).

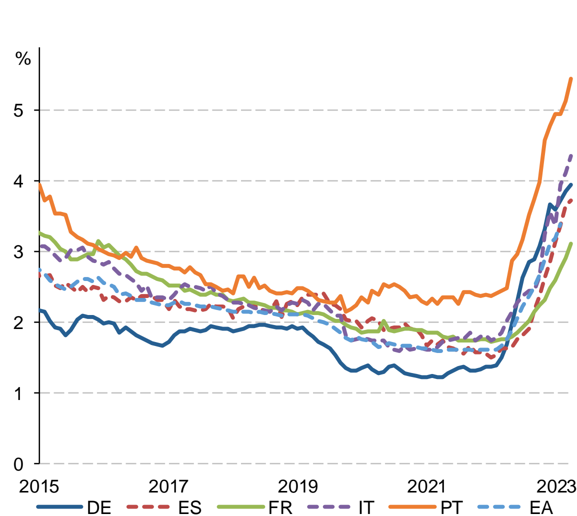
[68] ECB banking supervision: SSM supervisory priorities for 2023-2025

Chart 2.7: Bank mortgage credit



Source: ECB.
Note: Monthly data.

Chart 2.8: Interest rates on mortgage credit



Source: ECB.
Note: Monthly data.

2.3 Challenges for EU banks

The analysis in Section 2.2 illustrates that balance sheets of both NFCs and households have overall been resilient so far, while tightening financing conditions and less ample access to finance show that the financial cycle may be turning [69]. The pass-through effect of tightening financing conditions takes time and the impact will materialise only gradually. This impact is likely to vary between sectors and Member States, and will depend on factors such as inflation sensitivity and the prevalence of floating-rate lending. The outlook for households will depend significantly on (un)employment developments and on the impact of inflation on real disposable incomes. Squeezed real disposable household incomes and corporate profit margins would gradually weaken the financial soundness of both sectors. This could in turn adversely impact consumption and investment, and cloud the financial stability outlook.

The potential balance-sheet stress of both NFCs and households also creates a challenging environment for the financial sector, including the management of NPLs. One of the key challenges for the financial sector is to deal with debt overhang in a context of sharply rising interest rates. However, despite this challenging macroeconomic environment and as a result of national and EU reforms, EU banks have proven to be more resilient and robust than during the global financial crisis. EU banks are now better capitalised and more profitable, although concerns remain about asset quality deterioration in 2023.

Banks have increased their capital and liquidity buffers [70] in recent years and this has helped them to weather the COVID-19 pandemic. The average EU bank capital adequacy ratio increased from 13.8% at the end of 2010 to 18.6% in Q3 2022. Banks' funding outlook was

[69] This could be seen as favourable from a financial stability point of view because it reduces some of the excesses built up in credit and property markets in previous years, when real interest rates were negative.

[70] Ample Eurosystem funding has played a key role here. Banks will need to adapt smoothly to the gradual unwinding of TLTRO III. This may increase their cost of funding and/or affect (to some extent) their prudential liquidity ratios.

also better than on the eve of the pandemic: as measured by an EU average loan deposit ratio of 100% at the end of 2019, this figure fell to 88.6% in Q3 2022 on the back of effective NPL-deleveraging efforts and strong deposit growth because businesses and households built up significant precautionary liquidity buffers during the pandemic. These positive developments and solid buffers enabled banks to absorb losses and provide a cushion against increasing funding costs and worsening economic conditions.

Most banks are therefore relatively well placed to handle the current crisis period. The NPL ratio in the EU is at its lowest level since the global financial crisis. Thanks to ongoing NPL-deleveraging and sustained credit growth during the pandemic, the declining trend in NPL ratios reflects both a smaller numerator and a higher denominator (owing to growth in the total amount of loans [71]). The average gross NPL ratio for EU banks declined to 1.8% in Q3 2022 (down from 2.9% when the pandemic began in Q1 2020). The outstanding amount of NPLs for all EU banks in the EU amounted to EUR 423 billion in Q3 2022 (EUR 1.2 trillion in Q4 2014). Moreover, credit institutions also anticipate that the benefits of rising interest rates for their net interest margins will partly counterbalance potentially higher impairments and funding costs.

The EU banking sector is in a strong position, but there are still some vulnerabilities that require a proactive approach by credit institutions. Capital levels have converged across EU Member States and are above minimum requirements in each Member State, but important differences remain in terms of NPL ratios and capital buffers. It is important that financial institutions closely monitor developments in order to spot early signs of borrower stress and respond quickly in order to keep NPL levels in check. Some early warning signals of a potential increase in NPL inflows are already visible: stage 2 loans [72] grew to 9.4% in Q4 2022, surpassing the previous peak registered in Q4 2020 (see Chart 2.9).

Stage 2 loans increased significantly after the start of the pandemic, in particular the share of stage 2 loans subject to moratoria. The rate of increase nevertheless slowed in 2022. Despite some concerns in several Member States, bank asset quality did not suffer from cliff-edge effects when loan moratoria were phased out. Stage 2 loans (as a percentage of total loans) at EU level went up from 8.7% in September 2021 to 9.5% in June 2022 and marginally edged down to 9.4% in December 2022. According to the latest EBA data, more than half of the EU Member States have a double-digit and above-the-EU-average share of stage 2 loans as a proportion of total loans. However, the recent trend is not similar for all Member States. In several Member States with system-wide NPL ratios above the EU average, the share of stage 2 loans as a proportion of total loans declined between December 2021 and December 2022, possibly due to proactive efforts to manage and anticipate NPL inflows. However, the situation has deteriorated in other Member States (in some cases significantly) since the start of Russia's invasion of Ukraine and the start of the monetary policy tightening cycle (see Chart 2.9). The Stage 2 loans for loans with expired EBA-compliant moratoria declined at the

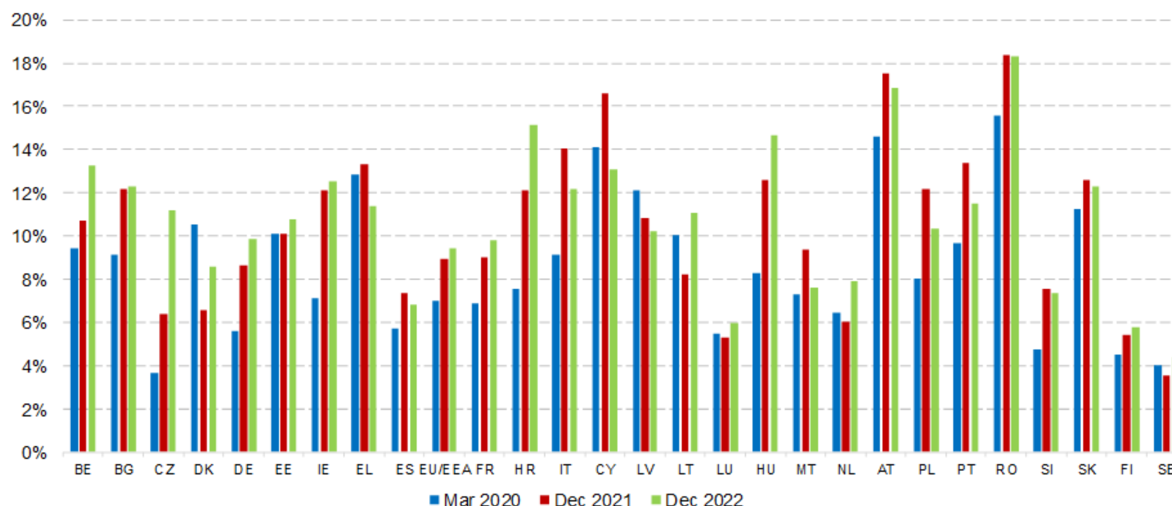
---

[71] The inclusion of cash and advances in the denominator of the NPL ratio reported by the ECB has increased the denominator and contributed to the fall in NPL ratios following the pandemic in a period when banks maintained high cash positions (deposited in the ECB) on the back of ample central bank funding.

[72] Financial instruments that have significantly deteriorated in credit quality since initial recognition but do not provide conclusive proof of a credit loss event are referred to as stage 2 assets in the context of IFRS 9.

EU level from 23.9% in September 2021 to 20.9% in December 2022. In several Member States (e.g. Bulgaria, Greece and Romania) the share of stage 2 loans for loans with expired EBA-compliant moratoria remained well above the EU average (i.e. between 35% and 39%). The deterioration in asset quality for the portfolios benefiting from loan moratoria in the aftermath of the COVID-19 pandemic occurred towards the end of 2021 and in 2022. The NPL ratio at EU level for loans with expired EBA-compliant moratoria increased from 4.9% in September 2021 to 6.3% in September 2022. The pace of asset quality deterioration nevertheless slowed in Q3 2022 and was marginally reversed in Q4 2022.

Chart 2.9: Evolution of stage 2 loans - Member States



Source: EBA (risk dashboard).
Note: Stage 2 loans as share of loans and advances at amortised cost. Applicable only to IFRS reporting banks.

The high degree of uncertainty stemming from macroeconomic and geopolitical developments calls for caution. NPLs are expected to increase. Higher (expected) interest rates may dampen growth and increase the cost of servicing variable-rate loans. In addition, high inflation reduces households' real disposable income and firms' profit margins may fall if increases in production costs cannot be passed through to clients. These elements will in turn reduce the debt-repayment capacity of households and firms. Especially fragile businesses and consumers [73] might be vulnerable. Furthermore, State support for debtors might not be as strong as it was in response to the fallout of the pandemic. Implementing substantial and untargeted support programmes could restrict the inflation-taming impact of monetary tightening. It therefore appears that NPLs will probably materialise more frequently now than they did in past years if the current trend continues. The rise in prices means that new risks could emerge, particularly for industries that consume a lot of energy. Constraints on gas supply might also affect output in other industries and probably result in defaults. Banks' exposures to industries experiencing more stress (e.g. the energy and building sectors) deserve close attention.

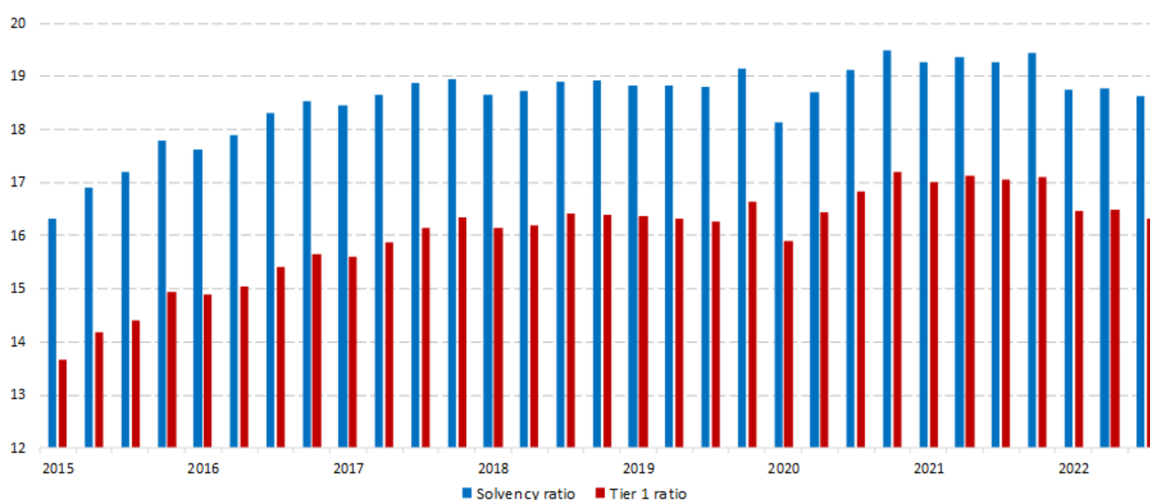
In parallel with a potential build-up of new flows of NPLs, the legacy private debt that has been removed from banks' balance sheets largely remains in the hands of servicers, and

[73] High inflation rates also reduce the indebtedness of businesses and households in real terms.

continues to hinder economic recovery. Moreover, in some Member States with high levels of still unresolved non-performing private debt, this may lead to a large number of zombie firms and borrowers, which would reduce the number of viable debtors and hence the banks' ability to expand lending. The successful restructuring and resolution of this debt will, coupled with the proper functioning of the secondary market for these loans, allow many affected debtors to undergo viable restructuring, become once again performing and access bank financing again in the future.

Given the current risk signals and vulnerabilities, banks are encouraged by supervisors [74] to maintain prudent risk management standards and credit provisioning policies [75], and to take measures to prevent the build-up of NPLs [76]. It is also recommended that banks should closely monitor sectors that are at risk and engage early with borrowers to help them restructure their loans if necessary to avoid them defaulting on their debt obligations [77].

Chart 2.10: Solvency ratio and tier 1 ratio



Source: ECB.
Note: Quarterly data covering the period from Q1 2015 to Q3 2022. Data for the EU-27 are expressed as a percentage.

The EBA monitors sector-wide developments by conducting regular stress tests to assess the resilience of EU banks. These tests are intended to identify potential risks and future vulnerabilities so that banks can take the necessary steps to mitigate them. In addition, in its supervisory priorities for 2023-2025 [78], the SSM has indicated that banks should become more resilient to immediate macrofinancial and geopolitical shocks. Banks are expected to quickly recognise and mitigate any risk accumulation in their exposures to sectors that are more sensitive to the current macroeconomic environment.
Banks will benefit from the much-enhanced frameworks for NPL resolution (see Section 2.4), including more efficient insolvency frameworks and appropriate regimes for credit servicers

---

[74] ECB banking supervision: SSM supervisory priorities for 2023-2025.
[75] This includes making sure that their models are sufficiently adaptable and predictive.
[76] ECB banking supervision: SSM supervisory priorities for 2023-2025
[77] EBA Guidelines on loan origination and monitoring and EBA Guidelines on management of non-performing and forborne exposures
[78] ECB banking supervision: SSM supervisory priorities for 2023-2025

and purchasers [79]. An effective insolvency and debt restructuring framework enables banks to resolve NPLs quickly and efficiently, and will allow the timely recovery of debt – thereby reducing the burden of bad loans on banks' balance sheets.

2.4 Structural reforms to ensure efficient resolution of NPLs

Two essential lessons from past crises are that NPL sales are an important relief mechanism for credit institutions and that secondary markets for NPL play an essential role. The EU's NPL secondary market was worth some EUR 11 billion at the start of the sovereign debt crisis in 2010 (increasing to about EUR 80 billion by 2015). The United States has had an active secondary market for NPLs since the 1980s and NPL transactions were worth approximately USD 400 billion in 2010.

The extensive literature on key obstacles in the expansion of distressed debt markets highlights five crucial and recurring points: (i) the quality of legal and insolvency frameworks (e.g. do they contain restrictions that hinder the swift execution of collateral?); (ii) licensing and regulatory regimes that enable non-banks to own and manage NPLs; (iii) tax (dis)incentives related to the transfer of NPL portfolios, loan-loss deductibility and accounting standards; (iv) the quality of data related to the 'loan tape' and assets behind the lending agreements; and (v) the varying nature of loans, which makes it challenging to achieve economies of scale.

Measures at national and EU level have to some extent addressed these issues. Financial support programmes in Ireland (2010-2013), Greece (2010-2018), Portugal (2011-2014), Spain (2012-2014) and Cyprus (2013-2016) were set up when these Member States were faced with a wave of corporate insolvencies and borrowers falling into arrears in the aftermath of the financial crisis. At the EU level, the Commission has also been working to establish an efficient EU market for NPLs and at the same time safeguard the interests of borrowers.

In March 2018, the Commission presented its comprehensive package of measures to tackle high levels of NPLs [80] in response to the 2017 Council's action plan to tackle NPLs in the EU [81]. Moreover, in response to the COVID-19 crisis, the Commission published its 2020 action plan [82] to ensure that EU households and businesses continued to have access to banking funding. The Commission proposed several actions to give Member States and the financial sector the tools needed to address an increase of NPLs in the EU's banking sector early on. The main goals of these actions were to: (i) further develop secondary markets for distressed assets; (ii) reform the EU's corporate insolvency and debt recovery legislation; and (iii) support the establishment and cooperation of national AMCs. The various measures implemented at national and EU level are summarised below.

---

[79] Furthermore, the policy efforts at EU level to harmonise and streamline certain aspects of national insolvency laws can, when coupled with common rules on out-of-court restructuring and the promotion of early warning mechanisms, help mitigate an increase in new NPLs. This is linked to a legislative proposal in the context of the CMU.

[80] European Commission (2018), Commission measures to address the risks related to NPLs, 14 March 2018.

[81] Council conclusions 'action plan to tackle non-performing loans in Europe', Council document 11173/17 of 11 July 2017.

[82] Communication from the Commission to the European Parliament, the Council and the European Central Bank on tackling non-performing loans in the aftermath of the COVID-19 pandemic, COM(2020) 822 final, 16 December 2020.

Finally, the Commission included in its 2021 Banking Package [83] a proposal to remove current regulatory impediments for banks that purchase NPLs. This should further facilitate the development of secondary markets for NPLs. As the Commission announced in its 2020 action plan and building on work [84] by the EBA, the proposal is intended to clarify the treatment of discounts on banks' purchases of NPLs so that banks can take them into consideration when determining the appropriate risk-weight to be applied to purchased NPLs.

The Member States have set up Recovery and Resilience Plans (RRPs) [85] for 2021-2026 that also include reforms that help to mitigate the build-up of new NPLs. These national initiatives relate to two major areas. Firstly, measures were proposed to reform or upgrade early warning tools and preventive debt restructuring and insolvency mechanisms, including via the introduction of specialised electronic tools. Such reforms are included in the RRPs of Bulgaria, Greece, Spain, Italy, Croatia, Cyprus, Lithuania, Portugal and Slovakia and were often introduced in conjunction with the implementation of Directive (EU) 2019/1023 [86]. Secondly, reform measures have been taken in some Member States, such as Greece, Cyprus [87] and Finland, to introduce or upgrade credit bureaux and registries, including by digital means. The latter aim to improve the exchange of data, facilitate credit decision-making, and help address information asymmetries. This will also enhance the monitoring of financial market information and credit expansion by supervisory authorities and policymakers.

2.4.1 *Enhancing the framework for credit servicers and investors, while ensuring proportionate safeguards for borrowers*

Regulatory and licensing regimes for investors and credit servicers [88] operating in NPL markets have undergone significant reforms in different jurisdictions. Several Member States liberalised loan servicing between 2010 and 2016. By 2017, the transfer of NPLs without the consent of borrowers to investors and non-banking institutions had become an established practice across the EU, subject to certain limitations and restrictions set by individual Member States. This was complemented in 2021 by the Directive on credit servicers and credit purchasers [89]. The Directive aims to establish a harmonised EU framework for credit servicers and credit purchasers to facilitate the creation of a single market for such market participants. Within this framework, authorised credit servicers obtain a 'passport' and credit purchasers do not have to fulfil an authorisation requirement when purchasing NPLs.

[83] Banking Package 2021: new EU rules to strengthen banks' resilience and better prepare for the future, 27 October 2021.

[84] EBA (2021), *Final report on draft regulatory technical standards with regard to specifying the calculation of specific credit risk adjustments*, EBA/RTS/2021/15 of 13 December 2021.

[85] The plans used EU funding. See footnote 25.

[86] Directive (EU) 2019/1023 of the European Parliament and of the Council of 20 June 2019 on preventive restructuring frameworks, on discharge of debt and disqualifications, and on measures to increase the efficiency of procedures concerning restructuring, insolvency, and discharge of debt, and amending Directive (EU) 2017/1132 (Directive on restructuring and insolvency), OJ L 172, 26.6.2019, p 18.

[87] Cyprus's national RRP also includes a package of amending laws regarding credit-acquiring companies and credit servicers to improve the operating framework for NPL management.

[88] In line with Article 3(8) of Directive (EU) 2021/2167, a credit servicer is a legal person that, in the course of its business, manages and enforces the rights and obligations related to a creditor's rights under a non-performing credit agreement or to the non-performing credit agreement itself, on behalf of a credit purchaser, and carries out at least one or more credit servicing activities. Directive (EU) 2021/2167 of the European Parliament and of the Council, OJ L 438, 8.12.2021, p. 1.

[89] Directive (EU) 2021/2167 of the European Parliament and of the Council of 24 November 2021 on credit servicers and credit purchasers and amending Directives 2008/48/EC and 2014/17/EU, OJ L 438, 8.12.2021, p. 1.

Policymakers made the above proposals while paying close attention to consumer protection and the provision of strong borrower safeguards (particularly for vulnerable borrowers). Importantly, the above-mentioned directive has specific rules to protect borrowers and prevent debt collectors from treating them unreasonably or unfairly (e.g. through abusive communication methods or moral pressure). Furthermore, by amending the Consumer Credit Directive [90] and the Mortgage Credit Directive [91], the Directive on credit servicers and credit purchasers made credit transfers more transparent, and ensured that forbearance measures are available to borrowers. As regards the latter aspect, the existing forbearance measures, which were previously only applicable to banks and consumers, are extended to credit servicers and credit purchasers. This will result in a more coherent EU consumer protection framework in which borrowers are better protected – provided that debtors are granted the same conditions when the NPL is transferred to a non-bank market player.

Fostering transparency and fair treatment of market participants is key to reducing the risks associated with NPLs and to promoting stability in the financial sector. An efficient debt enforcement system coupled with well-functioning court execution proceedings and appropriate safeguards for debtors is therefore of pivotal importance in NPL management. These safeguards should be designed to minimise moral hazard. Beyond these safeguards required by EU law, Member States may introduce more stringent provisions to protect consumers. They have often put in place a safety net for vulnerable debtors. Past experience suggests that safety nets need to be targeted, well-designed and complementary to (rather than conflicting with) traditional insolvency processes in order to mitigate the risk of moral hazard and abuse of foreclosure protection by strategic defaulters. Completely removing the threat of foreclosure may undermine viable debt restructuring by removing the debtor's incentive to negotiate with creditors. Such a practice is damaging for payment culture and this in turn increases future lending costs and discourages credit growth and real activity.

2.4.2 *Insolvency, in and out-of-court debt restructuring and collateral recovery*

Insolvency reforms have been implemented at national level as a key support measure for NPL reduction. In fact, over half of the Member States have reformed their insolvency systems over the past decade, making it leaner and more flexible and thus allowing secondary markets for NPLs to operate more efficiently. In addition, such measures are intended to prevent the creation of a new stock of NPLs and can contribute to the efficient resolution of private debt by loan servicers even after it has left banks' balance sheets via loan disposals. These initiatives were often part of an economic adjustment programme or were introduced following country-specific recommendations formulated in the context of the European Semester. This has notably been the case with Bulgaria, Ireland, Greece, Spain, Croatia, Italy, Cyprus, Latvia, Hungary, Malta, Portugal, Romania, Slovenia and Finland. Belgium, Czechia, Poland and Slovakia have also changed their insolvency framework outside this context.

---

[90] Proposal for a Directive of the European Parliament and of the Council on consumer credits, COM(2021) 347 final of 30 June 2021.

[91] Directive 2014/17/EU of the European Parliament and of the Council of 4 February 2014 on credit agreements for consumers relating to residential immovable property and amending Directives 2008/48/EC and 2013/36/EU and Regulation (EU) No 1093/2010, OJ L 60, 28.2.2014, p. 34.

The aims of these reforms were to (i) introduce or strengthen in-court and out-of-court debt restructuring frameworks; (ii) improve the speed and efficiency of insolvency procedures; (iii) facilitate debt discharge; (iv) enhance foreclosure procedures and increase collateral recovery values; and (v) introduce early warning tools to identify companies at risk at an early stage. However, the scope and timing of reforms has varied between jurisdictions. Speeding up insolvency and/or pre-insolvency proceedings has often involved a broader use of electronic means and dedicated electronic platforms (e.g. in Greece and Portugal, and more recently in Spain, Italy and Lithuania). In some jurisdictions, simplified insolvency and pre-insolvency procedures were established for SMEs (e.g. Greece, Italy and Slovenia, and more recently in Ireland and Spain). Some Member States set up specialised insolvency courts to boost judicial capacity and there has been a push to enable electronic communication of debtors and creditors with courts and insolvency administrators. In some Member States (e.g. Estonia, Greece, Spain, Croatia, Cyprus, Latvia and Portugal, and more recently Slovenia), e-auctions were introduced to make debt enforcement more effective and raise collateral recovery values.

The introduction of new insolvency and restructuring tools has often included borrower protection schemes, particularly for primary residences (e.g. in Greece and Hungary) or the introduction of sale-and-lease back schemes (e.g. in Ireland and Greece; in preparation in Cyprus). However, inefficiencies in the court system coupled with a deteriorating payment culture [92] have led to the abuse of foreclosure protection by strategic defaulters in some jurisdictions, with an adverse effect on payment culture and the cost of new lending.

The direct impact of many of these reforms has been modest so far and they require a continuous effort, often involving multiple amendments of the legal framework and fine-tuning over the course of many years. The take-up of out-of-court and in-court restructurings by banks and borrowers has been slow and often limited. Such reforms typically require time and coordinated effort to tackle technical and legal shortcomings, and to familiarise borrowers and their advisers (such as insolvency practitioners, lawyers and accountants) with their application. These reforms have therefore mostly served as an ancillary tool to supervisory non-legislative actions and banks' own efforts to resolve legacy NPLs via other methods such as outright loan disposals. In the area of foreclosure, the take-up of e-auctions has required time and targeted adjustments, while many auctions continue to fail in some jurisdictions.

Assessing the effectiveness of such reforms over time is difficult and was further complicated by the measures taken to mitigate the impact of the pandemic (e.g. the temporary suspension of insolvency proceedings and bankruptcy filings, and the extension of procedural deadlines). In some cases, these measures included a generalised suspension of the functioning of the

[92] In the context of finance and lending, 'payment culture' refers to the attitudes and behaviours of borrowers as regards making timely and regular payments on their loans or other forms of credit. A negative payment culture is characterised by borrowers who often miss payments, make payments late or fail to communicate with their lenders about any financial difficulties they are experiencing. For instance, the ECB estimated in a 2016 study that about 30% of debtors who stopped servicing mortgage loans in Greece under the 2010 personal insolvency regime were strategic defaulters who took advantage of the de facto moratorium on primary residence auctions and inefficiencies of the insolvency process. For further information, see ECB (2016), *Stock-take of national supervisory practices and legal frameworks related to NPLs*, June 2017.

courts, including all collateral enforcement procedures. These temporary relief measures varied in duration between Member States but, coupled with the loan moratoria in place during the pandemic, kept the number of insolvency filings at very low levels and halted the debt enforcement process, in some cases for prolonged periods of time.

Past national reforms have made insolvency frameworks across the EU more efficient, but significant divergences persist across Member States, particularly in personal insolvency. At EU level, the Commission has striven to tackle the issues resulting from divergences between Member States' insolvency rules. These divergences can make it harder to tackle NPLs because they can produce different outcomes and levels of efficiency in recovering assets and distributing value among creditors. This can complicate the resolution of NPLs, especially those involving cross-border loans or assets. To address this matter, the Commission submitted a proposal in December 2022 for a directive to harmonise some components of corporate insolvency proceedings [93]. The proposal focuses on three important aspects of insolvency law: (i) the recovery of assets from the liquidated insolvency estate; (ii) procedural efficiency; and (iii) the predictable and fair distribution of recovered value between creditors. Harmonising these aspects of national insolvency laws could benefit NPL resolution, thereby helping banks to manage new inflows of NPLs effectively.

The transposition of the Directive on preventive restructuring frameworks [94] should encourage loan restructuring as a means of preventing the build-up of NPLs and helping indebted borrowers avoid bankruptcy. The Directive is intended to improve the existing insolvency frameworks in the EU by providing additional legal safeguards for borrowers and by improving the management of NPLs. It requires Member States to introduce early warning mechanisms to help businesses (both companies and entrepreneurs) to identify at an early stage financial difficulties that point to an increased probability that debtors may have recourse to insolvency proceedings before they become insolvent. These processes provide debtors with the necessary breathing space to restructure their debts, thus improving their chances of survival and reducing the risk of NPL accumulation. The Directive also requires Member States to establish debt discharge procedures for honest entrepreneurs as an effective second-chance option. The implementation of the Directive is expected to reduce the number of insolvent liquidations and to promote the efficient resolution of debt problems. The Directive's additional legal safeguards for borrowers and improvements to the management of NPLs should contribute to a more stable financial sector (thus better protecting depositors and investors) and promote economic growth in the EU.

2.5 Conclusion

Over the past years, the issue of NPLs in the EU has seen significant progress. Banks and policymakers, at both national and EU level, have made commendable efforts to address the problem, and this has resulted in an encouraging decrease in NPL levels across the EU. The

[93] Proposal for a directive of the European Parliament and of the Council harmonising certain aspects of insolvency law, COM(2022) 702 final of 7 December 2022.

[94] Directive (EU) 2019/1023 of the European Parliament and of the Council of 20 June 2019 on preventive restructuring frameworks, on discharge of debt and disqualifications, and on measures to increase the efficiency of procedures concerning restructuring, insolvency and discharge of debt, and amending Directive (EU) 2017/1132 (Directive on restructuring and insolvency), OJ L 172, 26.6.2019, p. 18.

EU banking sector managed to weather the COVID-19 crisis and its economic fallout well, but there are still some challenges to be overcome. The currently high levels of inflation, rising interest rates and high energy prices create a challenging macroeconomic environment for NFCs and households.

EU banks should therefore continue to be diligent, exercise caution and take as many preventive measures as possible to mitigate the impact of any potential inflow of new NPLs. Financial institutions must remain vigilant by monitoring developments closely and being operationally ready to respond to potential risks or challenges. Close attention should be paid to early warning signals such as increasing stage 2 loans. This will allow banks to take proactive measures to prevent asset quality deteriorating and to keep losses to a minimum. Such proactive measures may include further and/or renewed investment in workout departments or taking other preventive measures to help mitigate the impact of any future disruptions. Banks could also strengthen loan underwriting standards, renegotiate loan terms, or restructure existing loans. Prompt action by banks can help to ensure that their NPL levels remain in check and that they are well placed to continue playing their important role in the EU economy by providing critical support to households and businesses, as well as by contributing to economic growth and stability.

The EU banking sector is more able than in previous crisis episodes to navigate the current challenging environment and to tackle a possible deterioration in asset quality, including a potential increase in NPLs. The sector has over the past arduous years demonstrated its resilience to financial shocks and soaring risks. EU banks have significantly improved their levels of capital and liquidity in order to have a solid foundation to face headwinds. Furthermore, the regulatory and supervisory framework has been enhanced substantially, particularly thanks to the prudential backstop regulation and the strengthening of bank supervision. This provides important reassurance that issues are tackled in a timely manner to avoid NPLs accumulating on banks' balance sheets.

In addition to these improvements, banks can rely on several structural reforms that have been put in place by policymakers at the national and EU levels. This is particularly evident in two specific policy areas. Firstly, the further development of NPL secondary markets has been encouraged by targeted policy action. The framework for credit servicers and investors has been improved, while ensuring proper safeguards for borrowers. This provides more opportunities for banks to sell their distressed assets and transfer the credit risk to reduce their NPL ratios and free up capital for lending. Secondly, insolvency, in- and out-of-court debt restructuring and collateral recovery frameworks have been substantially improved in recent years. This provides banks with more effective tools to facilitate value recovery and improve their overall financial performance. These policy measures ensure that banks have better tools to manage NPLs and minimise losses, thus ultimately protecting the stability of the EU banking sector.

Chapter 3 FINANCIAL LITERACY IN THE EU: TRENDS, RELEVANCE AND POLICY CONTRIBUTION

3.1 Introduction

The evolution of the financial system has opened up more opportunities for people to access finance, manage risk and take control of their finances. However, the increasing digitalisation of finance coupled with the complexity of the financial system can also make it harder for people to take financial decisions. These challenges come on top of structural economic changes and financial and health shocks that people need to manage - including the COVID-19 pandemic, which widened the gap between the financially resilient and financially fragile.

Financial literacy is a combination of financial awareness, knowledge, skills, attitudes and behaviours that contribute to achieving financial well-being [95]. It helps people to take financial decisions that are in their best interests. An individual with a good level of financial literacy is more likely to engage in positive financial behaviour. However, many people do not have the confidence, knowledge and skills to make financial decisions in their best interest.

Levels of financial literacy in the EU are too low. They differ significantly between Member States and between different groups within Member States. Low financial literacy impacts an individual’s personal and financial well-being, households and society more broadly.

Policymakers' interest in financial literacy has increased significantly over the last decade given the growing awareness of the benefits of people becoming more financially literate to confidently meet the challenges described above. Improving financial literacy is therefore a priority for the Commission [96]. This does not entail the expectation for people to become experts in financial services but rather that they are equipped with the requisite knowledge, information and confidence to meet their financial needs.

Section 3.2 reviews financial literacy levels in the EU based on the results of a recent Flash Eurobarometer survey on financial literacy [97] and Section 3.3 discusses relevant trends in the financial sector. Section 3.4 examines how financial literacy relates to financial behaviours that are relevant to financial services regulation. Section 3.5 discusses the relevance of financial literacy to financial services policymaking and the initiatives to advance financial literacy in the EU. Section 3.6 summarises the main findings of this chapter and discusses the challenges.

---

[95] Organisation for Economic Co-operation and Development (OECD) (2020), *Recommendation of the OECD Council on financial literacy*, OECD/LEGAL/0461 of 9 October 2020.

[96] McGuinness, M., (2022), Improving financial literacy must be a priority for Europe, *Financial Times*, 17 January 2022.

[97] Flash Eurobarometer 525 on monitoring the level of financial literacy in the EU, 2023.

3.2 Financial literacy in the EU

Monitoring financial literacy levels in the EU is important to support financial education initiatives in Member States, to make sure that they target the most significant issues and the groups of citizens which are most likely to be at risk when it comes to low levels of financial literacy. Regular monitoring would also allow the Commission to identify differences and possible patterns between countries, as well as tracking progress over time. However, it has been difficult to monitor financial literacy levels in the EU in a consistent way due to a lack of uniform data [98].

Against this backdrop, a Flash Eurobarometer on monitoring the level of financial literacy in the EU[99] was carried out in March 2023. The Eurobarometer looked at adult financial literacy, based on a survey of over 26 000 EU citizens in all Member States. The survey included questions to test the financial knowledge of respondents related to the effect of compound interest rates and inflation, and knowledge about investments (bond price dynamics, risk-return trade and diversification). The majority of citizens surveyed understood the effect of inflation and the fact that risk and return were positively correlated (see Table 3.1 and footnote 100 for the specific questions). Results testing financial knowledge in relation to the effect of compound interest rates were less encouraging: only 45% of the surveyed population provided a correct answer. This is a concern, given the relevance of this concept for attitudes towards saving and meeting long-term financial goals. The effect of diversification on investment risk is understood by 56%, while the effect of interest rates on bond prices was only understood by 20% of respondents. However, the latter matter is of less relevance to the general public, with practical relevance mainly for citizens who hold bonds in their investment portfolio or who consider investing in bonds.

Table 3.1: Financial knowledge in the EU per knowledge domain

Interest rates (Q2)	Inflation (Q3)	Bond prices (Q4)	Risk-return trade-off (Q5)	Diversification (Q6)
45	65	20	66	56

Source: Flash Eurobarometer 525 on monitoring the level of financial literacy in the EU, 2023.
Note: Figures are the proportion of the EU population (%) that provided a correct answer to the specific financial knowledge question. See footnote 100 for the survey questions. Q2-Q6 refer to the survey question number.

[98] Some relevant research exists for selected Member States, see e.g. Klapper and Lusardi (2020) or Nicolini and Haupt (2019).

[99] Flash Eurobarometer 525 on monitoring the level of financial literacy in the EU, 2023.

[100] (Q2) Imagine that someone puts [€100] into a savings account with a guaranteed interest rate of 2% per year. They don't make any further payments into this account and they don't withdraw any money. How much would be in the account at the end of five years, once the interest payment is made? More than [€110]; exactly [€110]; less than [€110]; Don't know. (Q3) Now imagine the following situation. You are going to be given a gift of [€1,000] in one year and, over that year, inflation stays at 2%. In one year's time, with the [€1,000], will you be able to buy: more than you could buy today; the same amount; less than you could buy today; don't know. (Q4) If interest rates rise, what will typically happen to bond prices? They will rise; they will fall; they will stay the same, as there is no relationship between bond prices and the interest rate; don't know. (Q5) Which of the following is true? An investment with a higher return is likely to be: more risky than an investment with a lower return; less risky than an investment with a lower return; as risky as an investment with a lower return; don't know. (Q6) An investment in a wide range of 'company shares' is likely to be: more risky than an investment in a single share; less risky than an investment in a single share; as risky as an investment in a single share; don't know.

The survey also contained three questions on financial behaviour (see below) and additional questions on self-assessed financial knowledge, financial resilience, use of financial products, and confidence in retirement preparedness, digital financial services and investment advice.

The survey examined respondents' behaviours in relation to budgeting, long-term financial planning and financial resilience. Based on self-assessments, most citizens indicated that they believe that they are savvy when it comes to budgeting. They indicated that they consider whether they can afford goods before buying them and keep track of and monitor expenses. Although survey results on optimal behaviour can be influenced by the documented tendency of respondents to choose the reply they consider to be the most socially desirable, the high level of self-reported savvy financial behaviour may also reflect that these relate to common household financial activities, which an overwhelming majority of respondents could be expected to be familiar with. A majority (71%) indicated that they set long-term financial goals for themselves or their family and strived to achieve them. However, just over a quarter of those surveyed (26%) indicated that they did not consistently plan for the long-term, which is likely to affect how they save or consider investing in financial markets. It may also reduce this group's preparedness for retirement and financial resilience.

Many EU citizens appear to be vulnerable to income shocks. A quarter of those surveyed (25%) indicated that they would only be able to cover their living expenses (without borrowing or moving house) for a period of up to a month if they lost their main source of income. People in the lowest financial literacy category appeared particularly vulnerable (i.e. 38% would only be able to withstand an income shock for up to one month), while only 10% of people in the highest financial literacy category indicated that they would face such a risk[101].

In addition, certain segments of society appear particularly vulnerable. Women, individuals with a lower level of education, young people, people with lower incomes and those who are not actively involved in taking financial decisions within the household are less resilient to an income shock (see Table 3.2). An analysis of the financial literacy index (see below) suggests that a smaller proportion of these groups are represented in the high financial literacy category. Overall, the Eurobarometer results show that many EU citizens appear to be financially vulnerable. This would suggest that initiatives targeting vulnerable groups with the aim of raising financial literacy levels could be particularly impactful.

To monitor financial knowledge, financial behaviour and overall financial literacy, the Eurobarometer report created aggregate indices, based on the relevant individual questions. This financial literacy index equally weights financial knowledge and financial behaviour. For each index, the survey indicates the proportion of the population that obtained a high, medium or low score [102]. In addition, the average score (rescaled to 100%) are also reported in this section. The remainder of the section focuses on the aggregate financial literacy index.

---

[101] Based on the question 'If you lost your main source of income today, how long could you continue to cover your living expenses, without borrowing any money or moving house?' (Q8).

[102] See https://europa.eu/eurobarometer/surveys/detail/2953 for further details on the construction of the indices, survey questions and other details of the survey design.

Table 3.2: Financial literacy and vulnerable groups

	Gender				
	Male	Female			
Financial literacy	24	13			
Financial vulnerability	22	27			
	Level of education				
	Low	Medium	High		
Financial literacy	12	16	26		
Financial vulnerability	31	28	16		
	Household financial decisions				
	Someone else	Together	Alone		
Financial literacy	8	17	21		
Financial vulnerability	42	23	25		
	Age				
	18-24y	25-39y	40-54y	55+	
Financial literacy	13	16	20	20	
Financial vulnerability	34	28	26	21	
	Household income				
	Quintile 1	Quintile 2	Quintile 3	Quintile 4	Quintile 5
Financial literacy	11	13	20	22	28
Financial vulnerability	47	31	23	17	13

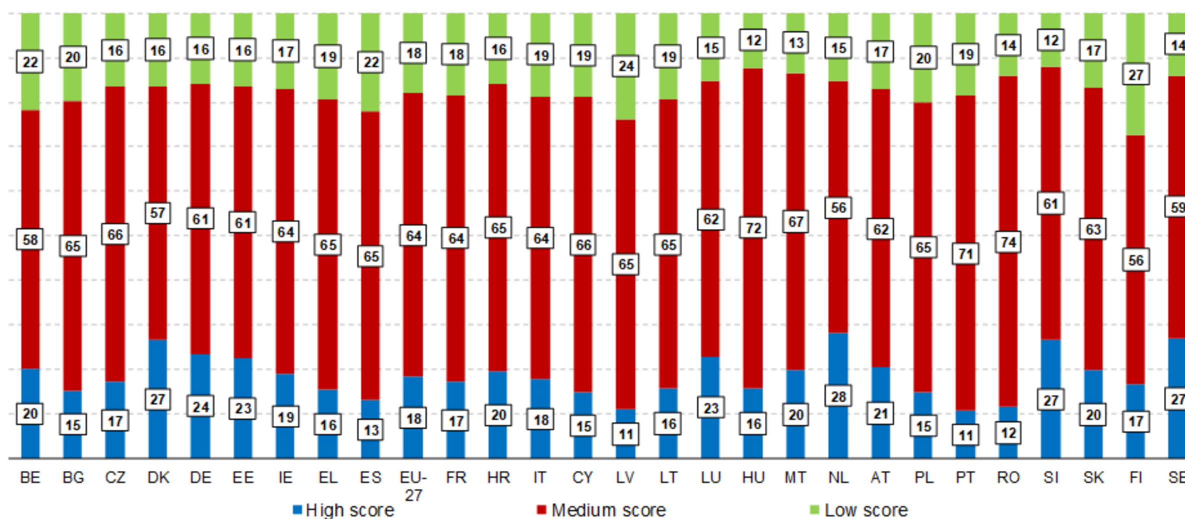
Source: Flash Eurobarometer 525 on monitoring the level of financial literacy in the EU, 2023.
Note: Figures are expressed as percentages. Financial literacy reports the proportion of the population that obtained a high financial literacy score. Financial vulnerability refers to the proportion of the population that could only continue to cover their living expenses (without borrowing or moving house) up to a month if they would lose their main source of income. 'Household financial decisions' reports on who takes financial household decisions. 'Income quintile 1' represents the quintile with the lowest household income.

Chart 3.1 shows that about a fifth of the surveyed population (18%) had a low financial literacy score and a fifth (18%) had a high score. According to the Eurobarometer, financial literacy differs significantly between Member States. For instance, the proportion of the population in the highest category ranged from 11% in Portugal and Latvia to 27% in The Netherlands. Overall, there were four Member States (DK, NL, SE, SI) in which more than a quarter of the population had a high financial literacy score.

Levels of financial literacy also differed significantly between specific groups of the population (see Table 3.2) [103]. On average, fewer women and younger people score high on financial literacy. People also appeared less likely to perform well if they had a lower level of income or were not actively taking financial decisions in the household, illustrating the positive effect of active participation by all family members in discussions and decisions around family finances.

[103] Conclusions also hold for financial knowledge.

Chart 3.1: Financial literacy levels in the EU per Member State



Source: Flash Eurobarometer 525 on monitoring the level of financial literacy in the EU, 2023.
Note: The figures are the proportion of the EU adult population having a high, medium or low score on financial literacy. The financial literacy score is calculated as the equally weighted sum of the financial knowledge score and the financial behaviour score and ranges from 0 to 10. Three categories have been created: (i) high score (score 9 or 10), (ii) medium score (score >5 and <9), and (iii) low score (score ≤5).

3.3 Financial sector trends

This section discusses trends in the financial sector, focusing on digitalisation and other trends that can explain why financial literacy has become more important. Developments in the financial sector have given people more opportunities to access finance, manage risk and prepare for the future, but they have also increased risk and complexity and made suboptimal financial decisions more likely. The fact that these trends are expected to continue and even accelerate in the future suggest that financial literacy is increasingly important.

The financial landscape is changing rapidly due to an increased focus on sustainability and digitalisation. The demand for sustainable investment products and complex financial products such as crypto-assets has increased[104]. According to the 2022 Flash Eurobarometer[105], 8% of the EU's population[106] holds or has held crypto-currencies[107] and 49% of those surveyed indicated that they are more likely to invest in a financial product if they know it is sustainable[108].

[104] The total crypto-market capitalisation grew more than sixfold over 3 years from USD 193 billion to USD 1 195 billion on 5 April 2023. Current market capitalisation is about one third of its highest peak (USD 2 933 billion), which was reached in November 2021, but still above its first peak in January 2018 (USD 468 billion). The total crypto-market shrank significantly in 2022. For details, see https://coinmarketcap.com/charts/ (consulted on 10 April 2023). Regarding sustainable investments, EU sustainable funds attracted USD 40 billion in Q4 2022 while European conventional funds suffered an outflow of USD 33 billion in that quarter. For details, see Morningstar (2023), *Global sustainable fund flows: Q4 2022 in review*, 26 January 2023.

[105] Flash Eurobarometer 509 on retail financial services and products, October 2022.

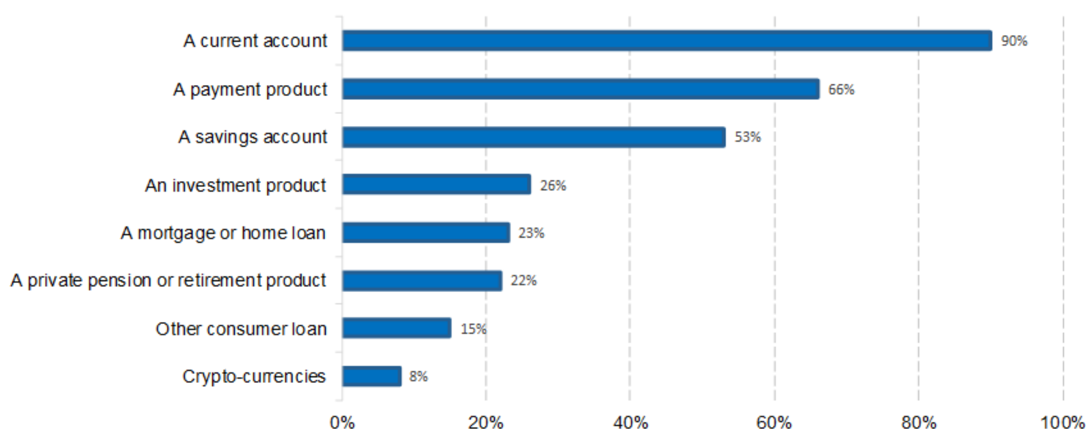
[106] EU population aged 15 or more.

[107] In the 2023 Flash Eurobarometer 525, 6% of the EU population indicated that it has or has held crypto-currencies in the last 2 years.

[108] In the Eurobarometer survey, 11% indicate that they strongly agree and 38% that they rather agree with the statement 'If I know that a financial product is sustainable, I am more likely to invest in it.' For details, see Flash Eurobarometer 509 on retail financial services and products, October 2022.

The increasing integration of digital technologies into the financial industry and wider society is resulting in new products, services and providers [109]. These trends come on top of structural economic changes (e.g. reductions in State pensions) that require people to take more active responsibility for their financial well-being. Financial and health crises create greater economic insecurity and underline the importance of becoming financially resilient in order to weather such challenges.

Chart 3.2: Penetration rate of financial products



Source: Flash Eurobarometer 509 on retail financial services and products, October 2022.
Note: 'Current account' refers to a bank or payment account; 'investment product' refers to an investment in stocks, bonds or a fund; and 'payment product' includes debt and credit cards. 1% of the respondents indicated that they do not know the answer and 2% indicated that they were holding other products.

Digitalisation and other trends require that people keep their financial knowledge and skills up to date. They need to develop specific product knowledge to assess the features and risks of new products such as crypto-currencies. They also need to keep their skills up to date to deal with new phenomena such as finfluencers and gamification [110]. Social media may also gain more influence on people's decision-making in the future, especially among the younger generation. Only 5% of the EU population has indicated that it considers social media and influencers when making personal finance decisions, but a higher percentage of young people (9%) use them as an information source [111]. Overall, people with good levels of financial literacy feel more comfortable using digital financial services [112].

---

[109] In the 2022 Eurobarometer, 31% of the EU population indicated that it was using digital financial services such as a mobile banking or payment app to pay either in shops or online at least once a week and 14% stated that it was doing so daily; 6% indicated to do so even several times a day. For details, see Flash Eurobarometer 509 on retail financial services and products, October 2022.

[110] For further information on gamification, see van der Heide and Želinský (2021). For further information on finfluencers, see Pflücke (2022) and AFM (2021), *The pitfalls of 'finfluencing': exploratory study by the AFM into investor protection requirements relating to social media posts*, Autoriteit Financiële Markten, December 2021.

[111] The use of social media and influencers as an information source decreases with age: 9% (15-24 year-olds); 8% (25-39 year-olds); 5% (40-54 year-olds) and 2% (for persons aged 55 and more). See Flash Eurobarometer 509 on retail financial services and products, October 2022.

[112] A large majority (88%) of people in the highest financial literacy category indicate that they are very comfortable or somewhat comfortable in using digital financial services such as online banking or mobile payments while only 65% of people in the lowest financial literacy category do so. Similar results are reported for financial knowledge, 87% of people in the highest financial literacy category feel comfortable compared with 69% in the lowest category.

Digital apps can help people manage budgets, achieve savings goals and monitor loan payments or investments (including by encouraging certain financial behaviour via nudges) [113]. For instance, apps can show how credit card spending affects deposit holdings (to prevent overspending) and can indicate how long it would take to achieve a certain savings goal based on someone's savings history.

However, digitalisation may make it harder to be financially included [114] and some groups such as older people might be particularly vulnerable [115]. In the 2022 Flash Eurobarometer survey [116], 21% of the EU population indicated that they never use digital financial services in their daily life to pay in shops or online, and this percentage rises to 30% for older people (aged 55 and over) [117]. This strengthens the case for identifying groups that are financially vulnerable and designing policies tailored to their needs [118].

Our daily lives and financial decisions are increasingly dependent on financial technologies and the way in which people acquire information and take decisions is changing. For instance, people might be used to receiving information in person from their financial adviser, whereas online investment information will be presented differently but might ultimately make it easier to compare pre-sale investment information for different products. Another example is the need to adjust financial behaviour to deal with the threat of financial scams and online fraud which people have become more exposed to. These trends show the importance not only of financial knowledge and skills but also of behaviour.

Digitalisation and other financial sector developments are taking place at a rapid pace and are transforming the way in which the financial industry operates [119]. Financial education efforts are therefore more important than ever. They should help individuals acquire the relevant skills and ensure that people are sufficiently flexible to adapt their behaviour to deal with unfamiliar financial situations in the future [120].

More broadly, the developments might also affect access to, and trust in, financial products and markets. If financial literacy can empower people to deal with these new challenges, it will act as a catalyst for improving access to financial services and strengthening trust and resilience in the financial sector.

[113] Koskelainen et al. (2023).
[114] Lyons and Kass-Hanna (2022).
[115] Global Partnership for Financial Inclusion (2016), *G20 high-level principles for digital financial inclusion*.
[116] Flash Eurobarometer 509 on retail financial services and products, October 2022.
[117] Older persons also make less use of digital financial services for other purposes: 15% [11%] never make use of a mobile banking app or website to authenticate their identity and check their balance while 79% [68%] never make use of a mobile app to invest in financial markets. EU average values reported in vertical brackets.
[118] De Beckker et al. (2019) identify vulnerable groups with respect to financial literacy in 12 countries, while Barajas et al. (2020) argue that financial literacy strategies that focus on increasing the financial literacy of groups with the lowest level of financial literacy instead of raising the average level of financial literacy of all groups will increase welfare more. For a further discussion, see Section 3.6.
[119] OECD (2018), *G20/OECD INFE policy guidance on digitalisation and financial literacy,* OECD Publishing.
[120] Van Campenhout (2015).

3.4 The relationship between financial literacy and financial behaviours

Financial literacy significantly affects behaviours and financial decision-making. The following sections present the evidence available in the literature [121] on the link between literacy and behaviour, focusing on those that are most relevant to financial services policies [122].

3.4.1 *General behaviours*

Financial literacy is associated with some positive long-term economic outcomes. For instance, financially literate households are better prepared for **retirement**. Research shows that Dutch households with a higher level of financial sophistication are more likely to plan for retirement [123]. The positive impact of financial literacy on retirement preparedness is supported by similar findings for Germany, Sweden, and the United States [124]. People with higher levels of financial literacy appear to be more confident that they are well prepared for retirement according to the 2023 Flash Eurobarometer [125].

In addition, research shows that financially literate persons are more financially **resilient** [126]. Increasing financial literacy can help to address the lack of financial resilience in the EU. Results from the 2023 Flash Eurobarometer revealed that a quarter of the EU population is not financially resilient and would struggle to cope with an unexpected income shock, and that certain segments of society might be particularly vulnerable (see Section 3.2) [127].

Financial literacy is strongly associated with net **wealth** [128]. This conclusion is not surprising in view of the above findings that financially literate persons are better prepared for retirement and are more financially resilient. They also display other positive behaviours that contribute to wealth accumulation. For instance, they are more likely to take financial

---

[121] For the sake of brevity, this chapter is based on a number of generalisations. Firstly, it does not distinguish between different definitions and measures of financial literacy (including self-evaluations) when reporting on the results of existing research. Secondly, it does not differentiate between results at the level of households or individuals. Thirdly, it focuses on discussing the results related to financial literacy without discussing the different control variables and estimation techniques that are considered to isolate the effect of financial literacy or to infer causality. These issues are relevant but fall outside the scope of this chapter.

[122] Research on the relationship with other economic behaviours and other determinants (e.g. socio-economic factors, such as age, gender and education) falls outside the scope of this chapter. For a general overview, see e.g. Lusardi and Mitchell (2014).

[123] Van Rooij et al. (2012).

[124] See Bucher-Koenen and Lusardi (2011) for Germany, Almenberg and Säve-Söderbergh (2011) for Sweden, and Lusardi and Mitchell (2011) for the United States.

[125] Most persons belonging to the highest financial literacy category (54%) replied that they are very confident or somewhat confident that they have enough money to live comfortable throughtout their retirement years, compared with only 31% in the lowest financial literacy category.

[126] See e.g. Erdem and Rojahn (2022) for EU evidence (DE, ES, FR and IT). For non-EU evidence, see Clark and Mitchell (2022); or Klapper, L.F., Lusardi, A. and Panos, G.A. (2012), *Financial literacy and the financial crisis*, NBER WP 17930, National Bureau of Economic Research.

[127] An analysis at country level by Demertzis et al. (2020) concluded that, based on different measures of financial fragility, the most financially fragile Member States are the poorer EU countries and the countries that have been hit the hardest in the financial crisis. At the individual level, McKnight (2019) shows in a report prepared for the European Commission that financial resilience is related to a broad set of socio-economic factors. For details, see Demertzis, M., Domínguez-Jiménez, M. and Lusardi, A. (2020), *The financial fragility of European households in the time of COVID-19*, Bruegel Policy Contribution 15, 2 July 2020, and McKnight, A. (2019), *Financial resilience among EU households*, LSE Consulting, June 2019.

[128] See e.g. Behrman et al. (2012); Lusardi and Mitchell (2007); van Rooij et al. (2012); or Jappelli and Padula (2013).

decisions that are in their best interest and they participate more in financial markets. The effect is robust and documented in several countries, including Germany [129]. For instance, one study [130] concluded that in the Netherlands a one-unit increase in the index used by the authors to measure basic financial literacy was associated with an increase in wealth of about EUR 12 000 [131].

3.4.2 *Economic behaviours relevant to banking and insurance*

Financial literacy is related to several financial behaviours relevant to banking. One of the most important financial decisions people take is whether to buy a house or to rent. More than half of the population in every Member State except Germany lives in a household that owns its home. Home ownership is popular (70% of the EU's population lived in a household owning its home in 2021), but there are significant variations. The share of home ownership exceeds 90% in some eastern European countries such as Romania, Hungary and Croatia but is below 55% in Austria and below 50% in Germany [132]. Most homeowners finance the purchase with a mortgage, which is usually the largest private debt that they incur during their lives.

Country-specific and individual factors could influence the decision whether to buy a home or to rent, but financial literacy also plays a role in several ways. Firstly, a higher level of financial literacy is associated with a higher probability that young households own their home [133] and have a **mortgage** [134]. Secondly, financial literacy affects the choice and cost of the mortgage, with those with lower financial literacy incurring higher costs [135]. Financially literate households tend to take more considered mortgage decisions. Financially literate households in Italy are more likely to shop around and compare mortgage loans to find the best available offer [136]. Financially literate homeowners tend to assess their risk exposure better when choosing between different types of mortgages [137]. Thirdly, higher levels of financial literacy are associated with more discipline in making mortgage repayments. In particular, financially literate persons are less likely to fall into arrears [138] and are more likely to refinance existing mortgages [139]. Overall, this means that financially literate households have lower interest costs. Financial illiteracy therefore costs money. In 2021, 3.2% of the EU population were in arrears on their mortgage or rent (as many as 8.5% in Greece) [140]. A high

---

[129] Bannier and Schwarz (2018).
[130] van Rooij et al. (2012)
[131] Based on regression results reported in Table 5(a). Median wealth in the sample was EUR 119 700.
[132] Eurostat, *Distribution of population by tenure status, type of household and income group* – EU-SILC survey (based on data series ILC_LVHO02, consulted on 8 February 2023).
[133] Gathergood and Weber (2017).
[134] See e.g. Bialowolski et al. (2022).
[135] Bajo and Barbi (2018) and Huston (2012).
[136] Fornero, E., Monticone, C. and Trucchi, S. (2011), *The effect of financial literacy on mortgage choices*, Netspar Discussion Paper No. 09/2011-085, 29 September 2011.
[137] Fornero et al. (2011). In addition, the extent of financial literacy on the risk profile of mortgages may warrant further research. Most studies (e.g. Zahirovic-Herbert et al. (2016) and Gathergood and Weber (2017)) conclude that households with low levels of financial literacy are more likely to take up risky mortgage loans. However, Van Ooijen and van Rooij (2016) challenge this conclusion.
[138] Zahirovic-Herbert et al. (2016); Fornero et al. (2011); and Agarwal, S., Chomsisengphet, S. and Zhang, Y. (2015), *How does financial literacy affect mortgage default*?, 30 April 2015.
[139] Bajo and Barbi (2018) and Bialowolski et al. (2022).
[140] Eurostat, *Arrears on mortgage or rent payments SILC survey*, (ILC_MDES06), consulted on 8 March 2023.

number of overdue payments could affect the stability of banks and the wider financial sector [141]. Research shows that high mortgage payments are one of the reasons for arrears [142]. Higher levels of financial literacy are therefore desirable as financially literate persons choose cheaper alternatives and are more likely to be aware of the importance of paying on time.

Financial literacy is also related to positive **debt behaviour** in general. There is strong evidence that over-indebtedness is more prevalent among persons with low levels of financial literacy, which makes them more financially vulnerable [143]. In addition, research shows that they incur higher fees and rely more on high-cost borrowing (including payday loans), which increases the probability of not meeting their loan obligations on time [144].

Financial literacy is also positively correlated with healthy **savings behaviour** [145]. The 2023 Flash Eurobarometer showed that people who are financially literate better understand the impact of compound interest [146].

Some research shows that financially literate individuals obtain higher returns on their savings [147]. It also concludes that the use of online accounts is one of the areas in which they can outperform others – thus indicating that they are also better positioned to secure the benefits of digitalisation of financial services.

Financial literacy affects not only the use of online financial products but also the use of other products and financial services such as **insurance**. Persons with high financial literacy are more likely to purchase life insurance [148]. More generally, it has been argued that financial literacy can mitigate behavioural biases that affect the demand for insurance [149]. Under-insurance is related to behavioural biases such as short-sightedness and the use of cognitive shortcuts that result in suboptimal weighing and estimation of probabilities. These biases are in turn rooted in a lack of knowledge and/or an inability to transform knowledge into sound financial decisions. By addressing these biases, financial literacy can reduce under-insurance.

---

[141] See also the discussion in Chapter 2.

[142] Gerlach-Kristen and Lyons (2018).

[143] Lusardi and Tufano (2015); Gathergood (2012); and Santos, E. and Abreu, M. (2013), *Financial literacy, financial behaviour and individuals' over-indebtedness*, Working papers 11/2013/DE/UECE.

[144] Lusardi and Tufano (2015); Kim and Lee (2018); Disney and Gathergood (2013); and Lusardi, A. and de Bassa Scheresberg, C. (2013), *Financial literacy and high-cost borrowing in the United States*, GFLEC WP2013-1, 31 January 2013.

[145] Letkiewicz and Fox (2014) show that financially literate persons hold higher checking and saving account balances, and that this increases the amount of cheap funding available to banks. Financially literate persons also hold more precautionary savings (Babiarz and Robb, 2014; and Anderson et al., 2016), which makes them more resilient and therefore less likely to default on a loan – thus in turn increasing bank stability. As mentioned in Section 3.4.1, several studies have also shown that financially literate people save more for retirement.

[146] Most people that have a high score on financial literacy (87%) correctly answered that more than EUR 110 would be in an account at the end of five years, if someone had put EUR 100 into the savings account with a guaranteed interest rate of 2% per year and they don't make any further payments into this account and they don't withdraw any money. Only 16% with a low financial literacy score provided a correct answer.

[147] Deuflhard et al. (2018). For the Dutch sample in their study, a one-standard deviation increase in financial literacy is associated with a 12% increase compared to the median interest rate.

[148] Lin et al. (2017).

[149] Pitthan and De Witte (2021).

3.4.3 *Economic behaviours related to financial markets*

The level of retail investors' **participation in capital markets** is low in the EU. The Flash Eurobarometer surveys [150] indicate that an estimated quarter of people invest or have invested in capital markets. The Capital Markets Union (CMU) indicator on direct retail investment by households[151], which compares the sum of volumes of bonds and listed shares held by households with the sum of volumes of both and cash holdings and deposits, shows that there is less direct participation than intermediated participation. In 2021, the total ratio was 59.5%, while the ratio based on direct participation was only 17.2%. Equity and investment fund shares represented 32.9% of household financial assets in 2021 (see Chart 3.3) [152].

Financially literate persons tend to participate more in equity markets. Research shows that financially literate Dutch households are more likely to invest in stocks [153]. A one-standard deviation increase in the index used to measure advanced literacy raises stock market participation by about 9 percentage points [154]. The effect is comparable to the impact of formal education and wealth. This has been corroborated by findings reported for France [155]. The 2023 Flash Eurobarometer similarly reported that 48% of people in the highest financial literacy category hold or have held an investment product (stocks, bonds or funds) over the last two years, while only 9% in the lowest financial literacy category did.

Financial literacy also relates to other aspects of **investment behaviour**. Households that participate in financial markets might not invest optimally. Suboptimal investment behaviour is costly for the retail investor. It limits the benefits of participating in capital markets with a view to accumulating wealth, preparing for retirement or diversifying risks. Negative experiences might also undermine trust in financial markets and discourage future retail stock market participation. Financial literacy may also be related to how investors reach investment decisions [156].

---

[150] In the 2022 Flash Eurobarometer on retail financial services and products, 26% of the respondents replied that they had or had had an investment product (bonds, stocks or funds) and 22% replied that they had or had had a private pension or retirement product. These figures are confirmed by the 2023 Flash Eurobarometer that showed that in the last two years 24% of the respondents have or have had an investment product (bonds, stocks or funds) and 22% have or have had a private pension or retirement product.

[151] Indicator 20, unpublished results (5 April 2023). See list of indicators to monitor progress towards the CMU objectives for further information on the indicators.

[152] By comparison, data of Board of Governors of the Federal Reserve System (US) reveal that corporate equities and mutual fund shares represented 37.1% of households' financial assets in the United States in Q4 2021.

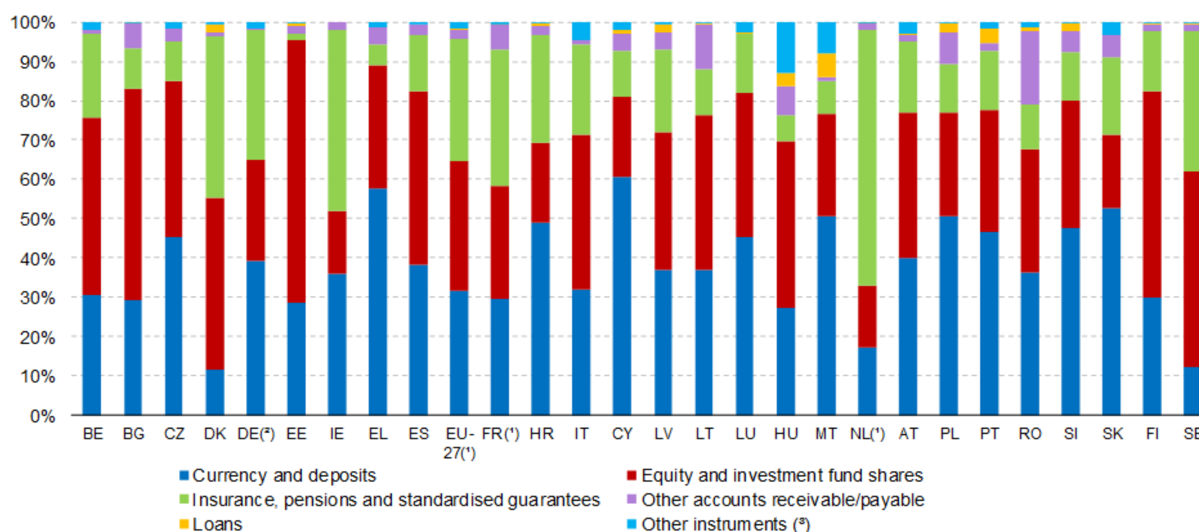
[153] Van Rooij et al. (2011).

[154] Hsiao and Tsai (2018) show that financially literate investors also participate more in derivatives and are therefore better placed to manage financial risks and achieve pay-offs via derivates that are otherwise difficult to obtain.

[155] Arrondel (2021).

[156] As a case in point, financial literacy affects the demand for financial advice and the probability that investors follow advice, but research results are mixed (see Stolper and Walter (2017) for a discussion of this point).

Chart 3.3: Household asset structure



Source: Eurostat. Figures based on data series nasa_10_f_bs.
Note: Type of assets of households as % share of total financial assets of households. (¹) Provisional. (²) Loans: not available. (³) Sum of monetary gold and special drawing rights (SDRs), debt securities, financial derivatives and employee stock options.

Research shows that financial literacy is associated with smarter investment behaviour. Holding an under-diversified portfolio can be very costly [157] and retail investors tend to hold under-diversified portfolios [158]. Financially literate investors hold more diversified portfolios [159]. Some research similarly concludes that persons with low levels of financial literacy that invest on their own obtain lower returns because they hold under-diversified portfolios [160]. Results of the 2023 Flash Eurobarometer survey show that financially literate people better understand the benefits of diversification: virtually all people with a high financial literacy score (97%) answered that an investment in a wide range of company shares is likely to be less risky than an investment in a single share, while this proportion drops to only 20% for those in the lowest financial literacy category.

Several factors are at play here. Research shows that more financially knowledgeable investors hold more financial assets in a portfolio [161]. Financially literate investors are more likely to use mutual funds when constructing their portfolio to reap the benefits of diversification [162]. This evidence complements research findings indicating that financially literate investors trade better [163] and choose lower-cost investment products [164]. Overall,

[157] Research results for Denmark and Sweden has estimated the cost of under-diversification. For Denmark, Florentsen et al. (2019) concluded that investors forego 3.1 percentage points in expected returns per year due to under-diversification. For Sweden, Calvet et al. (2007) concluded that under-diversification resulted in an annual return loss of 2.9% on a risky portfolio or about 0.5% of disposable household income for the median investor. Worse still, 1 in 10 investors were losing as much as 4.5% of disposable household income.
[158] Goetzmann and Kumar (2008) and Florentsen et al. (2019).
[159] Guiso and Viviano (2015).
[160] Von Gaudecker (2015).
[161] Abreu and Mendes (2010).
[162] Chu et al. (2017) and Bellofatto et al. (2018).
[163] Guiso and Viviano (2015) and Jiang et al. (2020).
[164] Choi et al. (2009); Müller and Weber (2010); and Jiang et al. (2020).

research findings suggest that investors with high levels of financial literacy earn higher returns or are more likely to do so [165].

Financial literacy is also relevant for some recent investment trends. Crypto-markets have grown considerably [166] and have received substantial media coverage, not least because young investors may be attracted to crypto-investing. The 2023 Flash Eurobarometer [167] reported that 6% of the EU population [168] holds or has held crypto-currencies in the last two years, but that this figure increases to 9% and 14% for those aged 15-24 and 25-39 respectively. Crypto-investing comes with a high risk, however. The European Securities and Markets Authority (ESMA) warned consumers in March 2022 that these markets are speculative and not suitable for most retail investors [169]. The most comprehensive study [170] to date on the relationship between financial literacy and crypto-investing concluded that financially literate retail investors were less likely to own crypto-currencies or to intend to invest in crypto-assets than those with low levels of financial literacy. The study revealed that financially literate investors are more likely to be aware of the existence of crypto-currencies but refrain from investing in them due to a more informed perception of risk.

3.5 Financial literacy and financial services policy

Financial literacy is embedded in financial services policy and regulation and is a tool that empowers people to achieve better financial outcomes and become more financially resilient [171]. In the past, some have even argued that increased financial literacy could reduce the need for regulation, which would in turn lower regulatory burden [172]. This view is opposed by others who fear that this would transfer too much responsibility from the industry to individuals [173].

In practice, financial literacy is often considered in a balanced way as part of an integrated financial consumer approach in which it contributes to other core policy objectives like safeguarding financial stability, improving efficiency of financial markets and banking, assuring protection of financial consumers, and raising (financial) inclusion.

Financial literacy can contribute to financial stability [174]. As discussed in Section 3.4, it is negatively correlated with over-indebtedness and mortgage loan repayment issues. In addition, financially literate persons are better at dealing with unexpected income shocks. Higher levels of financial literacy thus reduce the risk of non-performing retail loans and limit

---

[165] Von Gaudecker (2015); Bellofatto et al. (2018); Jiang et al. (2020); and Chu et al. (2017).
[166] See footnote 1044.
[167] Flash Eurobarometer 509 on retail financial services and products, October 2022.
[168] EU population aged 15 or older.
[169] The European Supervisory Authorities (ESAs) (2022), *Joint ESAs warning on crypt assets,* ESA 2022 15, 17 March 2022.
[170] Panos, G.A., Karkkainen, T. and Atkinson, A. (2020), *Financial literacy and attitudes to cryptocurrencies*, working papers in responsible banking & finance 20-002, 11 November 2020.
[171] This conclusion is drawn from the evidence presented in Section 3.3 and the additional demands that are put on retail investors by the transformative trends in the financial sector (as discussed in Section 3.4).
[172] OECD (2005), *Improving financial literacy: analysis of issues and policies*, OECD Publishing; and FSA (2006), *Financial capability in the UK: delivering change*, Financial Services Authority, London.
[173] Willis (2011).
[174] Widdowson and Hailwood (2007).

the fragility of the banking system [175]. In addition, financially literate persons participate more in financial markets and, when they do, hold more diversified portfolios. Financial literacy is also positively correlated with (precautionary) saving and the ability to cope with income shocks. As a result, higher levels of financial literacy result in a more resilient society with better private risk sharing.

Financial literacy is also considered to be a useful way to increase the efficiency of the financial system and the functioning of financial markets [176], and to address market failures [177]. Financially literate persons have a better understanding of financial products and processes, so they are expected to exert more scrutiny on the financial industry, thus encouraging financial service providers to offer higher-quality and transparent products and to adhere to high industry standards [178]. Assessing risk and expected return more accurately will also stimulate the efficient allocation of capital via financial markets, supporting the objective of a Capital Markets Union and growth in general. Higher levels of financial literacy also have wider repercussions. The ageing EU population has raised concerns about the ability of existing pension systems to prevent old-age poverty and provide people with a retirement income that ensures a decent standard of living [179]. In 2019, almost 18.5% or 16.1 million older people in the EU were at risk of poverty or social exclusion [180]. The 2018 pension adequacy report called for further study of the ways in which supplementary pensions could contribute. The 2020 CMU action plan [181] similarly stated that 'people should be encouraged to supplement public pensions with life-long saving and investment'. As explained in Section 3.3, financially literate persons are better prepared for retirement. Higher levels of financial literacy will therefore make it easier to tackle the pension challenge and support the goals set out in the 2020 CMU action plan.

Financial inclusion is another relevant policy objective. It is nevertheless important that first-time financial sector participants are sufficiently financially literate to avoid an outcome in which increased financial inclusion [182] would have negative repercussions. For instance, first-time borrowers with low levels of financial literacy could exacerbate problems related to over-indebtedness and this could in turn contribute to financial instability [183]. Research shows that improving financial literacy can improve financial inclusion [184].

Consistent with a balanced policy approach, financial literacy is not a panacea but rather one of the policy instruments available alongside market conduct rules and prudential regulation.

---

[175] Ahamed and Mallick (2019).
[176] Widdowson and Hailwood (2007).
[177] Santos (2021) and Guiso and Viviano (2015).
[178] Widdowson and Hailwood (2007).
[179] The challenge of maintaining adequate, fair and sustainable pensions in an ageing society and the need for people to accumulate additional savings have been highlighted in the 2021 green paper on ageing and the pension adequacy report, which is published every 3 years. For further details, see European Commission (2021), *Green paper on ageing: fostering solidarity and responsibility between generations*, COM(2021) 50 final of 27 January of 2021; and European Commission and Social Protection Committee (SPC) (2021), *Pension adequacy report*, June 2021.
[180] European Commission and Social Protection Committee (SPC) (2021), *Pension adequacy report*, June 2021.
[181] See page 11 of the Capital Markets Union Action plan.
[182] For a discussion on the economic benefits of financial inclusion, see e.g. Barajas, A., Beck, T., Belhaj, M. and Naceur, S.B. (2020), *Financial inclusion: What have we learned so far? What do we have to learn*?, IMF Working Papers 2020/157, 7 August 2020.
[183] Klapper and Lusardi (2020) and Čihák et al. (2021).
[184] Grohmann et al. (2018).

The importance of financial literacy for the development of a comprehensive financial services policy is widely recognised. For example, the G20/OECD high-level principles on financial consumer protection consider financial literacy to be one of the 12 key principles for achieving financial consumer protection. The European Parliament has also stated in its October 2020 resolution on the further development of the CMU that 'a more informed and better-educated citizenship on financial issues … contributes to the stability of financial systems and promotes the transparency and duties of information of financial institutions'. The Parliament similarly underlined in its 2008 report [185] that 'empowered and educated consumers help to foster competition, quality and innovation within the banking and financial services industries' and recalled that 'educated and confident investors can provide additional liquidity to capital markets for investment and growth' [186]. Improving financial literacy also contributes to the European Skills Agenda [187]. The Agenda includes life skills as one of its objectives and supports non-formal adult learning and education for all on financial, environmental and health literacy.

At EU level, financial literacy is a priority and part of a balanced policy approach. The Commission has clearly stated that improving financial literacy is essential and that empowering people must go hand in hand with measures to establish a well-regulated financial system with good consumer protection and adequate supervision [188].

In line with this, the Commission has taken initiatives to advance financial literacy. The Mortgage Credit Directive [189] explicitly requires Member States to promote measures to support the financial education of consumers in relation to responsible borrowing and debt management. In the 2020 CMU action plan, the European Commission made a commitment to assess the appropriateness of extending the principle of financial education enshrined in the Mortgage Credit Directive to relevant sectoral legislation.

The Commission is also developing financial competence frameworks [190]. The EU/OECD-INFE financial competence framework for adults and the framework for youth and children

---

[185] European Parliament (2008), *Report on protecting the consumer: improving consumer education and awareness on credit and finance*, Report A6-0393/2008 of 14 October 2008.

[186] Similar views are also expressed by the European Economic and Social Committee (EESC) in its 2017 report on financial education (p 3): 'A more robust, safe and transparent financial system requires there to be informed and responsible consumers who are actively involved in improving their financial awareness.' See EESC (2017), *Financial education for all: Financial education strategies and best practices within the European Union* (second edition).

[187] European Commission (2020), European Skills Agenda for sustainable competitiveness, social fairness, and resilience, COM(2020) 274 final of 1 July 2020. For further details, see European Skills Agenda.

[188] McGuinness, M., (2022), Improving financial literacy must be a priority for Europe, *Financial Times*, 17 January 2022.

[189] Article 6(1) states that 'Member States shall promote measures that support the education of consumers in relation to responsible borrowing and debt management, in particular in relation to mortgage credit agreements. Clear and general information on the credit granting process is necessary in order to guide consumers, especially those who take out a mortgage credit for the first time. Information regarding the guidance that consumer organisations and national authorities may provide to consumers, is also necessary.'
Article 6(2) states that 'The Commission shall publish an assessment of the financial education available to consumers in the Member States and identify examples of best practices which could be further developed in order to increase the financial awareness of consumers.'

[190] The adult framework was launched in January 2022 and defines competences related to (i) awareness, knowledge and understanding; (ii) skills and behaviours; and (iii) confidence, motivation and attitudes over four main content areas (money and transactions; planning and managing finances; risk and reward; and financial landscape), including competences related to cognitive and behavioural biases. The framework for youth and children is expected to be launched in October 2023.

are being developed within the context of the 2020 CMU action plan [191]. These frameworks promote a common understanding of the financial competences required to make sound decisions on personal finance. The frameworks are available for voluntary take-up and can support public policy, financial literacy programmes, the development of educational materials and curricula, and individuals. They are also intended to facilitate international cooperation and the exchange of good practices within the EU. The Commission also funds financial literacy projects via the Technical Support Instrument and the Erasmus+ programme. These initiatives complement those taken at national level and at international level by the G20 [192] and other international organisations like the European Supervisory Authorities (ESAs) [193] and the OECD [194].

Besides the explicit policy actions that the Commission has taken to raise financial literacy, it also more generally takes financial literacy into account when designing regulation. Disclosure regulation, for instance, makes inferences about the level of financial literacy [195] when it sets out which (financial) information should be disclosed to retail investors and how this information should be presented [196].

The introduction of the short-form pre-sale disclosure document for UCITS (the key investor information document, known as the UCITS KIID) and later the key information document under PRIIPs (PRIIPSs KID) was partly motivated by the fact that the existing level of financial literacy was too low to ensure that retail investors could make informed investment decisions based on the disclosed investment information available at that time. The information was considered too complex and not presented in a sufficiently concise way to allow retail investors to understand the product features and process the information to make informed decisions [197]. The regulatory changes that were introduced by the UCITS KIID and

---

[191] In its September 2020 Capital Markets Union Action plan, the Commission committed itself to conducting a feasibility study on the development of an EU financial competence framework. The April 2021 feasibility study presented the way forward, which consisted in working with the OECD's International Network on Financial Education on joint EU/OECD financial competence frameworks for adults and youth and children.

[192] This includes the G20 2020 financial inclusion action plan of October 2020 and the Global Partnership for Financial Inclusion (GPFI). The GPFI is a platform of G20 countries, interested non-G20 countries and relevant stakeholders that was set up to advance the work on financial inclusion. Financial literacy is especially addressed in the GPFI subgroup on financial consumer protection and financial literacy.

[193] The mandate of the three ESAs requires them to review and coordinate financial literacy and education initiatives by the competent authorities as part of their duty to take a leading role in promoting transparency, simplicity and fairness in the market for consumer financial products or services across the internal market (Article 9(1)(b) of the ESAs' respective founding regulations).

[194] For an overview of initiatives taken by national authorities, see the 2021/22 EBA repository and EIOPA interactive financial education map. For further information, see https://www.eba.europa.eu/consumer-corner/financial-education (EBA) and https://www.eiopa.europa.eu/topics/financial-literacy-and-education_en (EIOPA). For an overview of OECD initiatives, see https://www.oecd.org/finance/financial-education/.

[195] See also Williams and Satchell (2011).

[196] Disclosure requirements should be designed so as to enable investors to make well-informed decisions. Taking well-informed decisions will depend on the investor's financial literacy and the complexity of the information environment in which the investor needs to take these decisions. Higher levels of financial literacy reduce the need for simplified disclosures. De Goeij et al. (2018) showed that financial literacy is more relevant when the information environment is complex but that the effect is less important if the information environment is easy to understand.

[197] Regarding the UCITS KIID, the 2006 white paper (COM(2006) 686 final of 15 November 2006) concluded that the existing simplified prospectus did not achieve its objectives because it was too long, not understood by its intended users and therefore of little value to them.

Regarding the PRIIPS KID, Regulation (EU) No 1286/2014 of the European Parliament and of the Council on key information documents for packaged retail and insurance-based investment products (PRIIPs) of 26 November 2014 states that 'Retail investors are increasingly offered a wide variety of packaged retail and insurance-based investment

later the PRIIPS KID should enable such decisions, given the prevailing level of financial literacy.

3.6 Challenges and conclusion

Levels of financial literacy remain low in the EU and significant differences exist between Member States and also within Member States (based on socio-economic characteristics). At the same time, financial literacy is positively related to a wide range of desirable financial behaviours. These benefits accrue not only to the individual but also to the financial system and wider society. Financial literacy is thus relevant for financial services policy and regulation.

Financial literacy is a priority for the Commission, and is part of a balanced policy approach which contributes to other policy goals such as safeguarding financial stability, improving the functioning of the financial system and protecting consumers.

In addition to considering financial literacy when designing (disclosure) regulations for retail investors, the Commission has also taken explicit initiatives to improve financial literacy – most notably by obliging Member States to promote measures that support the financial education of consumers in relation to responsible borrowing and debt management in the Mortgage Credit Directive, and by developing the EU/OECD-INFE financial competence framework for adults and the framework for youth and children.

Some challenges remain. Firstly, raising financial literacy levels is a medium to long-term goal and requires ongoing effort. Many Member States have implemented national financial literacy strategies and some have included financial education in school curricula in order to raise financial literacy in a systematic way. Results from a recent meta-analysis provide some encouraging indications that financial education is effective [198].

However, it is also clear that financial literacy cannot be considered to be a panacea. In line with the Commission's approach, it should be taken together with other measures focusing on market conduct, prudential regulation and consumer protection. This makes measures more effective but also requires careful balancing of various policy options and coordination. In view of the effect of financial literacy on financial behaviour – which is sometimes sizeable but not for all types of behaviour – financial literacy strategies should be supported by other policy actions to make them more effective.

Secondly, not all measures that raise financial literacy will have the same effect on welfare. Measures that mainly increase the financial literacy of vulnerable groups would be more effective to raise overall welfare. Policies should ideally focus on more than just the average

---

products (PRIIPs) when they consider making an investment. Some of these products provide specific investment solutions tailored to the needs of retail investors, are frequently combined with insurance coverage or can be complex and difficult to understand. Existing disclosures to retail investors for such PRIIPs are uncoordinated and often do not help retail investors to compare different products or understand their features. Consequently, retail investors have often made investments without understanding the associated risks and costs and have, on occasion, suffered unforeseen losses.' In addition, it states that 'given the difficulties many retail investors have in understanding specialist financial terminology, particular attention should be paid to the vocabulary and style of writing used in the document'.

[198] Kaiser et al. (2022).

level of financial literacy [199]. However, an approach that focuses on addressing the financial literacy levels of vulnerable groups may be harder to achieve in practice.

As regards vulnerable groups, trends such as digitalisation may widen the gap in financial literacy between groups with high and low levels of financial literacy. The level of digital and financial literacy in certain groups may not be rising fast enough to keep abreast of the increasing digitalisation of the financial sector and daily life more generally.

Thirdly, overconfidence in financial literacy may also affect financial behaviour. This indicates that the gap between objective and perceived financial literacy should be considered and policies can be more effective if they tackle both. For instance, raising the objective level of financial literacy without tackling the overconfidence bias will not be sufficient if people take suboptimal decisions because they overestimate their level of financial literacy. Initiatives should therefore also pay attention to methods that allow people to correctly evaluate their own level of financial literacy.

Fourthly, evidence on financial literacy levels and financial behaviour in the EU will remain an important basis for financial services policy and provide insights into cross-border differences. Such data were unavailable at EU level until recently. The 2022 Eurobarometer on financial services and products and the 2023 Eurobarometer on monitoring the level of financial literacy in the EU are therefore important contributions to our understanding of financial literacy levels in the EU and are milestones for monitoring developments.

Fifthly and finally, while actions to foster financial literacy can be considered at EU level, responsibility for education in the EU lies with Member States. Initiatives such as the development of the financial competence frameworks for adults and for youth and children can support the quality of financial education and encourage cooperation between Member States as provided for by the Treaty on the Functioning of the European Union [200]. The repositories of financial literacy initiatives by national authorities, which have been developed under the financial literacy mandates of the ESAs [201], can help further cooperation. The exchange of best practices between Member States could benefit from a better-defined evaluation framework and further insights into how cultural [202] and country-specific factors could affect international cooperation.

Financial literacy requires a combination of factors (financial awareness, knowledge, skills, attitudes and behaviours). Integrating financial literacy into financial services policy is similarly multifaceted and balances the objectives of (i) empowering the individual to take sound financial decisions in their best interests, and (ii) ensuring that people are protected and treated fairly through consumer protection measures and appropriate oversight. The successful delivery of financial education also requires that the efforts of public authorities

[199] This also applies to monitoring developments in financial literacy.

[200] Article 165(1) of the Treaty states that ‘the Union shall contribute to the development of quality education by encouraging cooperation between Member States and, if necessary, by supporting and supplementing their action, while fully respecting the responsibility of the Member States for the content of teaching and the organisation of education systems and their cultural and linguistic diversity.’

[201] See footnote 1944.

[202] See e.g. De Beckker et al. (2020).

and other stakeholders at EU and national levels are combined to ensure the effective implementation of relevant initiatives.

REFERENCES

Abreu, M. and Mendes, V. (2010), Financial literacy and portfolio diversification, *Quantitative Finance* 10: 515-528.

Ahamed, M.M. and Mallick, S.K. (2019), Is financial inclusion good for bank stability? International evidence, *Journal of Economic Behavior & Organization* 157: 403-427.

Almenberg, J. and Säve-Söderbergh, J. (2011), Financial literacy and retirement planning in Sweden, *Journal of Pension Economics & Finance* 10: 585-598.

Anderson, A., Baker, F. and Robinson, D.T. (2016), Precautionary savings, retirement planning and misperceptions of financial literacy, *Journal of Financial Economics* 126: 383-398.

Arrondel, L. (2021), Financial literacy and French behaviour on the stock market, *Numeracy* 14, https://doi.org/10.5038/1936-4660.14.1.1356.

Babiarz, P. and Robb, C.A. (2014), Financial literacy and emergency saving, *Journal of Family and Economic Issues* 35: 40-50.

Bajo, E. and Barbi, M. (2018), Financial illiteracy and mortgage refinancing decisions, *Journal of Banking & Finance* 94: 279-296.

Bannier, C.E. and Schwarz, M. (2018), Gender-and education-related effects of financial literacy and confidence on financial wealth, *Journal of Economic Psychology* 67: 66-86.

Behrman, J.R., Mitchell, O.S., Soo, C.K. and Bravo, D. (2012), How financial literacy affects household wealth accumulation, *American Economic Review* 102: 300-304.

Bellofatto, A., D'Hondt, C. and De Winne, R. (2018), Subjective financial literacy and retail investors' behavior, *Journal of Banking & Finance* 92: 168-181.

Bialowolski, P., Cwynar, A., Xiao, J.J. and Weziak-Bialowolska, D. (2022), Consumer financial literacy and the efficiency of mortgage-related decisions: New evidence from the panel study of income dynamics, *International Journal of Consumer Studies* 46: 88-101.

Bucher-Koenen, T. and Lusardi, A. (2011), Financial literacy and retirement planning in Germany, *Journal of Pension Economics & Finance* 10: 565-584.

Calvet, L.E., Campbell, J.Y. and Sodini, P. (2007), Down or out: Assessing the welfare costs of household investment mistakes, *Journal of Political Economy* 115: 707-747.

Choi, J.J., Laibson, D. and Madrian, B.C. (2009), Why does the law of one price fail? An experiment on index mutual funds, *The Review of Financial Studies* 23: 1405-1432.

Chu, Z., Wang, Z., Xiao, J.J. and Zhang, W. (2017), Financial literacy, portfolio choice and financial well-being, *Social Indicators Research* 132: 799-820.

Čihák, M., Mare, D.S. and Melecky, M. (2021), Financial inclusion and stability: Review of theoretical and empirical links, *The World Bank Research Observer* 36: 197-233.

Clark, R.L. and Mitchell, O.S. (2022), Americans' financial resilience during the pandemic, *Financial Planning Review* 5: 1-15.

De Beckker, K., De Witte, K. and Van Campenhout, G. (2019), Identifying financially illiterate groups: An international comparison, *International Journal of Consumer Studies* 43: 490-501.

De Beckker, K., De Witte, K. and Van Campenhout, G. (2020), The role of national culture in financial literacy: Cross-country evidence, *Journal of Consumer Affairs* 54: 912-930.

de Goeij, P., Van Campenhout, G. and Subotič, M. (2018), Improving index mutual fund risk perception: Increase financial literacy or communicate better?, *Economic Notes: Review of Banking, Finance and Monetary Economics* 47: 519-552.

Deuflhard, F., Georgarakos, D. and Inderst, R. (2018), Financial literacy and savings account returns, *Journal of the European Economic Association* 17: 131-164.

Disney, R. and Gathergood, J. (2013), Financial literacy and consumer credit portfolios, *Journal of Banking & Finance* 37: 2246-2254.

Erdem, D. and Rojahn, J. (2022), The influence of financial literacy on financial resilience–new evidence from Europe during the COVID-19 crisis, *Managerial Finance* 48: 1453-1471.

Florentsen, B., Nielsson, U., Raahauge, P. and Rangvid, J. (2019), The aggregate cost of equity underdiversification, *Financial Review* 54: 833-856.

Gathergood, J. (2012), Self-control, financial literacy and consumer over-indebtedness, *Journal of Economic Psychology* 33: 590-602.

Gathergood, J. and Weber, J. (2017), Financial literacy: A barrier to home ownership for the young?, *Journal of Urban Economics* 99: 62-78.

Gerlach-Kristen, P. and Lyons, S. (2018), Determinants of mortgage arrears in europe: Evidence from household microdata, *International Journal of Housing Policy* 18: 545-567.

Goetzmann, W.N. and Kumar, A. (2008), Equity portfolio diversification, *Review of Finance* 12: 433-463.

Grohmann, A., Klühs, T. and Menkhoff, L. (2018), Does financial literacy improve financial inclusion? Cross country evidence, *World Development* 111: 84-96.

Guiso, L. and Viviano, E. (2015), How much can financial literacy help?, *Review of Finance* 19: 1347-1382.

Hsiao, Y.-J. and Tsai, W.-C. (2018), Financial literacy and participation in the derivatives markets, *Journal of Banking & Finance* 88: 15-29.

Huston, S.J. (2012), Financial literacy and the cost of borrowing, *International Journal of Consumer Studies* 36: 566-572.

Jappelli, T. and Padula, M. (2013), Investment in financial literacy and saving decisions, *Journal of Banking & Finance* 37: 2779-2792.

Jiang, J., Liao, L., Wang, Z. and Xiang, H. (2020), Financial literacy and retail investors' financial welfare: Evidence from mutual fund investment outcomes in China, *Pacific-Basin Finance Journal* 59: 101242.

Kaiser, T., Lusardi, A., Menkhoff, L. and Urban, C. (2022), Financial education affects financial knowledge and downstream behaviors, *Journal of Financial Economics* 145: 255-272.

Kim, K.T. and Lee, J. (2018), Financial literacy and use of payday loans in the United States, *Applied Economics Letters* 25: 781-784.

Klapper, L. and Lusardi, A. (2020), Financial literacy and financial resilience: Evidence from around the world, *Financial Management* 49: 589-614.

Koskelainen, T., Kalmi, P., Scornavacca, E. and Vartiainen, T. (2023), Financial literacy in the digital age–a research agenda, *Journal of Consumer Affairs* 56:1-23.

Letkiewicz, J.C. and Fox, J.J. (2014), Conscientiousness, financial literacy, and asset accumulation of young adults, *Journal of Consumer Affairs* 48: 274-300.

Lin, C., Hsiao, Y.-J. and Yeh, C.-Y. (2017), Financial literacy, financial advisors, and information sources on demand for life insurance, *Pacific-Basin Finance Journal* 43: 218-237.

Lusardi, A. and Mitchell, O.S. (2007), Baby boomer retirement security: The roles of planning, financial literacy, and housing wealth, *Journal of Monetary Economics* 54: 205-224.

Lusardi, A. and Mitchell, O.S. (2011), Financial literacy and retirement planning in the United States, *Journal of Pension Economics & Finance* 10: 509-525.

Lusardi, A. and Mitchell, O.S. (2014), The economic importance of financial literacy: Theory and evidence, *Journal of Economic Literature* 52: 5-44.

Lusardi, A. and Tufano, P. (2015), Debt literacy, financial experiences, and overindebtedness, *Journal of Pension Economics & Finance* 14: 332-368.

Lyons, A.C. and Kass-Hanna, J. (2022), *A multidimensional approach to defining and measuring financial literacy in the digital age*. in Nicolini, G. and Cude, B.J. (Eds.) (2022). The Routledge Handbook of Financial Literacy. Routledge, 61-76.

Müller, S. and Weber, M. (2010), Financial literacy and mutual fund investments: Who buys actively managed funds?, *Schmalenbach Business Review* 62: 126-153.

Nicolini, G. and Haupt, M. (2019). The assessment of financial literacy: New evidence from Europe, *International Journal of Financial Studies* 7: 54.

Pflücke, F. (2022), Regulating finfluencers, *Journal of European Consumer and Market Law* 11: 212-222.

Pitthan, F. and De Witte, K. (2021), Puzzles of insurance demand and its biases: A survey on the role of behavioural biases and financial literacy on insurance demand, *Journal of Behavioral and Experimental Finance* 30: 100471.

Santos, J.M.S. (2021), The economic and social value of financial literacy. in, *Research Anthology on Personal Finance and Improving Financial Literacy*. 416-436, IGI Global.

Stolper, O.A. and Walter, A. (2017), Financial literacy, financial advice, and financial behavior, *Journal of Business Economics* 87: 581-643.

Van Campenhout, G. (2015), Revaluing the role of parents as financial socialization agents in youth financial literacy programs, *Journal of Consumer Affairs* 49: 186-222.

van der Heide, A. and Želinský, D. (2021), 'Level up your money game': An analysis of gamification discourse in financial services, *Journal of Cultural Economy* 14: 711-731.

van Ooijen, R. and van Rooij, M.C.J. (2016), Mortgage risks, debt literacy and financial advice, *Journal of Banking & Finance* 72: 201-217.

Van Rooij, M., Lusardi, A. and Alessie, R. (2011), Financial literacy and stock market participation, *Journal of Financial Economics* 101: 449-472.

Van Rooij, M.C., Lusardi, A. and Alessie, R. (2012), Financial literacy, retirement planning and household wealth, *The Economic Journal* 122: 449-478.

van Rooij, M.C.J., Lusardi, A. and Alessie, R.J.M. (2012), Financial literacy, retirement planning and household wealth, *The Economic Journal* 122: 449-478.

Von Gaudecker, H.-M. (2015), How does household portfolio diversification vary with financial literacy and financial advice?, *The Journal of Finance* 70: 489-507.

Widdowson, D. and Hailwood, K. (2007), Financial literacy and its role in promoting a sound financial system, *Reserve Bank of New Zealand Bulletin* 70: 37-47.

Williams, O.J. and Satchell, S.E. (2011), Social welfare issues of financial literacy and their implications for regulation, *Journal of Regulatory Economics* 40: 1-40.

Willis, L.E. (2011), The financial education fallacy, *The American Economic Review: Papers and Proceedings* 101: 429-434.

Zahirovic-Herbert, V., Gibler, K.M. and Chatterjee, S. (2016), Financial literacy, risky mortgages, and delinquency in the US during the financial crisis, *International Journal of Housing Markets and Analysis* 9:164-189.

© European Union, 2023, cover photo: © alphaspirit - stock.adobe.com