

ASSESSMENT OF RISKS TO THE FRENCH FINANCIAL SYSTEM

DECEMBER 2023



CONTENTS

OVERVIEW	2
MEASURES TAKEN BY AUTHORITIES	7
1. CROSS-CUTTING ANALYSIS OF VULNERABILITIES	10
1.1 The financial system is adjusting to an environment of high interest rates, macroeconomic uncertainty and heightened geopolitical tensions	10
1.2 Markets are expecting a soft landing for the economy but remain exposed to the risk of macroeconomic or geopolitical shocks	15
1.3 A disorderly market correction could lead to liquidity stress for the most vulnerable non-bank financial intermediaries	21
1.4 Ongoing pass-through of higher interest rates to the real economy could increase the vulnerabilities of the most heavily indebted non-financial participants	27
1.5 Banks and insurers continue to show resilience in the face of rising funding costs and a slowing economy	36
1.6 The financial system needs to continue to adapt to the structural risks posed by cyber attacks and climate change	47
2 THE RESIDENTIAL REAL ESTATE MARKET IS CORRECTING GRADUALLY AS INTEREST RATES GO UP	54
2.1 Following a strong expansion for the residential real estate market, the increase in interest rates is causing an adjustment	55
1.6 The risks to financial stability are contained at this stage thanks to France's robust property loan financing model, which has been strengthened by the HCSF's measures on lending standards	66
3 FRENCH NON-BANK FINANCIAL INTERMEDIARIES: MAPPING, RISKS AND REGULATORY FRAMEWORK	73
3.1 French non-bank finance encompasses a wide variety of institutions, risks and prudential regulations	74
3.2 The network created by NBFIs interconnectedness is a systemic risk factor	78

Overview

The new high interest rate environment represents a regime shift for financial and non-financial participants alike. Following a phase of swift adjustments to monetary policy beginning in July 2022, euro area policy rates may have reached a plateau in September 2023, as inflation, including its core component, showed further signs of easing in the second half of 2023, despite remaining too high. However, these expectations remain conditional on the absence of additional shocks. Furthermore, long-term interest rates are exhibiting greater volatility in the new environment, as shown by their rapid run-up in autumn 2023, which has since been more than corrected.

These interest rate adjustments have so far taken place in an orderly fashion but new macroeconomic or geopolitical shocks or cyberattacks could test the resilience of some participants in the financial system. Market participants expect a soft landing of the economy, i.e. that inflation will return to its target without a recession. If these expectations are challenged, markets could come under renewed stress, potentially putting a strain on the liquidity position of the most vulnerable non-bank financial intermediaries. A deterioration in the economic environment and in market conditions would heighten the financial vulnerabilities of the most heavily leveraged participants in the real economy and could increase the credit risk of financial intermediaries. French banks and insurers, however, exhibit solid balance sheets that should allow them to cope with these risks while continuing to provide financing to the economy.

Previous rate increases are still being passed through to the real economy, because the debt carried by non-financial participants is mostly at fixed rates and over relatively long maturities. Their full impact on financial stability will depend on how long interest rates remain in restrictive territory. Short-term vulnerabilities linked to the elevated debt of some participants are increasing, owing to steadily rising costs of debt service. Conversely, the slowing debt dynamics of non-financial corporations (NFCs) and households is helping to contain some of the vulnerabilities.

To sum up, the rapid tightening of monetary policy has not resulted in major financial instability at this stage. The high risk of geopolitical or macroeconomic shocks calls for close vigilance, first for non-bank financial intermediaries and second for non-financial participants - for which the transmission of higher interest rates is ongoing - more than on banks and insurers themselves. This *Assessment of Risks to the French Financial System* therefore looks at risks in this order.

*
* *

Amid heightened geopolitical tensions and ongoing macroeconomic uncertainties, financial markets remain exposed to shocks that could create liquidity stress for the most vulnerable non-bank intermediaries

The risk of a market shock persists, especially if expectations of an economic soft landing turn out to be overly optimistic. Volatility remains elevated on global bond markets. Short-term yields are responding to shifting monetary policy expectations and continued uncertainties over inflation and growth trajectories. Meanwhile, as monetary policy normalises, long-term interest rates are seeing increased volatility, fuelled by uncertainty about the future path of public finances. Between the end of August and October 2023, long yields spiked before easing back, in a trend that seems to have been driven essentially by spillovers from the United States. Despite significant sector and geographical disparities, equity and corporate bond valuations reflect expectations of a soft landing of the economy. A repricing of risk, in the event of a macroeconomic or geopolitical shock, could trigger adverse market movements, which could potentially be amplified by some participants' procyclical reactions.

A localised market shock could put a strain on the liquidity of some vulnerable non-bank financial participants, with potential side effects for the wider financial system. These participants could experience significant financing needs in the event of a market shock, via margin calls or redemption requests, which could strengthen adverse market dynamics through forced asset sales. A thematic chapter in this report maps the risks of French non-bank financial intermediaries and their interconnections with the rest of the financial system. This classification spans a wide diversity of participants with varying risk profiles. Relative to the financial sector as a whole, the share of NBFIs remain small in France. High interconnectedness, not just between non-bank financial

intermediaries, but also between NBFIs and the banking sector, increases the risk that a shock could spread. The risks posed by non-bank finance to the French banking sector are not limited to resident entities, as two-thirds of the direct exposures of French banks to non-bank financial intermediaries are cross-border.

Short-term vulnerabilities are rising for the most heavily leveraged participants in the real economy, while the real estate market continues its orderly correction

Monetary policy continues to be transmitted to French businesses. Although the debt structure of French non-financial corporations (NFCs) protected them from a sharp interest rate shock, their debt burden cost is steadily rising as higher interest rates are passed through to balance sheets. Situations vary across companies and sectors, but the French NFC sector remains in a sound financial situation overall, thanks to elevated cash buffers inherited from the Covid-19 crisis and a decline in leverage from historically high levels. NFCs are still well financed on the whole, but with higher volumes of debt poised to mature in the coming two years, the most heavily indebted companies could face increased refinancing risk. These vulnerabilities could be exacerbated in the event of a macroeconomic slowdown or if financing conditions tighten further.

The risks to financial stability from the downturn on residential and commercial real estate markets remain contained so far. A thematic chapter of this report examines the gradual correction of the residential real estate market, which is chiefly attributable to a decline in demand against a backdrop of tighter financing conditions. The related risks to financial stability are limited owing to the resilience of France's home financing model and measures taken by the prudential authorities. The commercial real estate market is continuing to experience a more pronounced contraction. Overall, the French financial system has limited exposure to this sector. However, for some real estate investment funds, vulnerabilities linked to liquidity mismatches between assets and liabilities call for careful vigilance as the market adjusts.

The government debt ratio remains persistently above the euro area average, but the French government retains a good financing capacity. In the absence of new measures, the government debt ratio is expected to settle at around 110% of GDP until 2026. Controlling the trajectory of public finances is critical to preserving the sustainability of French government debt. The supply of French sovereign debt on the market is increasing, against a backdrop of persistently elevated deficits and normalisation of the Eurosystem's balance sheet. For this debt issuance to be properly absorbed, sustained demand must be maintained among the private and non-resident investors.

Banks and insurers are adapting to the interest rate environment thanks to their solid balance sheet structure

In a context of higher funding costs, French banks exhibit robust liquidity and solvency levels. French banks got temporarily less of an income boost from higher interest rates than banks in other jurisdictions. Their net interest margin contracted slightly as the cost of their liabilities rose faster than interest income. However higher rates will benefit them over the longer term. French banks have a diversified funding structure, with broadly stable outstanding deposits and good access to market financing. Reflecting this, liquidity indicators are not signalling vulnerabilities, whether at the individual or system-wide levels. Similarly, the quality of banking assets remains stable, and the cost of risk continues to be moderate at this stage, including for commercial real estate exposures. Solvency ratios at French banks remain elevated, as confirmed to by the results of the European Banking Authority (EBA)'s 2023 stress-testing exercise. However, French banks must continue to exercise caution when managing credit risk.

Insurers are maintaining a solid balance sheet structure, but remain exposed to inflation and redemption risk. For life insurers, redemption risks remain under control, but continued vigilance is required, as higher interest rates could lead to reallocations to other savings products, potentially involving greater risk of capital loss and higher liquidity risk. The pace of surrenders remains contained and at this stage is still well below its record high observed at the end of 2011. Non-life insurers remain exposed to an increase in the cost of claims and to the risk of tougher terms for reinsurance contracts, in a setting of higher inflation and increased frequency and severity of climate events.

The financial system needs to step up its efforts to adapt to cyber and climate risks

The financial system remains exposed to elevated threats of cyberattacks, which are becoming increasingly sophisticated with generative artificial intelligence. On 9 November 2023, a ransomware cyberattack on a U.S. subsidiary of the Industrial and Commercial Bank of China paralysed its IT systems and temporarily disrupted liquidity on the U.S. Treasury market. The attack was a reminder that all financial system participants need to keep investing to strengthen the protection of their information systems. It also highlighted the systemic dimension of cyber risk resulting from the interconnectedness of participants. Indirectly, cyber risk may also cause losses for banks and insurers, in the event of attacks on companies to which they are financially exposed.

Finally, financial institutions must manage their exposure to transition risk while supporting at the same time the decarbonisation of the economy. The implementation of transition policies in line with carbon emissions reduction targets could lead to significant losses for financial institutions that are insufficiently prepared. French financial institutions have moderate exposure to transition risk, but their portfolios are still insufficiently aligned with decarbonisation targets. It is critical for financial institutions to establish and communicate transition plans, in order to establish specific and measurable carbon reduction targets for their portfolios. They must also continue reducing their exposures to the most at-risk activities and pay close attention to implementation by their counterparties of transition plans that are consistent with European emissions reduction targets.

ASSESSMENT OF RISKS TO THE FRENCH FINANCIAL SYSTEM | DEC. 2023

CYCLICAL

STRUCTURAL

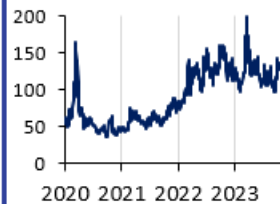
Vulnerabilities

Factors of resilience

Impact of a geopolitical or macroeconomic shock on market risk

- Interest rate volatility
- Valuations vulnerable to earnings deterioration
- High liquidity risk and leverage at some non-bank financial intermediaries

Bond yield volatility



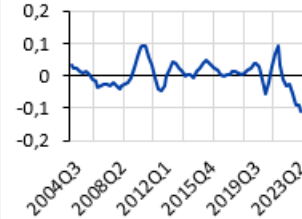
- Market structure, featuring diversified participants and investors
- Robust market infrastructures

⇒ ST

Debt sustainability of non-financial participants as interest rates go up

- Commercial real estate market adjustment
- High NFC gross debt, significant disparities
- Elevated government debt

NFC interest coverage ratio (change, %)



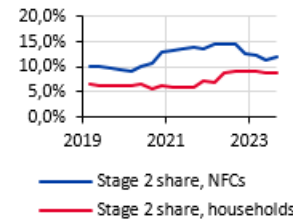
- Debt largely medium and long term and at fixed rates
- Credit standards for home loans
- High levels of cash (NFCs) and savings (households)

⇒ ST

Adjustments by banks and insurers to higher rates and credit risk

- Business and income sensitive to macroeconomic conditions
- Increased funding costs
- Cost of the digital transition

Share of stage 2 loans



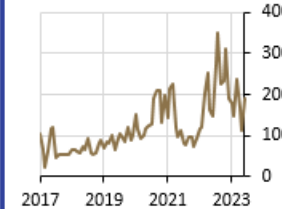
- Strong solvency
- Elevated liquidity and diversified funding
- Stable asset quality

⇒ ST

Cyber threats exacerbated by geopolitical tensions

- Increased digital area of exposure
- Vulnerabilities easier to exploit through artificial intelligence

Publicly reported cyberattacks worldwide



- Crisis exercises
- Regulatory work
- Cybersecurity investments

⇒ ST to LT

Climate change-related exposures

- Risk of disorderly transition as adaptation actions and policies are delayed
- Impacts of climate catastrophes

Price of EU emissions allowances (EUR per tonne of CO₂)



- Domestic efforts and European coordination
- Climate stress test exercises

⇒ ST to LT

Very high risk

High risk

Moderate risk

⇒ Future path (horizon)

Measures taken by authorities

With inflation still running above its target, the Governing Council of the European Central Bank (ECB) hiked policy rates by 25 basis points twice in the second half of 2023, first in July and again in September, and then decided to keep them unchanged in October and December. Since 20 September 2023, interest rates on the deposit facility, the main refinancing operations and the marginal lending facility have been set at 4.00%, 4.5% and 4.75% respectively.¹ It now considers that interest rates are at levels that, maintained for a sufficiently long duration, will make a substantial contribution to meeting the goal of ensuring that inflation returns to its 2% target.² The Governing Council will continue to follow a data-dependent approach to determining the appropriate level and duration of restriction. Furthermore, to preserve the effectiveness of monetary policy, the Governing Council decided in July 2023 to set the remuneration of minimum reserves at 0%, effective 20 September 2023.³ They were previously remunerated at the deposit facility rate.⁴ The amount of the minimum reserves that institutions are required to hold is unchanged at 1% of deposits.

In addition, since 1 March 2023, the Eurosystem has been reducing its asset purchase programme (APP) portfolio at a measured and predictable pace, initially at a rate of EUR 15 billion per month, and since 1 July based on the proportion of maturing securities. In December 2023, the Governing Council indicated that it intends to reduce the pandemic emergency purchase programme (PEPP) portfolio by €7.5 billion per month on average over the second half of the year. The Governing Council then intends to discontinue reinvestments under the PEPP at the end of 2024. Meanwhile, the council will continue to regularly assess the contribution of targeted longer-term refinancing operations (TLTROs) to its monetary policy stance as they are repaid by banks.

France's *Haut Conseil de Stabilité Financière* (HCSF – High Council for Financial Stability) kept the main elements of its macroprudential policy in place. As announced in December 2022,⁵ the HCSF did not modify the credit protection reserve rate (countercyclical bank capital buffer or CCyB) in 2023, after raising it from 0.5% to 1%, effective 2 January 2024.⁶ The HCSF continues to consider this to be an appropriate rate based on the economic and financial environment and the level of systemic risk.⁷ The sector-specific systemic risk buffer (sSyRB) came into force on 1 August 2023⁸ for an initial period of two years, taking over from the “large exposures” measure that expired on 30 June 2023. Under the sSyRB, a 3% buffer is applied to the risk exposures of systemically important French banks to heavily indebted large French companies,⁹ where such exposures exceed 5% of capital. The HCSF considers a proportionate capital surcharge in the event that the materiality threshold is breached to be better suited to the current macroeconomic environment. The HCSF decided to adjust some of its measures relating to property loan credit standards, which seek to control the risks to financial stability by making credit safer, through a maximum debt-service-to-income (DSTI) ratio of 35% and a maximum credit period of 25 years for 80% of property loan production. Following technical adjustments to this measure in June 2023,¹⁰ the HCSF made three further technical adjustments in December 2023, taking note of certain operational difficulties and of market dynamics, in compliance with financial stability requirements.¹¹ It specified that the flexibility granted to the ACPR in terms of its assessment of compliance with the standard applied to the allocation limits within the 20% flexibility margin as well as to the overall 20% margin. In the event of a limited breach in one quarter, the ACPR may consider that compliance with these limits for overall new lending for that quarter and the following

¹ [Key ECB interest rates \(europa.eu\)](https://www.ecb.europa.eu/press/pr/date/2023/html/ecb.pr230920_1.htm)

² [Monetary policy decisions \(europa.eu\)](https://www.ecb.europa.eu/press/pr/date/2023/html/ecb.pr230920_1.htm)

³ [ECB adjusts remuneration of minimum reserves](https://www.ecb.europa.eu/press/pr/date/2023/html/ecb.pr230714_1.htm)

⁴ Minimum reserves had been remunerated at the ECB's deposit facility rate since October 2022. Prior to that, they were remunerated at the main refinancing operations (MRO) rate.

⁵ [CP_2022_12_13_seance.pdf \(economie.gouv.fr\)](https://www.economie.gouv.fr/IMG/pdf/CP_2022_12_13_seance.pdf)

⁶ [HCSF_20221213_CP_decisionCCyB.pdf \(economie.gouv.fr\)](https://www.economie.gouv.fr/IMG/pdf/HCSF_20221213_CP_decisionCCyB.pdf)

⁷ [Indicateurs_CCyB.pdf \(economie.gouv.fr\)](https://www.economie.gouv.fr/IMG/pdf/Indicateurs_CCyB.pdf)

⁸ [2023-07-31_CP_SyRB.pdf \(economie.gouv.fr\)](https://www.economie.gouv.fr/IMG/pdf/2023-07-31_CP_SyRB.pdf)

⁹ Total debt exceeding six times EBIDTA.

¹⁰ [HCSF_20230613_CP.pdf \(economie.gouv.fr\)](https://www.economie.gouv.fr/IMG/pdf/HCSF_20230613_CP.pdf)

¹¹ https://www.economie.gouv.fr/files/files/directions_services/hcsf/HCSF_20231204_CP.pdf?v=1701698601

two quarters constitutes appropriate and sufficient corrective action. Furthermore, the HCSF decided to allow credit institutions to exclude interest payments on bridge loans when assessing the borrower's DSTI ratio, provided that the bridge loan's loan-to-value ratio is sufficiently conservative, i.e. less than or equal to 80% of the value of the marketed property. Lastly, in order to foster energy renovation work, the HCSF decided to lower the threshold for renovation work above which house buyers are allowed to defer their loan repayments to 10% of the total cost of the operation.

French and European authorities are working actively to bolster the prudential regulatory framework by implementing Basel III in the “banking package”,¹² whose broad outlines were established in a provisional agreement reached by the European Parliament and Council on 27 June 2023.¹³ The text is expected to be finalised in the course of 2024, for entry into force in January 2025 (for CRR3) and mid-2025 (for CRD6). In addition, on 28 April 2023 the European Commission announced proposals¹⁴ to adjust the crisis management and deposit insurance (CMDI) framework, with a view to extending the resolution framework to more small and medium-sized banks, and limiting the involvement of deposit guarantee funds outside resolution.

At European and international levels, several initiatives are being carried out to establish an appropriate prudential framework for different types of non-bank financial intermediaries (NBFIs). Systemic financial risks may develop outside the banking and insurance sectors. Yet existing rules covering non-banks and non-insurers are mainly aimed at protecting consumers and investors. In July 2023, the European Parliament and the Council of the European Union reached a provisional agreement¹⁵ on revising the Alternative Investment Funds Managers Directive (AIFMD) and the framework for Undertakings for Collective Investment in Transferable Securities (UCITS), following a recommendation by the European Systemic Risk Board (ESRB)¹⁶ on harmonising liquidity management tools (LMTs) in investment funds and improving the collection of data on this sector. The revision is slated to be completed and the implementing regulations to be released in early 2024.¹⁷ In September 2023, the ESRB published an issues note¹⁸ intended to supplement these measures for corporate debt and real estate investment funds. The note proposes closer alignment between fund redemption terms and investment strategy, the use of LMTs, and better preparedness for cash needs stemming from margin and/or collateral calls. In a report released in July 2023,¹⁹ the European Commission determined that there was currently no need to revise the MMF Regulation, which came into force in 2019. Internationally, work led by the Financial Stability Board is being done²⁰ to identify ways to enhance the resilience of NBFIs exposed to vulnerabilities linked to leverage and liquidity risk. Several authorities are also actively working to develop macroprudential tools to better address these risks.

As part of its work program to strengthen the resilience of non-bank financial intermediaries, the FSB, together with several international standard setters, is developing proposals to strengthen margining practices. Several recent episodes, such as the market tensions related to the Covid crisis or the increase in energy prices in 2022, have highlighted that volatility in margin calls can lead to liquidity strains for less prepared actors and to procyclical behaviors. Following the publication of a report on margin practices in 2022²¹, the FSB is working on enhancing requirements for non-bank market participants in terms of liquidity risk and collateral management to meet margin calls.

¹² Revision of the Capital Requirement Regulation and the Capital Requirement Directive.

¹³ [Banking sector: Provisional agreement reached on the implementation of Basel III reforms - Consilium](#)

¹⁴ [Reform of bank crisis management and deposit insurance framework \(europa.eu\)](#)

¹⁵ [Provisional agreement reached on AIFMD and plain-vanilla EU investment funds](#)

¹⁶ [Recommendation of 7 December 2017 on liquidity and leverage risks in investment funds \(ESRB/2017/6\)](#)

¹⁷ [Carriages preview | Legislative Train Schedule \(europa.eu\)](#)

¹⁸ [ESRB publishes policy options to address risks in corporate debt and real estate investment funds \(europa.eu\)](#)

¹⁹ [Commission adopts report on the functioning of the Money Market Funds Regulation \(MMF\) \(europa.eu\)](#)

²⁰ [Enhancing the Resilience of Non-Bank Financial Intermediation: Progress report - Financial Stability Board](#)

²¹ [Review of margining practices, BCBS, CPMI, IOSCO, September 2022](#)

French and European authorities are also taking steps to minimise structural risks affecting the financial system, particularly in the digital field. The Digital Operational Resilience Act (DORA Regulation), which came into force in January 2023 and will apply from January 2025, establishes an overall framework for the digital operational resilience of EU financial entities and addresses in particular the financial sector's reliance on tech companies as well as cyber risk. Against this backdrop, the Single Supervisory Mechanism will conduct stress testing in 2024 to assess bank resilience to cyber risk.²² Regarding the regulation of digital assets, the Markets in Crypto-Assets (MiCA) Regulation came into force in June 2023 and will apply from January 2025, establishing a regulatory framework for crypto-asset issuers and service providers. This overall framework seeks to protect investors, preserve financial stability and ensure compliance with anti-money laundering rules, while fostering innovation and supporting the attractiveness of the crypto-asset sector. It will almost certainly be supplemented fairly quickly by a “MiCA 2” Regulation focusing particularly on crypto-conglomerates and decentralised finance. In the field of anti-money laundering and counter-terrorist financing (AML/CTF), the Anti-Money Laundering Directive and Regulation (AML6 package) are in the process of being revised²³ (the second round of trilogue negotiations is currently being prepared) in an effort to harmonise the regulations and set up a European Anti-Money Laundering Authority.

Several measures were taken to curb the financial system’s exposure to climate and environmental risks. On 13 June 2023, the European Commission published a proposal²⁴ for a regulation on Environmental, Social and Governance (ESG) ratings, including arrangements for ESG rating agencies to be authorised and supervised by the European Securities and Markets Authority (ESMA), separation of ESG rating and consulting services, and transparency obligations for ESG rating methodologies. On 31 July 2023, the Commission published the delegated act covering the 12 new European Sustainability Reporting Standards (ESRS), clarifying the expectations of the Corporate Sustainability Reporting Directive (CSRD), with the first disclosures due in 2025. In October 2023, the European Parliament adopted a regulation²⁵ creating a European green bond standard (EuGB), aimed at regulating use of the “green bond” label to prevent greenwashing. On 27 June 2023, the Commission adopted four delegated acts establishing technical criteria for the final four environmental objectives of the European taxonomy of sustainable activities. On 14 September, the Commission also launched a targeted consultation²⁶ on SFDR implementation, aimed at making the regulation’s classification system more useable, especially Articles 8 and 9. On the prudential front, the European Banking Authority (EBA) published a report in October 2023 on integrating ESG risks in Pillar 1. Finally, the Single Supervisory Mechanism announced the possibility of imposing financial penalties on banks that fail to comply with the supervisor’s expectations for the treatment of climate and environmental risks.²⁷ In France, on 6 July 2023 the ACPR launched its second climate stress testing exercise covering the insurance sector, following the pilot exercise conducted in 2020.²⁸

²² [Stress tests \(europa.eu\)](#)

²³ [Carriages preview | Legislative Train Schedule \(europa.eu\)](#)

²⁴ [Sustainable Finance: Commission takes further steps to boost investment for a sustainable future \(europa.eu\)](#)

²⁵ [European Green Bonds: Council adopts new regulation to promote sustainable finance \(europa.eu\)](#)

²⁶ [finance-2023-sfdr-implementation \(europa.eu\)](#)

²⁷ [Challenges and priorities for banking supervisors \(europa.eu\)](#)

²⁸ [L’ACPR lance son second exercice de stress test climatique couvrant le secteur de l’assurance | ACPR](#)

1. Cross-cutting analysis of vulnerabilities

1.1 The financial system is adjusting to an environment of high interest rates, macroeconomic uncertainty and heightened geopolitical tensions

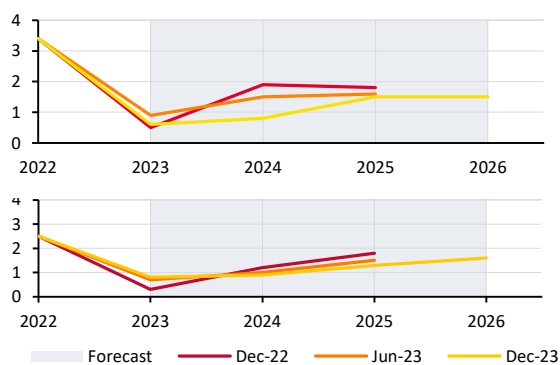
Inflation is easing back down to its 2% target amid an economic slowdown and rising geopolitical risks

Economic growth is expected to remain moderate in 2024 in France and in the euro area. Growth forecasts for 2023 have improved since June for France, climbing to 0.8% in December, while deteriorating for the euro area as a whole (0.6%, see Chart 1.1), with contrasting cross-country dynamics. French growth is expected to remain moderate in 2024 (0.9%) before gradually picking up in 2025 (1.3%) and 2026 (1.6%). According to the ECB staff projections, the trend would be similar in the euro area.²⁹ Activity was more dynamic in the United States than in the euro area in 2023, underpinned by stronger domestic demand and less exposure to energy price pressures. Responding to these developments, the International Monetary Fund (IMF) raised its 2023 growth forecasts for the United States (forecast of 2.1% in October). However, the growth gap is expected to narrow starting in 2024. The IMF estimates that global growth will reach 2.9% in 2024 (see Chart 1.4). Unstable worldwide demand and geopolitical tensions contribute to the risk scenarios surrounding these forecasts. For example, China's economic slowdown, if sustained, could affect international trade (see Box 1.1).

Inflation continues to come down in France and the euro area, with core inflation showing a smaller decrease. After peaking in early 2023 in France, headline inflation fell to 3.8% in September 2023 (harmonised index of consumer prices, HICP), including 2.9% for core inflation³⁰ (see Chart 1.2). Provided there is no new shock affecting imported commodities, headline inflation should get back to its 2% target by 2025, while core inflation should also continue to decline, albeit at a slightly slower pace (2.2% in 2025). While the inflation level expected by the market is volatile, it was heading downward in the fourth quarter of 2023. The five-year five-year forward inflation expectation rate derived from the euro area swap market reached its highest level since 2012 in August 2023 (2.67%) before falling from September 2023 (2.25% in mid-December 2023).

Chart 1.1: GDP growth forecasts for France (below) and the euro area (above)

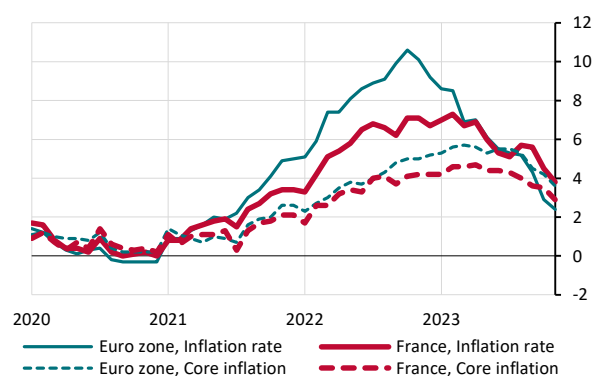
x: time / y: %



Sources: Banque de France, Eurostat.

Chart 1.2: Headline and core inflation, France and euro area

x: time / y: % (year-on-year)



Sources: Banque de France, Eurostat.

Note: Harmonised index of consumer prices (HICP) and HICP excluding energy and food. Most recent value: November 2023.

The financial system continues to operate in a highly uncertain geopolitical environment, owing notably to the war in Ukraine, tensions between the United States and China, and now the situation in the Middle East. If these tensions worsen, there could be consequences for oil and gas prices, which could increase inflation and weigh on growth. These risks did not materialise in the second half of 2023. Oil prices rose by 2% between May and December 2023 (see Chart 1.3), notably in the wake of production cuts by the Organization of Petroleum

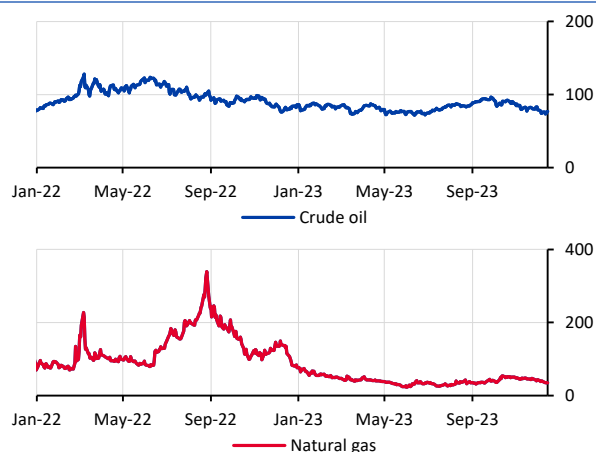
²⁹ Eurosystem staff macroeconomic projections for the euro area, December 2023 (europa.eu).

³⁰ The core inflation index is a seasonally-adjusted index that excludes prices subject to government regulation, such as electricity, power and tobacco, as well as products with volatile prices, such as oil and food.

Exporting Countries (OPEC) and Russia. However, prices remain below the peak of USD 127.98 hit in March 2022. By mid-December 2023, benchmark natural gas prices in the European Union were up 7% on May 2023 at EUR 34.67/MWh and twice as high as where they were in October 2019. However, gas inventories are elevated compared with levels recorded in the months of October between 2019 and 2022, suggesting that the strain on gas demand will be limited over winter 2023-2024.

Chart 1.3: Energy prices

x: time / y: above: EUR / MWh, below: USD / barrel

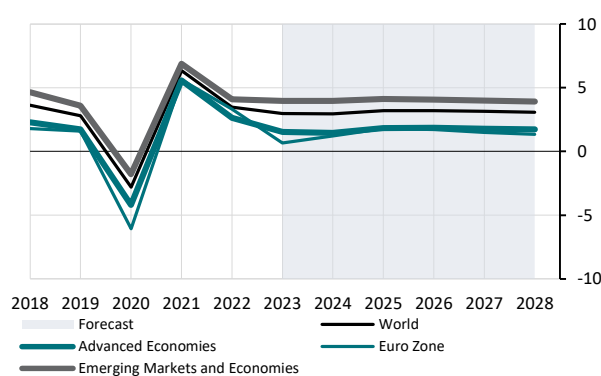


Source: Bloomberg.

Most recent value: 15 December 2023.

Chart 1.4: GDP growth forecasts, by economic zone

x: time / y: %



Source: International Monetary Fund (IMF), World Economic Outlook October 2023.

Box 1.1: The risk of contagion from stress in the Chinese financial system looks limited

China's macroeconomic outlook worsened. In the short term, the Chinese economy is facing a collapse in confidence among economic participants, especially households, who were affected by the fallout from the management of the Covid and real estate crises, but also domestic and foreign businesses, following the authorities' decision to put the focus on economic stability and security (see Chart 1.5). Looking ahead, Chinese authorities have pledged to build a more balanced growth model that prioritises quality over the level of growth. In the meantime, the economy's structural weaknesses, including excess capacity, excess debt, the steep fall in the return on capital and the demographic shock, are set to persist.

The real estate sector is experiencing a crisis of unprecedented proportions, characterised by plummeting sales and prices. This has led to significant funding problems for Chinese real estate developers (45% of the main developers are in default) and weakened the finances of local governments, which derive approximately 30% of their income from real estate sales. Defaults by the Zhongrong Trust, whose real estate exposure accounts for almost 11% of assets under management, illustrate the risks of financial contagion.

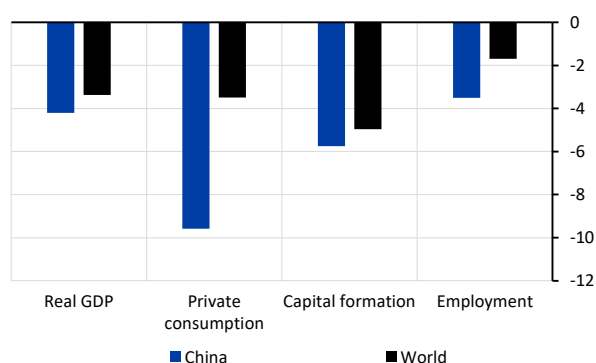
Government measures and well-capitalised Chinese banks limit the risks of a financial crisis. Despite the risks associated with the real estate crisis, China's authorities are pressing on with their goal of reducing the economy's structural weaknesses. They have nevertheless announced ad hoc, mainly small-scale measures to support supply and demand, involving public and private participants to avoid a financial crisis, with fiscal and monetary support provided as a last resort. Furthermore, China's banks are well capitalised, with low exposure to real estate developers (6% of banks' total assets), and have significant cash reserves to cope with the ongoing adjustment. Consequently, the risks of destabilization of the Chinese financial system and diffusion to the international financial system seem limited.

Risks of spillover to the French financial system are extremely small, owing to low financial interconnectedness. In December 2022, investments in mainland China made up EUR 13.6 billion in French

portfolios. Direct investment into and out of China also accounts for a small share of all French foreign direct investment, FDI (see Chart 1.6). While financial exposures between France and China are limited, a lasting deterioration in Chinese macroeconomic prospects could affect France via the real economy, since Chinese imports represent a significant portion of France’s trade balance (EUR 77.7 billion in 2022) and European trade. The risk of contagion for advanced economies is low, owing to the weak links between China’s financial system and the wider banking system. A bout of stress affecting the Chinese financial system would spread to advanced economies primarily via the trade channel. The footprint of Chinese banks on emerging markets could also result in tighter financing conditions for emerging economies in the event of disorderly corrections within China’s financial system.

Chart 1.5: Deviation of macroeconomic indicators from pre-pandemic trends

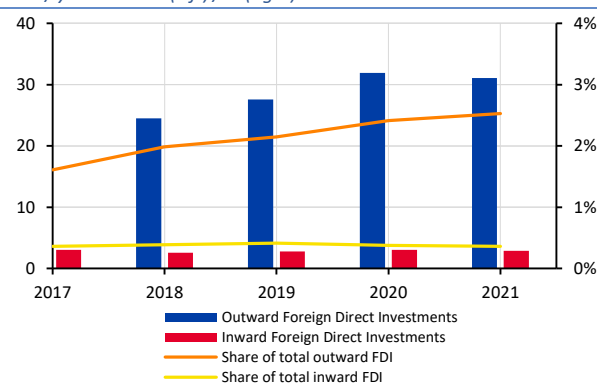
x: time / y: deviation in 2023 from pre-pandemic projections (%)



Source: International Monetary Fund, World Economic Outlook October 2023.

Chart 1.6: French FDI into and out of China

x: time / y: EUR billion (left) / % (right)



Source: International Monetary Fund, Coordinated Direct Investment Survey (CDIS).

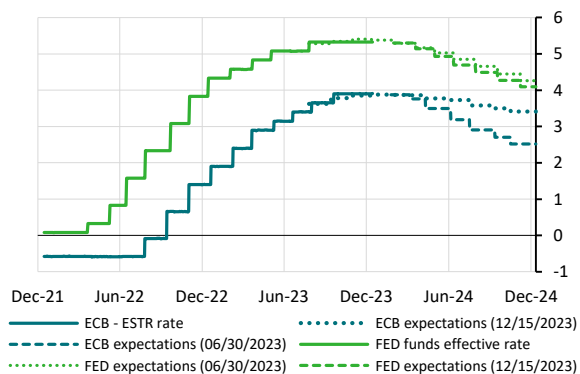
Scope: FDI in the form of equity or debt instruments, into or out of mainland China

Following swift normalisation of the interest rate environment, financing conditions appear to be stabilising but remain exposed to the risk of further shocks

Market participants are looking ahead to the end of the rate-hiking cycle that began in 2022 (see Chart 1.7). The European Central Bank (ECB) left policy rates unchanged in October and December 2023, following a series of increases that had raised rates by a total of 450 basis points since July 2022. The Governing Council now considers interest rates are at levels that, maintained for a sufficiently long duration, will ensure that inflation returns to its 2% medium-term target. In November and December 2023, the US Federal Reserve (Fed) also decided to hold the Fed funds target rate in a range of 5.25% to 5.50%, after hiking it by 525 basis points since March 2022. As of 15 December 2023, market participants were expecting key rate cuts in both the euro area and the United States starting in spring 2024. Since June 2023, policy rate expectations for 2024 have come down more markedly in the euro area, where economic news surprised on the downside in the second half of 2023, than in the United States, where surprises were on the upside (see Chart 1.8).

Chart 1.7: Policy rate expectations, euro area and United States

x: maturities / y: implied interest rate as a %



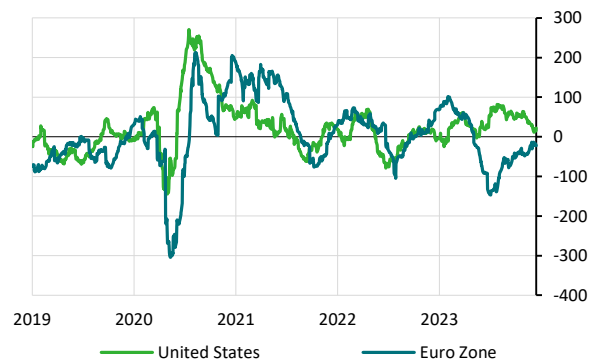
Source: Bloomberg.

Note: Rate expectations are derived from ESTR-referencing overnight index swaps and Fed funds futures.

Most recent value: 15 December 2023.

Chart 1.8: Citigroup Economic Surprise Index, euro area vs. US

x: time / y: index



Source: Bloomberg.

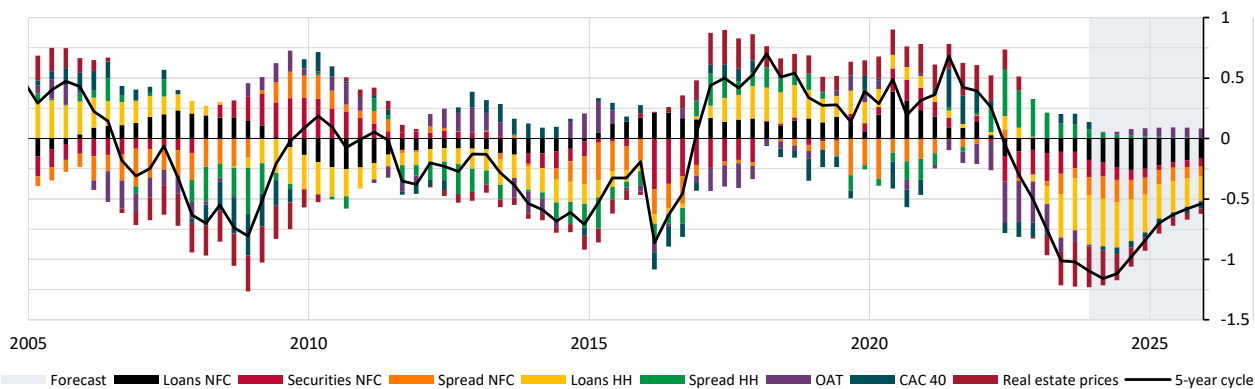
Note: A positive value indicates an overall economic performance that beats market expectations, while a negative value points to a performance that is below market expectations.

Most recent value: 15 December 2023.

The financial cycle is expected to bottom out in the first quarter of 2024 (see Chart 1.9). The financial cycle began to tighten in the third quarter of 2021 as interest rates rose swiftly and the pace of credit distribution normalised. This normalisation process has unfolded smoothly and should, provided it remains orderly, reduce structural vulnerabilities in the financial system through household and business deleveraging, portfolio switches into safer assets, and a positive longer-term impact on the profitability of banks and insurers. That said, the pass-through of past interest rate increases to financing conditions is still ongoing, and its impact on the most vulnerable participants may increase if interest rates remain elevated for longer than expected. Moreover, the financial system remains exposed to the risk of further interest rate shocks (see Box 1.2), for example in the event of a downside surprise on the inflation path, which could cause policy rate expectations to be revised upwards, or in the event that an increase in the term premium pushes long-term rates higher (see below).

Chart 1.9: Financial cycle

x: time / y: index



Source: Banque de France calculations.

Notes: The financial cycle indicator is constructed from eight underlying variables: the change over two years in outstanding loans to domestic NFCs by domestic monetary financial institutions; the change over two years in outstanding debt securities issued by domestic NFCs; the change over two years in outstanding loans to resident households and non-profit institutions serving households by domestic credit institutions; the growth over one year in residential real estate prices; the change over one year in ten-year sovereign yields; the annual return on the CAC 40; the spread between the average interest rate on property loans and French ten-year government bonds; and the spread between the average interest rate on NFC loans and French ten-year government bonds. The more the cycle's value is positive and increasing, the more it indicates that financing conditions are easing; conversely, negative and falling values correspond to tightening periods and may provide an early indicator of financial stress or even a systemic crisis.

Box 1.2: Higher interest rates are being passed through gradually to the economy and financial intermediaries

Higher interest rates change the intertemporal trade-offs of economic and financial participants and affect the business cycle. When interest rates go up, the cost of debt rises, but so does the return on savings. Economic actors thus have an incentive to prefer financial saving over consumption and physical saving, and equity financing over debt in order to preserve their solvency. Accordingly, French households are maintaining higher saving levels than they did in the pre-Covid period (17 % in the first quarter of 2023, compared with an average of 14% between 2000 and 2019). Aggregate demand diminishes with consumption and investment, causing output and economic activity to slow down. For borrowers, higher interest expense combines with slower activity and makes debt less sustainable. The speed with which higher interest rates are passed on to the debt burden of agents depends on the structure of debt: in France, debt is mostly at fixed rates and over long credit periods, smoothing transmission of the cost of higher rates over time, depending on the refinancing calendar of debt. This impact will be all the greater if interest rates go higher for a prolonged period, owing to progressive rollover of the debt stock.

Higher interest rates are passed through to the financial system by lowering the value of existing financial assets through higher discount rates. First, by lowering the market value of existing assets, higher rates may lower the value of securities held by financial intermediaries. When these securities are carried at fair value or market value, the write-down is passed on directly to the asset. Otherwise, higher rates result in unrealised capital losses, which become apparent only if the security is sold, with a negative impact on solvency. These risks are limited for French banks and insurers, whose funding sources are stable. Unrealised capital losses across the portfolio of France's six main banking groups are small relative to equity,³¹ while French insurers benefit from a high and stable solvency capital requirement coverage ratio (255% at end-June 2023). Second, the profitability of financial intermediaries improves if the return on securities held as assets increases by more than the remuneration of deposit liabilities. However, the pass-through of higher rates to bank profitability may be delayed if deposits are repriced faster than bank loans. For insurers, an increase in the discount rate lowers the present value of liabilities and positively affects their profitability, since the impact on liabilities exceeds the impact on assets.

For financial intermediaries, the impacts are mixed. A decrease in the value of fixed income securities may negatively impact solvency or liquidity in the short term, particularly in the event of investor withdrawals. These risks are limited for French banks and insurers, which enjoy stable funding sources and small unrealised capital losses, despite the increase in interest rates. In the medium term, a prolonged increase in long-term interest rates will pave the way for an improved return on assets. A sudden new interest rate shock would stoke market volatility, adding to the risk of a disorderly correction.

1.2 Markets are expecting a soft landing for the economy but remain exposed to the risk of macroeconomic or geopolitical shocks

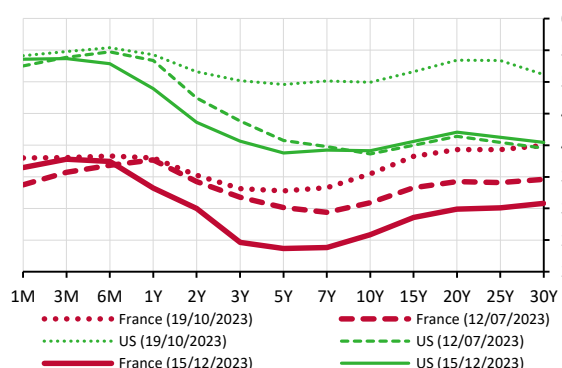
Long rates were extremely volatile in the second half of 2023

Long-term interest rates surged in September and October as part of a global movement largely driven by US interest rates, before easing back. US sovereign 10-year yields reached 5% in October 2023, their highest level since 2007 and 103 bps up on the end of July 2023, before easing back below 4% in mid-December. French and German long-term interest rates recorded smaller increases, as 10-year yields climbed by 53 and 46 bps respectively between July 2023 and October 2023 (see Chart 1.10). This increase seems to have been largely due to contagion from the United States, as correlation between French and US long yields remained stable at high levels during the second half of 2023 (see Chart 1.11).

The spike in long-term interest rates reflects both the more-dynamic-than-expected economic environment in the United States and a shift in the balance of supply and demand for sovereign bonds. Revised expectations for future short-term interest rates account for only part of this shift. An analysis of the term structure of interest rates reveals that the increase in long yields is essentially attributable to the increase in the term premium, that is, the return demanded by investors to hold long-term securities in preference to short-term ones. The term premium is not directly observable and must be estimated (see Box 1.3). Uncertainties surrounding US federal fiscal policy and high levels of debt issuance may have contributed to the increased term premium. Furthermore, quantitative tightening by central banks means that other investors will have to absorb larger volumes of sovereign debt. In France and the United States alike, this is resulting in an increase in holdings by investors who are more sensitive to the level of interest rates (see Part 1.4 and Box 1.5).

Chart 1.10: Yield curve

x: maturities / y: yield

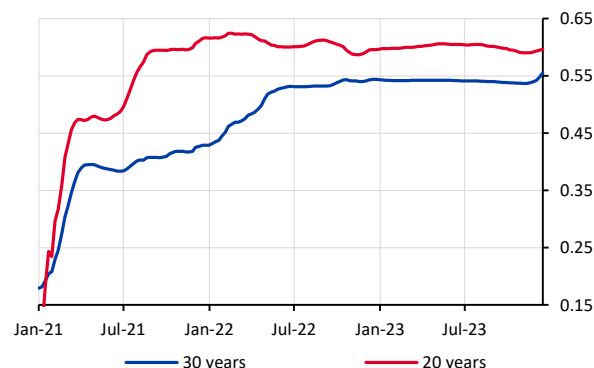


Source: Bloomberg.

Most recent value: 15 December 2023.

Chart 1.11: Correlation of French and US 30-year and 20-year sovereign yields

x: time / y: correlation coefficient



Sources: Bloomberg, Banque de France calculations.

Note: 2-month correlation between 30Y / 20Y OATs (FR) and 30Y / 20Y USTs (US).

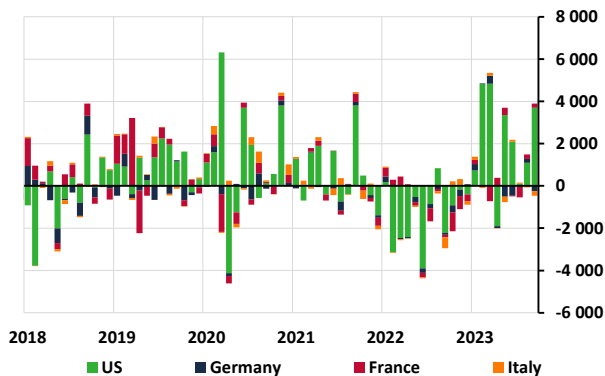
Most recent value: 15 December 2023.

International factors may continue to affect movements in European long-term interest rates over the coming months. In the United States, market participants are expecting another sharp increase in sovereign bond issuance volumes in 2024, including over long maturities, which could exert upside pressure on term premiums. Furthermore, demand from Japanese investors for US and European sovereign debt could soften in the event of monetary policy normalisation by the Bank of Japan. Whereas prospects for inflation were revised upwards to 2.7% for 2023 in October 2023 from 2.3% in April 2023, some market participants are expecting the yield curve control policy to be abandoned or to be made more flexible, which might encourage Japanese investors to reallocate some of their portfolio to the domestic market. However, some of this adjustment may already have taken place. The excess return, or yield pickup, on US and European sovereign bonds relative to Japanese bonds is negative after currency hedging (see Chart 1.13), which limits their appeal. Japanese UST holdings decreased by 18% between February 2022 and December 2022, but from January 2023, Japanese investment flows once again

recorded a net long position. Japanese investment flows in European sovereign bonds constitute a small net short position (see Chart 1.12).

Chart 1.12: Japanese investment flows on bond markets

x: time / y: JPY trillion



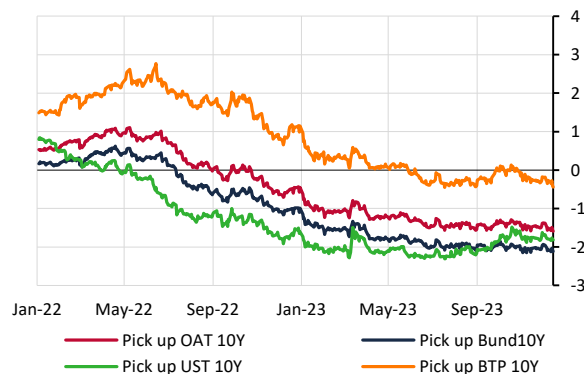
Sources: Bloomberg, Banque de France calculations.

Note: A positive flow indicates a long position. A negative flow indicates a short position.

Most recent value: October 2023.

Chart 1.13: Yield pickup on sovereign bonds for Japanese investors, with currency hedging

x: year / y: %



Sources: Bloomberg, Banque de France calculations.

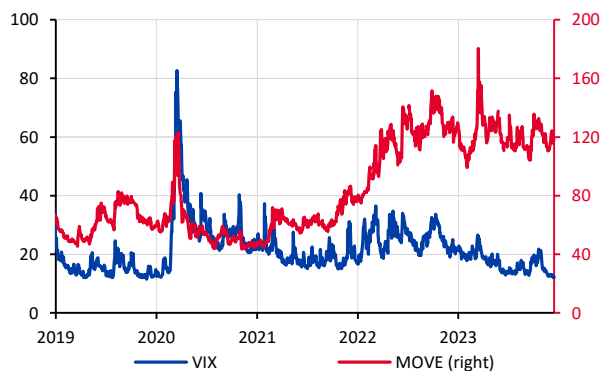
Guide: Excess return (pickup) on US 10Y and EGB 10Y, net of the cost of hedging against currency risk on a 3M rolling basis, relative to the yield on Japanese 10Y bonds.

Most recent value: 15 December 2023.

Against this backdrop, bond markets remained highly volatile in 2023 (see Chart 1.14). Spikes in market volatility could be disruptive to the most vulnerable market participants, especially non-bank financial intermediaries exposed to liquidity risk and leverage (see below). Increased volatility could also disturb market functioning by reducing liquidity. Liquidity in the euro area sovereign bond market is still below its mid-2021 level according to some indicators, but is leaning towards stabilization and bond markets have remained functional since rates started to rise (see Chart 1.15).

Chart 1.14: Implied volatility of equities (VIX) and bonds (MOVE)

x: time / y: implied volatility (%)



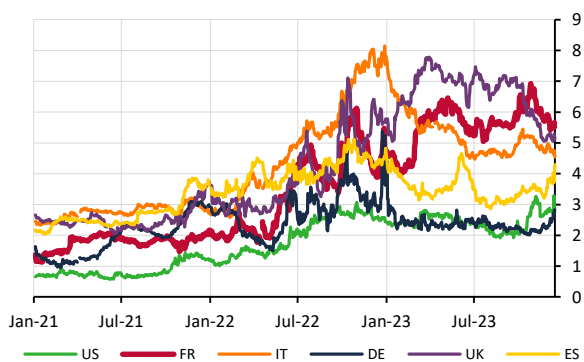
Sources: Bloomberg, Banque de France calculations.

Note: The VIX is an indicator of implied volatility on the S&P 500. It infers the volatility expected by market participants from 1-month option prices. The 3-month MOVE index is an indicator of implied volatility on the US Treasury market. It infers expected volatility from 3-month option prices.

Most recent value: 15 December 2023.

Chart 1.15: Indicator of sovereign bond liquidity

x: time / y: Bloomberg index



Sources: Bloomberg, GVLQ indices.

Note: The government bond liquidity index measures the spread between observed yields and the yields expected by a fair value model. The higher the index, the worse the liquidity situation.

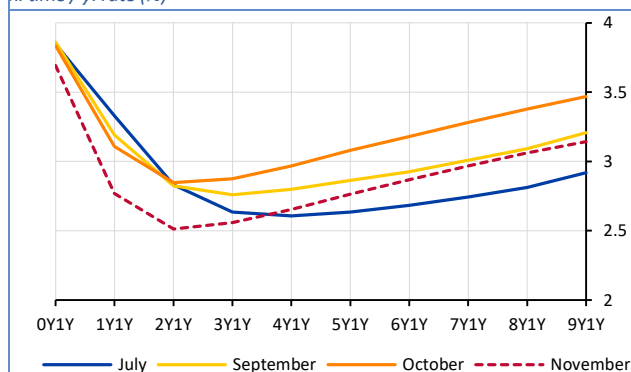
Most recent value: 15 December 2023.

Box 1.3: What are the drivers of the upward movement in long-term interest rates in the second half of 2023?

Long-term interest rates increased from July to October, markedly in the United States, where 10Y overnight index swap (OIS) rates put on roughly 100 bps between July and October 2023, and to a lesser extent in the euro area, where they climbed by approximately 50 basis points over the same period, before starting a decline in early November. The increase was largely driven by the upward movement of the long end of the forward curve, as shown by Charts 1.16 and 1.17, while the decrease is broad-based across all horizons over 1 year.

Chart 1.16: OIS forward rates (euro area)

x: time / y: rate (%)



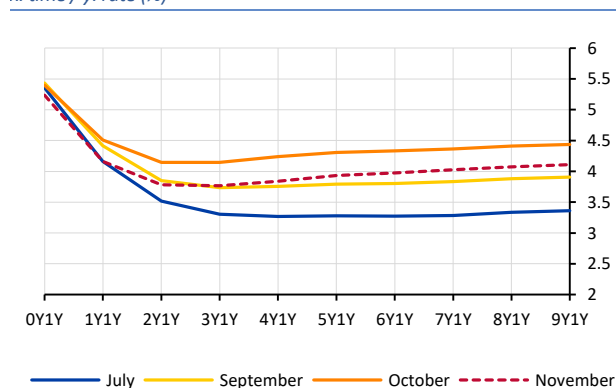
Sources: Bloomberg, Banque de France calculations.

Note: The x-axis shows 1Y forward rates at different horizons. Example: 7y1y denotes the one-year forward rate in seven years.

Most recent value: November 2023.

Chart 1.17: OIS forward rates (United States)

x: time / y: rate (%)



Sources: Bloomberg, Banque de France calculations.

Note: The x-axis shows 1Y forward rates at different horizons. Example: 7y1y denotes the one-year forward rate in seven years.

Most recent value: November 2023.

To understand the cause of the increase in long-term interest rates, it is necessary to look at their determinants. Long-term interest rates (i_{lt}) may be broken down into an “expected path of future short-term interest rates” portion (i_{st}) and a term premium (tp_t):

$$(1 + i_{lt})_n = E_t \left[\underbrace{(1 + i_{st \text{ year } 1})(1 + i_{st \text{ year } 2}) \dots (1 + i_{st \text{ year } n})}_{\text{Expected future short-term interest rates}} \right] + tp_t$$

Expected future short-term interest rates

The “**expectations**” portion stems from expectations theory, which holds that the yield on a long-term bond must be equal to the expected yield from rolling over short-term bonds whose total maturity is equal to that of the long-term bond.³² This theoretical equality is based on strong assumptions (rational agents, risk neutrality and perfect markets) and is not verified empirically, implying the existence of a term premium that may fluctuate over time.

The **term premium** is the return demanded by investors to buy a long-term bond rather than roll over shorter-dated debt. It is required by investors as a reward for risk-taking. The specific risks for which investors need to be compensated include the following:

- **future interest rate risk**, whether associated with the future path of policy rates or the securities supply/demand balance;
- the **expected change in inflation**, which influences the inflation risk premium;
- **the borrower’s risk of default**;

³² In other words, buying a bond maturing in ten years time is equivalent to buying a one-year bond and rolling it over every year for ten years.

- **illiquidity risk**, that is, difficulty in transferring claims to another agent.

Thus, an increase in long-term interest rates may stem from an increase in expected rates, but also from a rise in the term premium due to heightened risk or a reassessment of risk appetite.

Chart 1.18: Decomposition of US 10Y bond yields

x: time / y: rate (%)



Source: Banque de France calculations.
Most recent value: 29 November 2023.

Chart 1.19: Decomposition of 10Y OIS rates in the euro area

x: time / y: rate (%)

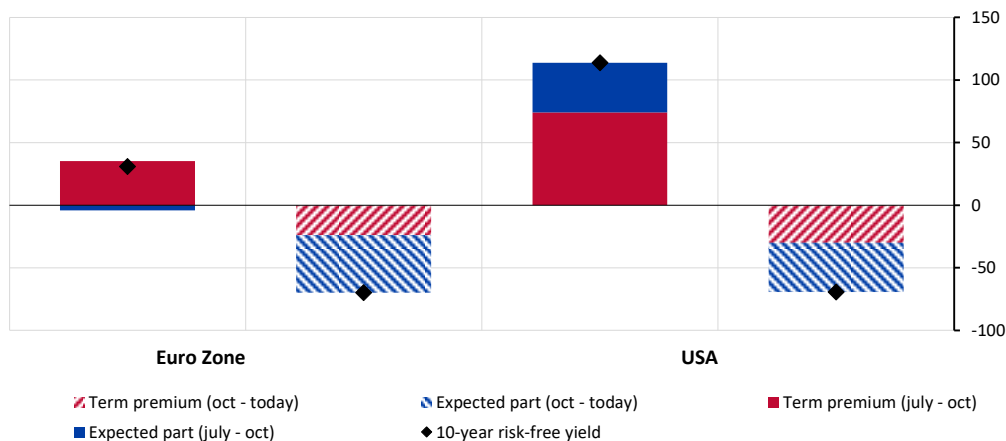


Source: Banque de France calculations.
Most recent value: 6 December 2023.

A decomposition of US yields based on the methodology of Golinski and Spencer (2023)³³ shows that just over 60% of the increase in US 10Y yields between July and October 2023 stemmed from an upward revision of the term premium (see Chart 1.20). The term premium increased less markedly in the euro area than in the United States over the same period, but nevertheless accounted for the entire increase in long-term interest rates. Since the start of November, the “expectations” portion has been driving long-term interest rates down in both the United States and the euro area.

Chart 1.20: Contributions from the term premium and expectations to the change in 10Y risk-free rates between early July and the end of October 2023

x: geographical region / y: basis points



Source: Banque de France calculations.
Most recent value: 29 November 2023.

³³ “Unconventional monetary policies and the yield curve: Estimating non-affine term structure models with unspanned macro risk by factor extraction”, A Goliński and P Spencer, *The Review of Asset Pricing Studies*.

Equity markets remain exposed to the risk of dimmer economic prospects

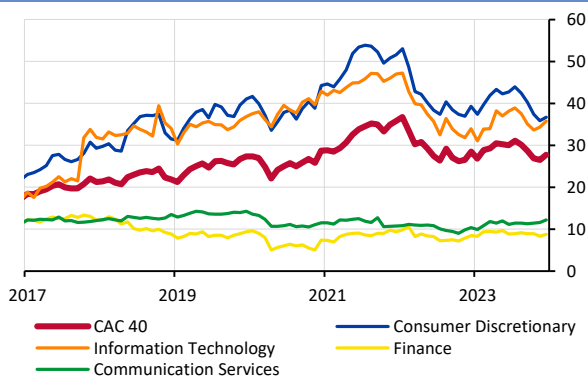
Stock market indices made gains over the second half of 2023. The CAC 40 index rose by 2.9% between July and mid-December 2023, compared with increases of 3.3% for the Eurostoxx 50 and 6% for the S&P500. The CAC 40 regained its all-time high in December of 2023, beating the 7,500-point mark, supported by higher growth expectations for large French companies.

Valuation indicators for French equities are down significantly from where they were at the end of 2021, but are still at historically elevated levels. To determine whether stocks are potentially overvalued, price trends can be compared against corporate fundamentals³⁴ using valuation metrics such as the cyclically adjusted price-to-earnings (CAPE) ratio.³⁵ At 1 December 2023, the average CAPE ratio of the CAC 40 was 28, roughly the same as in January 2023, but sharply down on January 2022 (36.7). However, French stock valuations remain high from a historical perspective, as the CAPE ratio averaged 22.8 between 2000 and 2023.

Relatively high equity valuations mask significant sector and geographical disparities. French stock valuations are driven particularly by the consumer discretionary (particularly luxury) and tech sectors (see Chart 1.21). Conversely, equities issued by financial institutions and telecoms companies are undemandingly valued, recording CAPE ratios of 9 and 12, respectively, compared with 28 for the CAC 40 index at 1 December 2023. To draw an international comparison, the price-earnings ratio of French equities is higher than that of most European markets, including Germany, Italy and the United Kingdom, but remains well below the levels recorded for US equities (see Chart 1.22).

Chart 1.21: Significant sector disparities in CAC 40 valuations

x: time / y: CAPE ratio



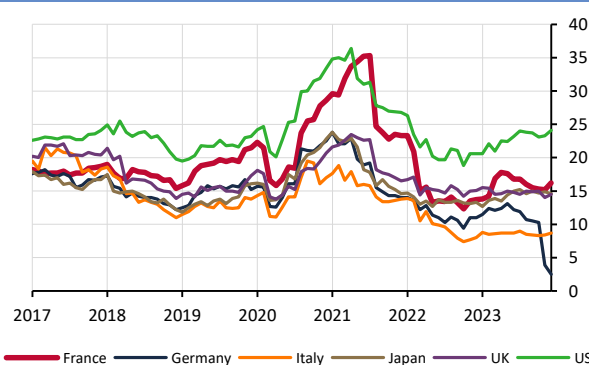
Sources: Eikon Refinitiv, IBES, Fred, Banque de France calculations.

Note: The cyclically adjusted price-to-earnings (CAPE) ratio is calculated by dividing market capitalisation by average net earnings, in this case over five years, adjusted for inflation.

Most recent value: 1 December 2023.

Chart 1.22: French equity valuations are high from an international perspective

x: time / y: price-earnings ratio



Source: Datastream Refinitiv.

Note: Price-earnings ratio based on the most recent earnings published by companies included in Datastream country indices.

Most recent value: 1 December 2023.

The risk premium on the French equity market³⁶ remains low given the bleak economic outlook. The equity risk premium is the additional return relative to French sovereign bonds that investors require to provide capital to French companies.³⁷ After reaching its lowest level since 2000 at the start of the year (5.3%), the CAC 40 equity risk premium picked up slightly in the second half, climbing to 6.8% on 1 December 2023, which was still below its long-term average (9% between 1995 and 2023). The equity risk premium is extremely low, given the slowing pace of economic activity. According to our estimates, the premium should be around 13% (versus 6.8% at 1 December 2023) in this macroeconomic environment (see Chart 1.23). Investors do not appear to have fully priced

³⁴ In theory, equity prices reflect future income discounted using the risk-free rate, to which is added the risk premium demanded by investors, and fluctuate according to these components.

³⁵ The CAPE ratio is calculated by dividing market capitalisation by average net earnings, in this case over five years, adjusted for inflation.

³⁶ The equity risk premium is the additional return demanded by investors to hold equities rather than a 10-year French government bond.

³⁷ The risk premium is a forward-looking, non-observable concept. It is derived from market prices, financial analysts' earnings growth expectations, and the risk-free rate, using a dividend discount model.

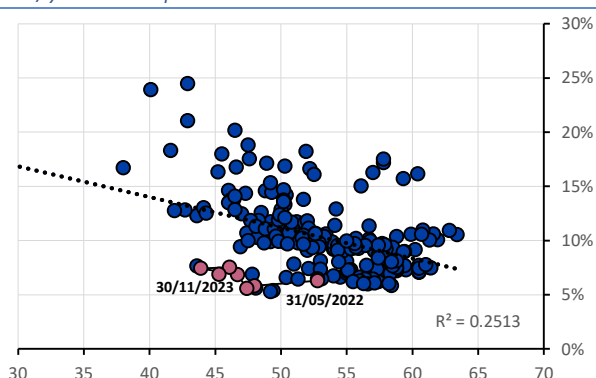
in the deterioration in growth prospects in their assessment of French equity prices. Consequently, the equity market remains vulnerable to an abrupt increase in investor risk aversion.

The low risk premium is largely due to the increase in sovereign bond market yields (see Chart 1.24). Expected returns on CAC 40 equities have practically doubled since the start of 2022 on improved earnings growth prospects, rising from 6% to 10% by 1 October 2023. However, this increase has been largely offset by higher sovereign bond market yields. As a result, expected returns on CAC 40 equities remain unattractive compared with bond yields from a historical perspective and do not appear to reflect the risks of a macroeconomic downturn. The low appeal increases the risk of an equity market correction and goes some way to explaining why investors have stepped up their bond holdings since the end of 2022 (see below).

Equity market volatility was relatively low in 2023, but growing adoption of artificial intelligence models may increase the risk of volatility spikes on equity markets. The use of artificial intelligence (AI) in portfolio allocation strategies represents a potential risk to financial stability linked to market volatility and liquidity. Use of the same AI model by a large number of market participants could generate herd directional investment behaviour. Convergence in investment strategies could also cause bouts of liquidity stress and flash crashes if positions are suddenly unwound.³⁸

Chart 1.23: The equity risk premium is low relative to macroeconomic prospects

x: PMI / y: CAC 40 risk premium as a %



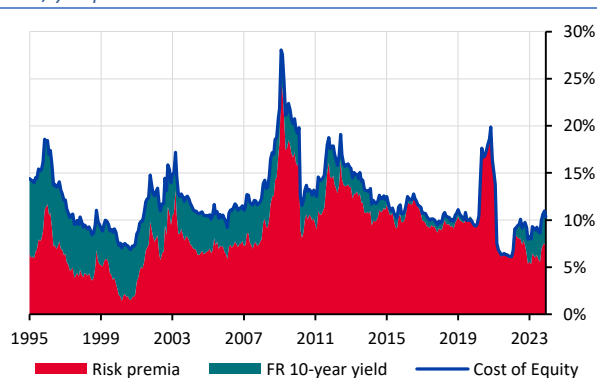
Sources: Eikon Refinitiv, IBES, Fred, S&P Global, Banque de France calculations.

Note: The Purchasing Managers Index (PMI) is an index constructed from monthly surveys of purchasing managers at major French corporations. A value over 50 points to an economic expansion relative to the previous month, while a score below 50 signals a contraction. The black curve shows the regression line between the CAC 40 risk premium and the PMI, estimated between 2005 and 2023.

Most recent value: 1 December 2023.

Chart 1.24: The CAC 40 equity risk premium remains low owing to the increase in bond yields

x: time / y: expected return as a %



Sources: Eikon Refinitiv, IBES, Fred, Banque de France calculations.

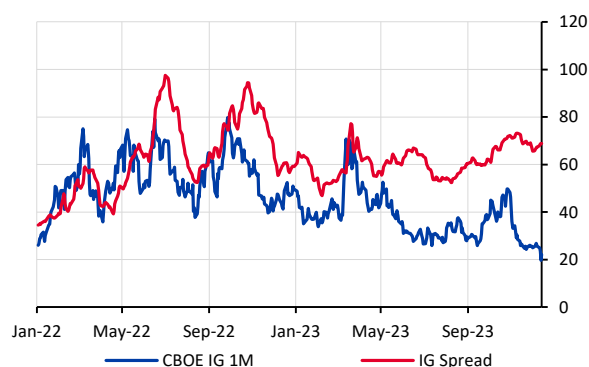
Note: Cost of equity (CoE) is a measure of the cost of a company's equity, estimated from the firm's stock price and analyst forecasts for the stock's future performance (dividend discount model). Accordingly, the CoE corresponds to the return demanded by shareholders. The risk premium is therefore derived by subtracting the risk-free rate from the CoE. The risk premium is a function of investors' overall level of risk aversion, the company's dependence on economic and financial conditions, and, potentially, the firm's idiosyncratic risk.

Most recent value: 1 December 2023.

Corporate bond yields also remain sensitive to increased risk aversion. After increasing sharply in 2022 before easing back between November 2022 and the start of 2023, credit spreads on the market debt of French corporations were steady overall in the second half in the investment grade (IG) and high yield (HY) segments. Overall, these spreads remain correlated to market volatility, which remains relatively low, like on equity markets (see Charts 1.25 and 1.26).

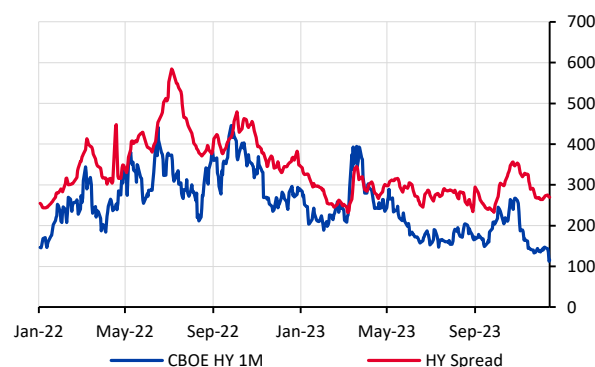
³⁸ OECD – Generative AI in Finance – 2023.

Chart 1.25: Credit spread and volatility of French NFC IG debt
x: time / y: basis points



Sources: CSDB, Eikon, Banque de France calculations.
Note: spreads are adjusted for options; the CBOE VIX IG 1M curve corresponds to the implied volatility index for the credit spreads of bonds issued by IG-rated companies.
Most recent value: 14 December 2023.

Chart 1.26: Credit spread and volatility of French NFC HY debt
x: time / y: basis points



Sources: CSDB, Eikon, Banque de France calculations.
Note: spreads are adjusted for options; the CBOE VIX HY 1M curve corresponds to the implied volatility index for the credit spreads of bonds issued by HY-rated companies.
Most recent value: 14 December 2023.

1.3 A disorderly market correction could lead to liquidity stress for the most vulnerable non-bank financial intermediaries

New spikes in interest rate volatility could generate significant liquidity needs for some market participants

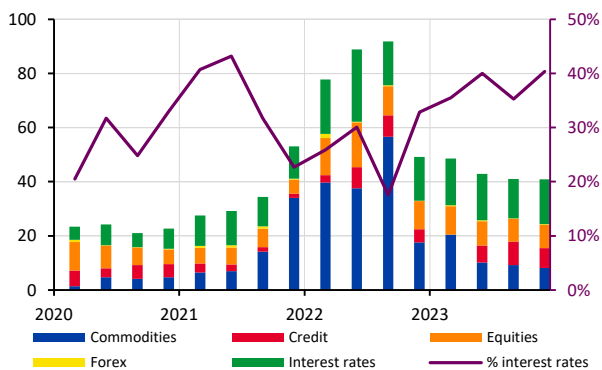
Significant movements on the fixed-income market could lead to a disorderly unwinding of leveraged positions. An interest rate shock could lead to an increase in margin calls³⁹ creating significant liquidity needs for entities with exposure to interest rate derivatives or repos. This liquidity risk, which might be particularly elevated in the event of significant leverage use, could force entities to unwind their positions urgently, fuelling the price decline and affecting other market participants. Problems in September 2022 affecting liability-driven investment funds in the UK illustrated the vulnerability of leveraged long-term investors to a spike in sovereign bond yields. Likewise, a disorderly unwinding of heavily leveraged positions built up on the US Treasury market could disrupt markets (see Box 1.4).

French counterparties must continue to carefully manage the liquidity risks associated with derivative positions and repos. Responding to increased interest rate volatility, the margin calibration models of central counterparties have raised their initial margin requirements. At the same time, French counterparties have increased their exposure to interest rate derivatives since 2022. Initial margin posted by clearing members rose by EUR 2.4 billion between September 2022 and September 2023, i.e. a 20% increase. However, the increase was contained and well below what was observed on the energy market in the summer of 2022 (see Chart 1.27). French counterparties therefore adapted to the increase in margin requirements for interest rate derivatives, but remain exposed to liquidity risk in the event of a new volatility spike. Participants in the French financial system are also exposed to the risk of margin calls on repos. Their exposures to this market have been trending upwards since the start of 2022 (see Chart 1.28).

³⁹ Initial and variation margins for derivatives; margin calls in the event of a decrease in the value of repo collateral.

Chart 1.27: Initial margin received by CCPs on cleared derivatives

x: time / y: EUR billion



Sources: EMIR – DTCC France, Banque de France calculations.

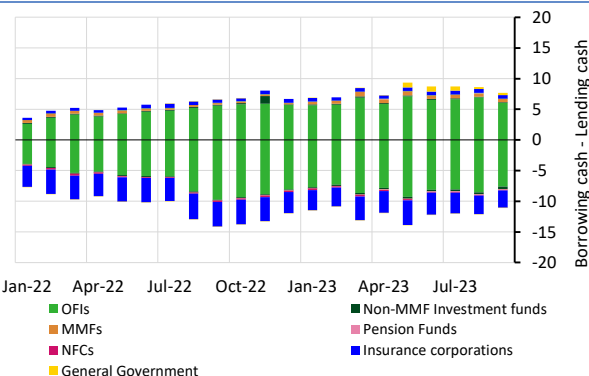
Note: Data on positions involving at least one French counterparty.

Scope: The scope of EMIR data available to the Banque de France includes only transactions conducted by French entities or by European entities and involving French underlyings registered in the DTCC trade repository.

Most recent value: December 2023.

Chart 1.28: Change in positions of French non-bank entities on the repo market, by sector

x: time / y: EUR trillion



Sources: SFTDS, Banque de France calculations.

Note: Data on trades involving at least one French counterparty. Banks are not represented. Bank OFIs are OFIs consolidated into banks.

Most recent value: November 2023.

Box 1.4: Basis trading on the US Treasury market is fuelling liquidity risk

The US Federal Reserve and the Bank for International Settlements (BIS) have issued a warning about the sharp increase in heavily leveraged positions taken by hedge funds on the US Treasury market. These positions seek to exploit small price differences between Treasuries and futures contracts on the same bonds, a process known as basis trading. The Fed noted a build-up by participants in these positions, which are created by selling futures contracts and buying bonds, with financing provided through repos. The hedge funds are betting that the price of the futures contracts will converge with that of the bond as the future nears its maturity date.

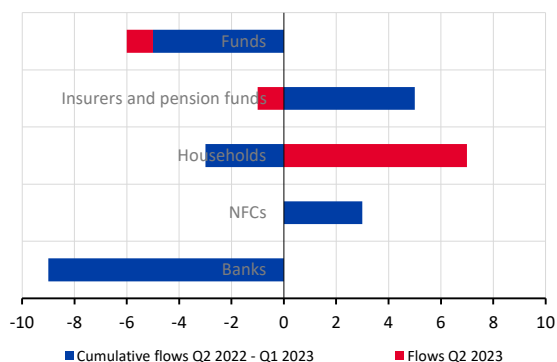
The rise of basis trading on the Treasury market represents a risk to financial stability. This strategy is based on high levels of financial leverage via repos and synthetic leverage via futures contracts. In the event of a volatility shock on the Treasury market, hedge funds could face a sharp increase in liquidity needs linked to margin calls in order to collateralise their repo and futures trades. These liquidity requirements could force the funds to unwind their positions at potentially impaired prices, fuelling heightened volatility and a deterioration in liquidity on the Treasury market. Basis trading previously saw a big surge in 2018 and contributed to significant problems observed on the Treasury market during the Covid-19 crisis in 2020. In November 2023, the nominal amount of short positions of hedge funds in US Treasury futures exceeded the 2019 level.

An increase in risk aversion would raise liquidity risk for bond investment funds with the greatest exposure to risky assets

The increase in interest rates and uncertainty about the macrofinancial environment have prompted switches into safer assets. This trend is at play among French and European funds. Amid rising interest rates and uncertainty about the macrofinancial environment, French money market funds are attracting more inflows than other funds. Their appeal has been particularly apparent since interest rates went up, as these funds are primarily used for cash management purposes. To a lesser extent, a similar trend is in evidence among French bond funds, although with differences depending on the strategies adopted. Mixed funds, which often adopt riskier strategies, and equity funds continue to record outflows and have done since the third quarter of 2022 and the first quarter of 2021 respectively.

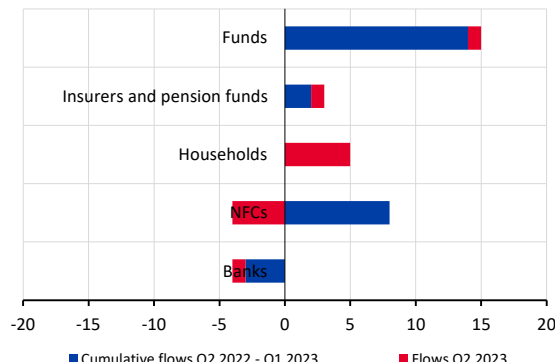
Institutional investors are also actively reallocating their investments between different types of French funds. Overall, investors appear to be turning towards money market funds, with the exception of banks and NFCs over the second quarter of 2023 (see Charts 1.29 and 1.30). Investor behaviour varies over time and across institutional sectors: insurers, for example, appear to be more moderate in their movements than funds, when funds themselves are present in the liabilities of other funds. However, at a time of investor uncertainty, these flows continue to be orderly in terms of their scale.

Chart 1.29: Flows by main investor types into/out of French non-money market investment funds between Q1 2022 and Q2 2023
x : EUR billion / y: fund type



Sources: Banque de France, CSDB, Banque de France calculations.
Note: Flows correspond to transactions by investor type.
Most recent value: Q3 2023.

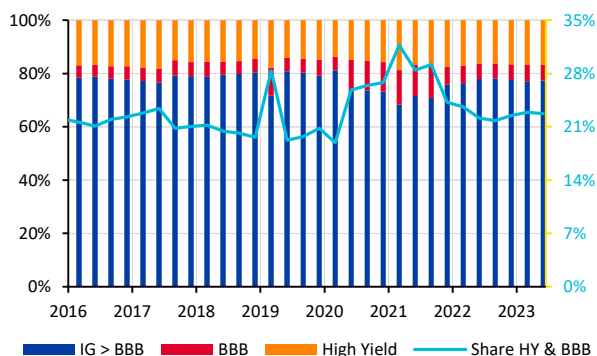
Chart 1.30: Flows by main investor types into/out of French money market investment funds
x : EUR billion / y: fund type



Sources: Banque de France, CSDB, Banque de France calculations.
Note: Flows correspond to transactions by investor type.
Most recent value: Q3 2023.

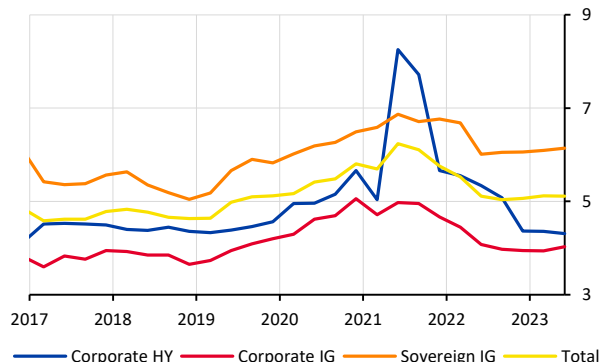
Although on the decline, the credit and duration risk of French bond funds remains high. In Q2 2023, these funds held EUR 275 billion in assets, or 18% of the total assets of non-money market investment funds. The low interest rate environment that prevailed until the end of 2021 encouraged investors to hunt for higher returns and to invest in less liquid asset segments, notably via high yield and emerging bond funds. As a result, the average rating of French bond fund portfolios deteriorated between 2020 and end-2021 (see Chart 1.31). After some normalisation in 2022, characterised by an increase in the share of high-quality assets in portfolios, holdings of HY and BBB-rated bonds stabilised between Q1 and Q2 2023 at levels on a par with the historical average observed between 2015 and 2020 (22%). Additionally, bond funds remain vulnerable to an interest rate shock owing to the elevated duration⁴⁰ of their assets (see Chart 1.32). This effect is especially pronounced for funds that invest mainly in high-quality sovereign bonds, whose duration remains high. Conversely, duration continues to decline significantly for funds holding a majority of HY corporate bonds, consistent with a movement in effect since September 2021. Consequently, these funds are now less exposed to the risk of rising interest rates than they were before.

Chart 1.31: Rating of securities held by French bond funds
x: time / y: %, HY and BBB share (right)



Sources: Banque de France, CSDB, Banque de France calculations.
Most recent value: Q2 2023.

Chart 1.32: Duration of French funds by fund type
x: time / y: duration



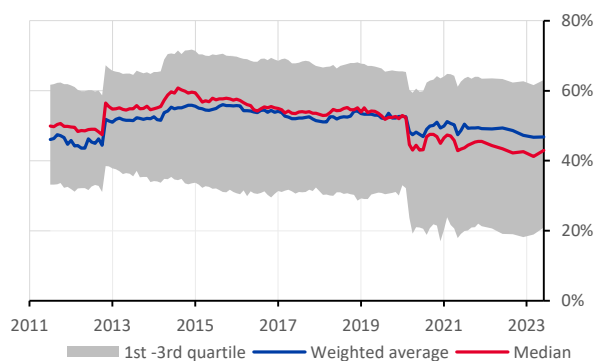
Sources: Banque de France, CSDB, Banque de France calculations.
Most recent value: Q2 2023.

⁴⁰ Duration reflects the sensitivity of a bond's value to a 1% change in interest rates.

French bond funds are exposed to increased liquidity risk. The share of liquid assets held by French bond funds (based on a measure of the bid-ask spread of portfolio assets) has shrunk gradually since 2014, falling from 61% in August 2014 to 41% at the end of March 2023 (see Chart 1.33). The least liquid funds have experienced the most pronounced deterioration, with the share of liquid assets in the first quartile falling from 33% to 19%. The gradual decline in the share of liquid assets is mainly the result of increased holdings of HY corporate bonds.

Some investment funds are characterised by a significant liquidity mismatch between assets and liabilities, especially if they offer investors daily liquidity to redeem units and allocate a significant proportion of their portfolios to illiquid assets,⁴¹ e.g. HY bond funds. Increased volatility on the bond market led to significant dispersal in performances and inflows and outflows for French bond funds in 2022 and 2023 (see Chart 1.34). In particular, since 2023, funds invested in the riskiest assets have seen significant outflows as yields on sovereign bonds and investment grade corporate bonds have regained appeal. This increases the risk of sudden outflows from funds that could lead to fire sales at a time when bond funds are struggling with poor liquidity.

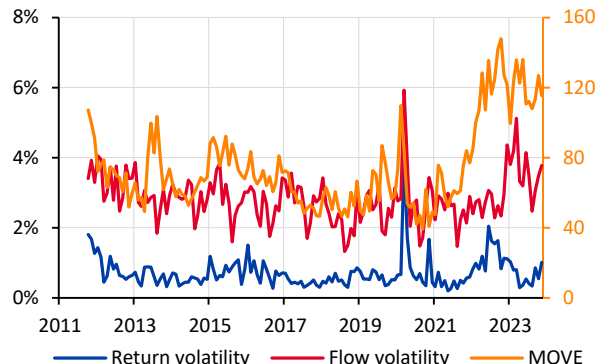
Chart 1.33: Estimated liquidity share of bond fund portfolios
x: time / y: % of net assets



Sources: CIS, Refinitiv, Banque de France.

Note: The liquid asset share is estimated by applying a haircut determined by the bid-ask spread of the securities held by bond funds. The haircut is decreasing (the higher the bid-ask spread, the larger the haircut applied) and non-linear (the marginal haircut tends to decelerate as the bid-ask spread increases).
Most recent value: Q2 2023.

Chart 1.34: Volatility in flows and performances of French bond funds
x: time / y: volatility (left); MOVE (right)



Sources: Lipper Refinitiv, Bloomberg, Banque de France calculations.

Note: Volatility is calculated each month as the cross-sectional dispersal (standard deviation) of flows and performances across all French bond funds. The MOVE is an indicator of the implied volatility of US Treasury yields, calculated based on options pricing.
Most recent value: 1 December 2023.

Private capital funds are exposed to valuation risks in an environment of high interest rates and a slowing economy

Real estate funds are exposed to interest rate risk via the decline in the value of real estate assets and through their use of leverage. While the risks of fire sales are rising, they remain limited at this stage. Real estate funds are exposed to an increase in interest rates in several ways, owing to the downside impact on real estate asset valuations and their structurally high level of debt. Some real estate funds have lowered the valuation of their units since summer 2023, notably at the urging of the AMF, to preserve market transparency. Depending on the type of real estate fund and in the absence of liquidity management tools, such unrealised value losses for real estate assets may lead to investor outflows:^{42,43}

- The vast majority of professional real estate collective investment undertakings (OPCIs) are considered in practice to be closed-end funds, due to their use of notice periods and gating mechanisms. They had EUR 58.7 billion in net assets at end-2022;

⁴¹ Fund asset holdings may span a broad range of instruments, including securities that are highly liquid in normal times, such as equities, IG-rated sovereign bonds and money market assets, but also assets that are traded on shallower and less liquid markets, such as HY corporate bonds, and even some illiquid assets, such as real estate.

⁴² Assessment of Risks to the French Financial System, Banque de France, June 2023.

⁴³ Source: *Les fonds immobiliers grand public au 3ème trimestre 2023*, ASPIM, November 2023; *2023 Markets and Risk Outlook*, AMF, July 2023.

- Real estate investment companies (SCPIs), which had EUR 67.7 billion in net assets at end-2022, are open to redemptions but under strict conditions. Liquidity stress nevertheless increased for this type of fund in 2023. Net inflows to SCPIs, while still positive, slowed considerably to EUR 900 million in Q3 2023, from EUR 2,300 million in Q3 2022. Most importantly, pending redemption requests increased significantly, reaching 1.3% of SCPI capitalization in Q3 2023, compared with a historical average of approximately 0.2%. However, this indicator is still far from the levels reached during the crisis in the 1990s (3.5%).
- Retail OPCl funds are theoretically more exposed to investor redemptions, but hold mandatory liquidity reserves. They had EUR 20.3 billion in net assets at end-2022 and have been experiencing outflows since Q4 2022 (decrease of EUR 790 million in Q3 2023).
- Other types of real estate funds, many of which are set up as civil partnerships, are more exposed to liquidity risk. They had EUR 33.7 billion in net assets at end-2022 and have been experiencing outflows since Q3 2023 (decrease of EUR 880 million).

While the assets of these funds are illiquid, outflows could cause liquidity risk to materialise, forcing funds into fire sales that might then amplify the fall in commercial real estate prices. These difficulties may be exacerbated in the event of heavy leverage use. That said, while the debt level of French real estate funds is higher than the average for other types of domestic funds,⁴⁴ it remains low compared with European real estate funds and has been decreasing slightly for some years.

Private equity (PE) funds are exposed to higher interest rates through the debt held by portfolio companies and through the debt of leveraged buyout (LBO) structures. Although the debt used for LBOs is not held at the level of the fund, but by intermediary holding companies, higher rates lead to a decline in the unrealised value of LBOs.⁴⁵ LBOs account for 73% of assets under management at PE funds in Europe⁴⁶ (USD 850 billion in 2022) and USD 3,300 billion in AUM worldwide. NFCs held by PE funds via LBOs are also more indebted than similar NFCs,⁴⁷ increasing their exposure to interest rate risk and refinancing risk. This risk is prompting PE funds to postpone asset sales as they wait for better exit conditions. PE fund exits totalled EUR 391 billion in the second quarter of 2023, half the level recorded in the second quarter of 2021 (EUR 690 billion).⁴⁸ To meet investors' withdrawal demands, PE funds increasingly use net asset value financing, which involve borrowing against the value of the funds' assets. As such, collateral is also highly exposed to interest rate risk, and this type of transaction increases the financial leverage of PE funds. In a prolonged high interest rate environment, PE funds could be forced to sell their assets and materialize unrealised capital losses.

The concentration of private credit funds in the most at-risk debt market segments increases their exposure to credit risk as financing conditions tighten. Yet, as some participants have pointed out, these funds are growing their share of the leveraged loans market, at a time when the most at-risk NFCs are finding it increasingly challenging to access bond markets and bank credit. Private credit funds have been able to provide liquidity not only to traditional borrowers, i.e. mid-sized companies backed by private equity funds, but also to firms that no longer have access to bond markets or syndicated loans. Direct lending, mezzanine debt and "special situation" financing accounted for 29.8%, 30.5% and 21.7% respectively of the capital raised by private credit funds in the first half of 2023.⁴⁹ Loan structures that are potentially less sound, featuring less restrictive clauses or aggressive repayment assumptions for example, could increase the exposure of private credit funds to interest rate risk. Concentration of the market around a few asset managers, most of which are already present on the PE market, could increase the sector's interconnectedness. The lack of transparency of private credit funds makes it difficult to assess the risk for investors and for the financial system as a whole. Despite the rapid growth of the private debt market, it remains small in size: assets under management have quadrupled in the space of a decade and reached EUR 362 billion in Europe in 2022.⁵⁰

⁴⁴ Loans accounted for 5.7% of the liabilities of French real estate funds, compared with 1.17% for all French funds in Q4 2022. Source: ECB, IVF.

⁴⁵ Private equity: état des lieux et vulnérabilités, Laurent Grillet-Aubert, AMF, September 2023.

⁴⁶ Source: Preqin, including the United Kingdom.

⁴⁷ Assessment of Risks to the French Financial System, Banque de France, June 2023.

⁴⁸ Source: Preqin.

⁴⁹ Source: Pitchbook.

⁵⁰ Source: Preqin.

Vulnerabilities on crypto-asset markets remain stable, but the involvement of institutional players is increasing interconnectedness with the traditional financial system

The crypto-asset market vulnerabilities identified in 2022⁵¹ remain present. “Capitalisation” of the crypto-asset market rose by 49% between end-June 2023 and 15 December, but still stands at 48% approximately of the USD 3,000 billion peak hit in November 2021. The increase is attributable to the 64% rise in the value of Bitcoin, which continues to dominate crypto-assets, accounting for 58% of the total market value in mid-December 2023, while the share of stablecoins was unchanged at 8% of the total market (see Chart 1.35). Investor interest in crypto-assets may have been fuelled by recent developments involving proposed Bitcoin ETFs in the United States⁵² (see Chart 1.36).

Conglomerates playing several roles on the crypto-asset market are systemically important participants within the crypto-ecosystem. They create a risk of transmission to the traditional financial system via their deposits and investment activities. In late 2022, the failure of FTX, a crypto-conglomerate,⁵³ exposed the lack of transparency and the risks associated with participants playing multiple roles on the crypto-asset market, including stablecoin issuance, custody, trading and lending services. Heavy concentration on the crypto-asset market of this type of participant could exacerbate structural risks, interconnectedness between participants and, consequently, conflicts of interest and systemic risk for the crypto-ecosystem.⁵⁴ Furthermore, risks of transmission to the traditional sector are on the rise, as underscored by the Silvergate Bank, Silicon Valley Bank and Signature Bank failures.

Traditional financial institutions are offering more crypto-asset services. Growing involvement by institutional participants creates increased risk of transmission to the financial system, even if such risk remain limited for the time being. Asset managers BlackRock, Fidelity and Franklin Templeton have filed applications with the SEC to market exchange-traded funds indexed to crypto-assets.⁵⁵ These new ETFs have bolstered trust and interest among investors, who interpret the involvement of institutional participants as a validation of the crypto-asset market. At the same time, online payment provider PayPal has launched a stablecoin aimed at retail customers.⁵⁶ Given the size of PayPal's existing user base, this new product has significant potential for adoption, particularly for trade and payment purposes. Forge, the subsidiary of French banking group Société Générale,⁵⁷ US bank JP Morgan and Brazilian investment bank BTG Pactual have all launched stablecoins. These vehicles issued by banking groups are innovative solutions offered to institutional customers seeking to carry out blockchain transactions.

Domestic and international regulators are monitoring these vulnerabilities and linkages. Europe’s Markets in Crypto-Assets (MiCA) Regulation, set to come into force in December 2024, will strengthen the supervisory framework for intermediaries, which will have to be authorised to offer crypto-assets services, in order to protect investors.

⁵¹ [Crypto-assets: 2022 confirmed already identified risks - Banque de France](#)

⁵² [Cryptos: la justice américaine ouvre la voie à une démocratisation de l'investissement en bitcoin | Les Échos](#).

⁵³ [Assessment of Risks December 2022 - Banque de France](#).

⁵⁴ [“Decentralised” or “disintermediated” finance: what regulatory response? - ACPR - ACPR, Banque de France - April 2023](#).

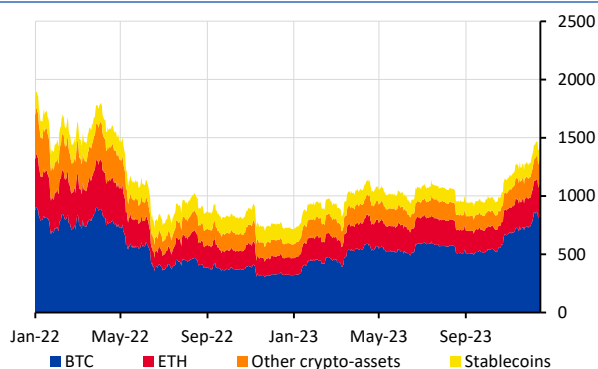
⁵⁵ [iShares Blockchain and Tech ETF - BlackRock](#)

⁵⁶ [PYUSD - Paypal](#)

⁵⁷ [CoinVertible - Société Générale Forge](#)

Chart 1.35: Crypto-assets valuation

x: time / y: USD billion

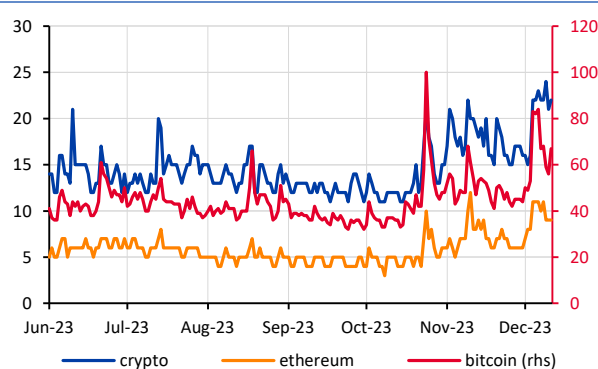


Source: Coingecko.

Most recent value: 15 December 2023.

Chart 1.36: Investor interest in crypto-assets (internet searches)

x: time / y: %



Source: Google Trends – The Google trends shown here are measured as an index which takes the value 100 for the point of highest search interest for any of the three terms since June 2023.

Most recent value: 11 December 2023.

1.4 Ongoing pass-through of higher interest rates to the real economy could increase the vulnerabilities of the most heavily indebted non-financial participants

Financing conditions shield households against an overly severe impact from rising interest rates, although the increase is driving a debt slowdown

The increase in interest rates on property loans is strongly impacting loan production. Interest rates on property loans continue to rise and climbed by 14 bps month-on-month and 156 bps compared with January 2023 to reach 3.87% in October 2023, excluding renegotiations. The cost of property loans remains lower in France than the euro area average, but the gap has been shrinking since early 2023 and narrowed from 64 bps in January 2023 to 25 bps in October 2023. New property loans excluding renegotiations amounted to EUR 9.2 billion in October 2023, down 43% compared with October 2022, when production was still at historically elevated levels. Home lending in France is still more abundant than in other European economies, totalling EUR 153 billion between November 2022 and October 2023, or 18% more over the same period than in Germany, which has historically posted the most similar loan production levels.

The growth dynamic of household debt is turning, given the slower pace of home lending, which makes up 85% of total outstanding household credit. The same trend is observed in other European countries. Annual growth of outstanding property loans to resident individuals continued to slow, reaching 1.6% in October, down from 1.8% in September, but stayed above the euro area average (0.3% growth in October 2023).⁵⁸ Growth in outstanding consumer loans, which had been slowing for a year, picked up slightly in October 2023, with an increase of 2.2%, after 1.9% in September.⁵⁹ As a result, household debt as a percentage of gross disposable income declined over three consecutive quarters for the first time since 1999, falling below 100% in France in the second quarter of 2023. A similar decrease was observed in other European countries (Chart 1.37). The decrease in the debt ratio caused the debt service ratio (DSR)⁶⁰ to fall in recent quarters, although this was partly offset by higher interest rates: in Q2 2023 the DSR fell by 0.2 percentage points (pp) year-on-year, following a 0.1 pp decrease in Q1 2023. An increase in the unemployment rate could erode household repayment capacity further.

⁵⁸ Source: Banque de France. Notes: The euro area growth rate covers “households”, which comprises individuals but also individual entrepreneurs and non-profit institutions serving households. Growth in outstanding housing loans to households in France came to 1.8% in October 2023.

⁵⁹ Source: Banque de France.

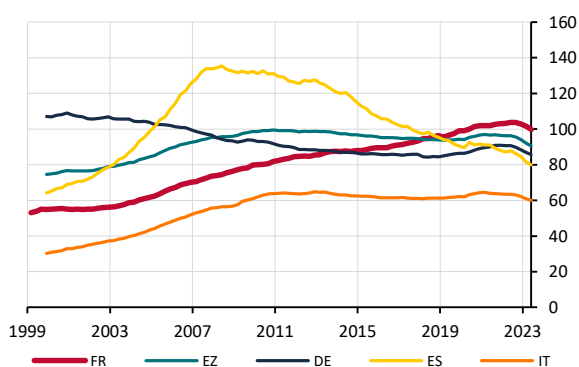
⁶⁰ The household debt service ratio is debt interest and principal payments divided by households’ gross disposable income.

The unemployment rate in France increased to 7.4% in Q3 2023, after hitting a 20-year low of 7.1% in Q2 2023. Gloomy prospects and more muted growth could fuel an increase in the unemployment rate.

The HCSF standards on home lending and factors of resilience within the French real estate market are protecting households as financial conditions tighten. The HCSF measure⁶¹ has helped to restore healthy lending standards and prevent an excessive build-up of household debt, thus preserving France's home lending model. Meanwhile, factors of resilience within the French real estate market – particularly fixed rates – are insulating households from the effects of higher rates (see chapter 2 on residential real estate).

French households reported a saving ratio of 17.8% in Q2 2023, which was both higher than the pre-Covid level and among the highest for the major European economies (Chart 1.38). Historically, and excluding the Covid-19 period, when saving was exceptionally high, the saving ratio in France has averaged 14%.⁶² Whereas saving ratios in a number of countries, such as Italy and the United States, began reverting to pre-Covid levels in Q4 2022, France's ratio was still higher than its pre-Covid reading in Q2 2023. This saving, which helps to shield households amid sustained inflation, is expected to be accompanied by growth in real wages starting in 2024, according to macroeconomic projections in September 2023.⁶³ Although the saving ratio is lower among low-income households, the increase in overindebtedness, which primarily concerns this group, remains contained: the number of household filings for overindebtedness was up 8% overall compared with 2022 in the first 11 months of the year, but 16% down compared with 2019.⁶⁴

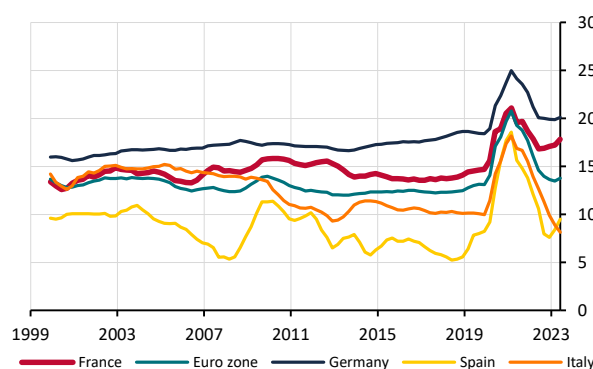
Chart 1.37: Household debt – European comparison
x: time / y: % of gross disposable income (GDI)



Source: ECB-SDW.

Notes: Data to end-March 2023. Debt (loan) ratio of households and non-profit institutions serving households vis-à-vis the total economy (including the rest of the world) as a % of gross disposable income, Quarterly, Liabilities, Non-consolidated data, Current prices, Non-seasonally adjusted (as a %).

Chart 1.38: Saving ratio, households and NPISH⁶⁵
x: time / y: % of GDI



Sources: Eurostat, BEA and ONS.

Note: smoothed over 4 quarters.

The French corporate credit cycle is slowing in response to the rise in interest rates, but credit risk remains moderate

Monetary tightening has pushed up NFC funding costs and caused the growth rate of outstanding NFC loans to slow. The average funding cost for French NFCs reached 4.61% in October 2023. Between March 2022 and April 2023, market financing was costlier than bank credit, reflecting pass-through of higher policy rates to market rates. Bank lending rates rose more gradually, as during the previous tightening cycle in 2005. Since April 2023, the cost of market financing has fallen below the cost of bank financing (4.32% compared with 4.82% for new bank loans over EUR 1 million in October 2023). In October 2023, outstanding loans to French NFCs were up 2.1% on the

⁶¹ Decision D-HCSF-2021-7 of 29 September 2021 on property loan credit standards, amended by Decision D-HCSF-2023-02 of 29 June 2023.

⁶² Average between Q4 2000 and Q4 2019.

⁶³ Source: Banque de France.

⁶⁴ Source: Banque de France.

⁶⁵ Non-profit institutions serving households.

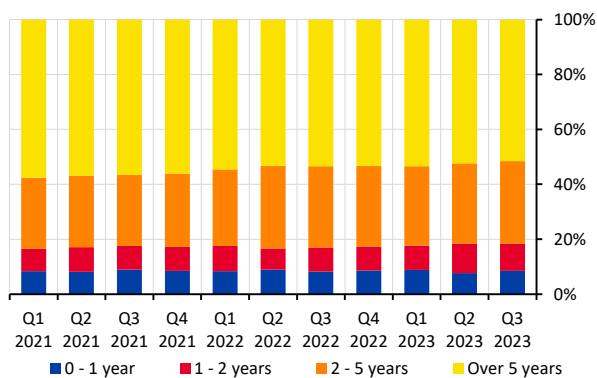
previous year (compared with 7.1% in August 2022) and continued to outpace the euro area average, which decreased by 0.2%. Outstanding market financing, which makes up 34% of the funding of French NFCs, was up by 1.7% in October 2023 compared with the previous year. Overall, the volume of funding provided to French NFCs grew annually by 2% in October 2023.

The pass-through of higher interest rates to corporate balance sheets is still ongoing. Their fixed-rate funding structure has shielded NFCs from a sharp interest rate shock, but it does not protect them against a gradual increase in their funding cost. In France, 45% of outstanding fixed-rate bank loans to NFCs, worth EUR 333 billion, are due to be renewed between the second quarter of 2023 and the end of 2025.⁶⁶ Taking into account floating-rate bank debt, 76% of which must be re-priced between the second quarter of 2023 and the end of 2025 (EUR 183 billion), 53% of all NFC bank debt outstanding has to be refinanced or repriced by the end of 2025, including 35% in 2023. From the perspective of French NFCs as a whole, the additional interest expense should be absorbable. Assuming that interest rates on all new bank loans are set at 4.25% in the coming years, the financial cost of rolling over the debt would amount to 1.3% of NFC gross value added (based on the level in the second half of 2023).

Access to credit remains stable, but refinancing risk must be monitored, particularly for the most heavily leveraged companies. According to surveys of French NFCs, loan application and approval rates were broadly stable for investment loans between mid-2022 and mid-2023 and decreased moderately for cash management loans. Loan approval rates reached 83% for small and medium-sized enterprises (SMEs) and 85% for mid-tier firms in the third quarter of 2023, compared with 86% and 93% in the first quarter of 2023). Refinancing requirements for NFC market debt may increase, particularly for companies in the high yield (HY) segment, owing to their shorter maturity profiles. One-quarter of the outstanding long-term HY debt of French NFCs is set to mature in 2024 and 2025 (see Charts 1.39 and 1.40). Meanwhile, HY debt issuance volumes have slowed markedly since 2022.

Chart 1.39: IG market debt maturities, French NFCs

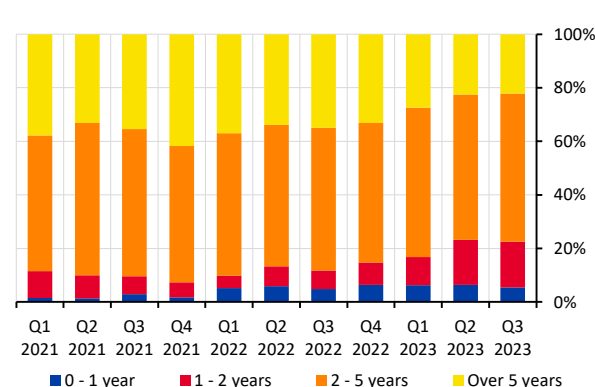
x: time / y: % of IG outstandings



Source: CSDB.

Chart 1.40: HY market debt maturities, French NFCs

x: time / y: % of HY outstandings



Source: CSDB.

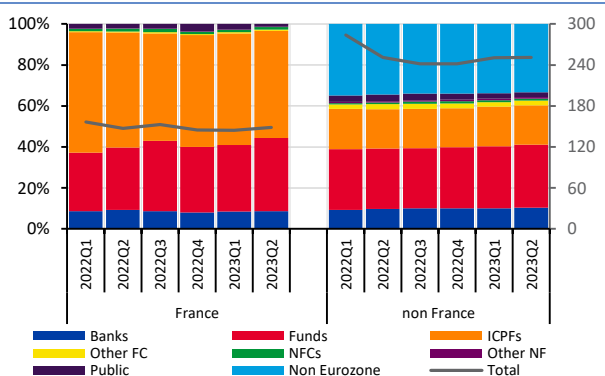
Financing for the HY market debt of French NFCs is mainly reliant on investment funds and investors from outside the euro area. In Q2 2023, non-resident investors held a market share of 81% in the HY segment (compared with 63% in the IG segment), and non-euro area investors alone held approximately one-third (see Charts 1.41 and 1.42). Coppola (2023) shows that holdings by insurers and pension funds (ICPF) are more stable, partially protecting the funding cost of issuers against temporary shocks.⁶⁷ This stabilising effect primarily benefits IG companies, since ICPFs have a larger market share in IG securities (31%) than in HY securities (12%). Meanwhile, 42% of the HY debt of French NFCs is held by investment funds, whose demand is more cyclical and sensitive to redemptions and liquidity requirements (see Coppola 2023, and Box 1.5).

⁶⁶ The share of outstanding bank loans to be repriced is calculated by considering the credit period, rate type, renegotiation dates and amortisation type of different loans. The method is presented in detail in Box 2.1 "Pace of interest rate repricing on bank loans to French NFCs" in the Assessment of Risks to the French Financial System, June 2023.

⁶⁷ Antonio Coppola, In Safe Hands: The Financial and Real Impact of Investor Composition Over the Credit Cycle (2023), R&R, *The Review of Financial Studies*.

Chart 1.41: Holders of the IG debt of French NFCs

x: time and investor residence / y: % (left), EUR billion (right)

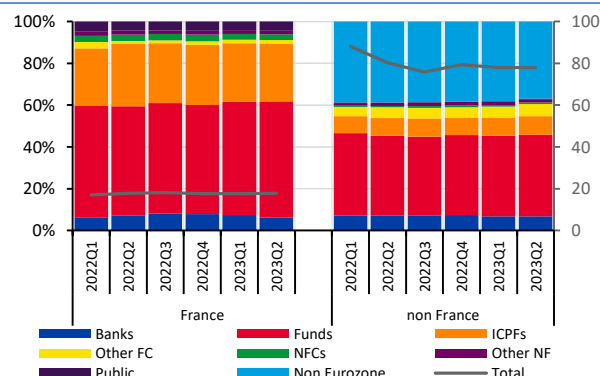


Sources: ECB SHS-S and CSDB.

Notes: ICPF:= insurance companies & pension funds, FC:= financial corporations, NFC:= non-financial corporations, NF:= non-financial; over the period, SHS-S holding data cover between 89% and 91% of total outstanding debt of French NFCs as reported in the Quarterly Financial Accounts (ECB QSA); in Q1 2023, unrated debt made up 14% of outstandings.

Chart 1.42: Holders of the HY debt of French NFCs

x: time and investor residence / y: % (left), EUR billion (right)



Sources: ECB SHS-S and CSDB.

Notes: ICPF:= insurance companies & pension funds, FC:= financial corporations, NFC:= non-financial corporations, NF:= non-financial; over the period, SHS-S holding data cover between 89% and 91% of total outstanding debt of French NFCs as reported in the Quarterly Financial Accounts (ECB QSA); in Q1 2023, unrated debt made up 14% of outstandings.

Monetary tightening is weighing on the interest coverage ratio of French NFCs. Since the final quarter of 2021, the interest coverage ratio (EBIT/interest expense) has fallen and reached 5.08 in the second quarter of 2023 (versus 7.6 in the final quarter of 2021), affected initially by lower income in the first quarter of 2022, and then by the rise in interest rates. The ratio has decreased swiftly compared with the previous period of rising interest rates (2005-2006), due to the sustained pace of monetary policy tightening (see Chart 1.43). With debt structures featuring fixed rates and long credit periods, France and Germany have seen their coverage ratios decline more moderately than in Spain and Italy, where floating rates occupy a higher share. However, the level of interest service ratio based on national accounts should be interpreted with caution, since granular data give a structurally higher interest service coverage ratio (11.7 in 2021)^{68,69}. Given their already lower than average coverage ratios in 2021, SMEs (ratio of 7.7) and companies in the retail (7.6), construction (6.6) and agriculture (8) sectors are most exposed to the risk that their ratio might worsen.

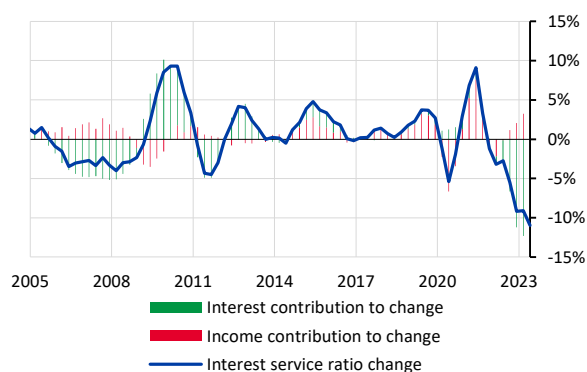
NFCs' elevated cash reserves are a factor of resilience in coping with pressure on the interest coverage ratio. After record increases between 2019 and 2021, driven notably by take-up of PGE state-guaranteed loans, corporate cash reserves have been stable since 2021 across all categories. Overall cash levels have been steady since March 2023, with a reallocation of part of sight deposits to term deposits (see Chart 1.44). Cash holdings are a factor of resilience in terms of funding sources but also because they may earn interest, in the case of term deposits. In France, interest received was equivalent to 80% of interest payable by NFCs in the second half of 2023, while interest received exceeded interest payable in 2021 and 2022, providing coverage against the increase in interest rates for French NFCs. In the second quarter of 2023, interest expense net of interest received was equivalent to 2.2% of the EBIT of NFCs, or far less at this stage than during the previous period of increasing interest rates. However, in a setting of rising prices, if cash stabilises, it could become less effective at cushioning higher expenses. While aggregate cash levels remain elevated, deteriorating "cash sentiment", as reported in Banque de France surveys of business conditions, signals disparities in NFC cash flows.

⁶⁸ Based on FIBEN data on French NFC balance sheets.

⁷⁰ In 2021, for example, retained equity added 6 pp to SME equity growth of 10%. Bulletin de l'Observatoire du financement des entreprises, Annual Report 2022.

Chart 1.43: Interest coverage ratio, change and decomposition, French NFCs

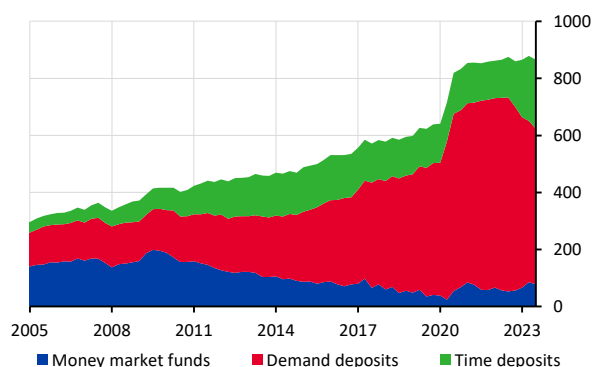
x: time / y: change in ratio (%)



Sources: Quarterly Sectoral Accounts, Banque de France calculations.
 Note: The interest coverage ratio corresponds to EBIT divided by interest expense, on a year-on-year basis.
 Most recent value: Q2 2023.

Chart 1.44: Cash holdings, French NFCs

x: time / y: EUR billion

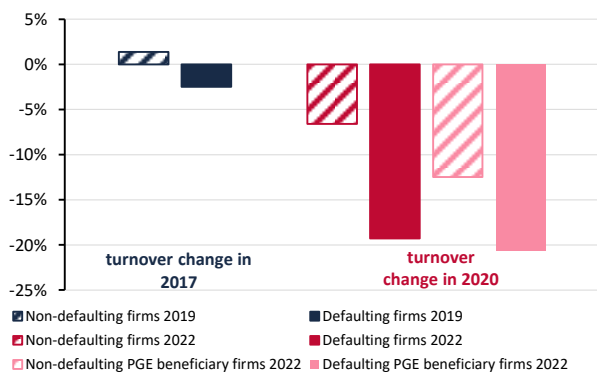


Sources: Banque de France, Quarterly Sectoral Accounts.
 Most recent value: Q2 2023.

So far, the effects of higher interest rates on NFC credit risk have been limited. An analysis of the change at end-2022 in Banque de France ratings, which assess a company's ability to honour its financial commitments on a three-year horizon, suggests that companies maintained their repayment capacity. The number of corporate bankruptcies normalised in 2023, but the upturn in failures was more pronounced for SMEs (excluding microcompanies) and mid-tier firms. This resulted in an increase in the share of loans to defaulting companies in total outstanding loans to French NFCs. At the end of September 2023, this proportion was 15% higher than in 2019 for all NFCs taken as a whole. Among smaller firms, the share of outstanding loans attributable to failing companies was twice as high as at the end of 2019. The share of non-performing loans in the exposures of French banks remains low relative to the historical average but is rising (see Part 1.5). Discretionary consumer sectors, such as retail, transport, hotels and restaurants, but excluding luxury, and the manufacturing and extractive industries are the most affected by the increased share of non-performing loans.

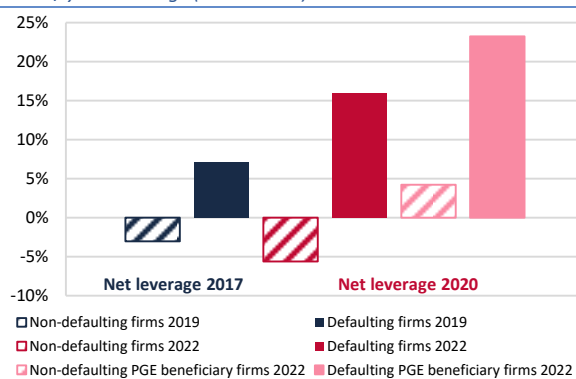
PGE state-guaranteed loans repayment continues, but companies that took them out were more affected than other NFCs by the 2020 shock. The Banque de France is closely tracking changes in the repayment behaviour of companies that took out PGE loans. According to the data available at end-September 2023, of the EUR 143 billion in PGE loans taken out, almost half has already been repaid (EUR 67.7 billion). However, companies that took out PGE loans are also characterised by higher net leverage than other firms and larger turnover shocks. Companies that received PGE loans and that defaulted in 2022 posted a median decrease in turnover of 21% two years before their failure, compared with a 10% decline for non-defaulting PGE recipients and a 20% decline for all defaulting NFCs (see Chart 1.45). Likewise, companies that received PGE loans and that defaulted in 2022 had a 23% net leverage in 2020, compared with 4% for non-defaulting PGE recipients and 16% for all defaulting NFCs (see Chart 1.46). NFCs that received PGE loans were therefore firms that were hardest hit by the 2020 shock, in terms of both leverage and turnover.

Chart 1.45: Change in turnover measured in 2017 and 2020 (median) for defaulting and non-defaulting companies in 2019 and 2022 respectively
x: time / y: % change



Sources: Banque de France, FIBEN, Banque de France calculations.

Chart 1.46: Net leverage measured in 2017 and 2020 (median) for defaulting and non-defaulting companies in 2019 and 2022 respectively
x: time / y: net leverage (liabilities = 1)



Sources: Banque de France, FIBEN, Banque de France calculations.

Note: Net leverage = (gross debt – (cash and cash equivalents + marketable securities))/total assets.

Growth in equity financing and deleveraging are contributing to the resilience of NFC's access to financing. Increased equity financing is limiting NFC exposure to interest rate risk. In France, the leverage ratio of French NFCs has been trending downwards since 2012, falling from 65% in the second quarter of 2012 to 38% in the second quarter of 2023, according to national accounts data. The equity of French NFCs is mostly comprised of unlisted shares (70% in the second half of 2023 according to national accounts data), including internal financing and unlisted equity investments. In the case of SMEs, these unlisted shares result mainly from retained earnings, making them less vulnerable to valuation risks.⁷⁰

Despite the increased funding cost, government debt is supported by stable demand

In 2023, the government deficit should stabilise at around 4.8% of GDP, as in 2022. Ratios of government revenue and expenditure relative to GDP should decrease in parallel by around two points of GDP relative to 2022. On the revenue side, corporate income tax payments are expected to normalise gradually from the elevated levels of 2022, while VAT revenue and transfer duties are set to be lower than expected, according to the most recent available data. Another revenue factor is the phaseout of approximately one-half of the CVAE business value-added tax. The government spending ratio is expected to decline as measures linked to the Covid-19 crisis and the stimulus plan are wound down, although these will be partly offset by new schemes, such as the France 2030 investment plan and the national Green Fund. The interest burden will fall slightly as a percentage of GDP compared with 2022, with the impact of higher interest rates being offset this year by the decrease in inflation indices used as benchmarks for inflation-linked debt. It will however remain higher than it was in 2021 (1.7% of GDP in 2023, versus 1.4% of GDP in 2021).

Beyond 2024, provided there are no new measures in addition to those known at the time of this projection, the government deficit should gradually decrease to about 3.9% of GDP in 2026, which would still be higher than in 2019. The decrease would stem from a decline in the government spending ratio, while revenue is expected to remain about the same as a percentage of GDP. The ratio of government spending excluding tax credits is however expected to remain much higher than the 2019 ratio, notably due to the increase in the debt burden and the continuation of a number of discretionary measures (France 2030, environmental measures, etc.).

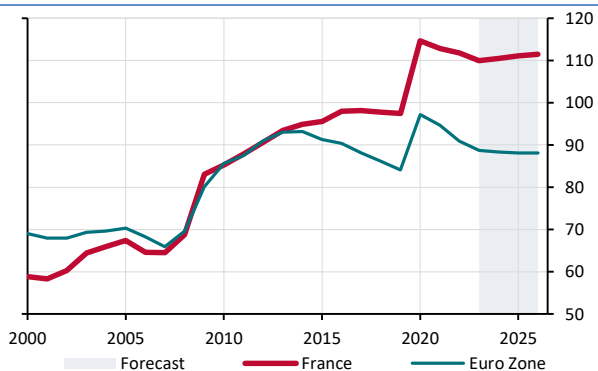
After edging down to 109.9% of GDP in 2023, the government debt ratio will stop declining and settle, assuming no new measures are introduced, at approximately 111% of GDP by the end of the forecasting horizon, slightly below the 2020 level (see Chart 1.47). By way of comparison, across the euro area as a whole, this ratio is expected to decrease by 9 points between 2020 and 2026 (to 88% of GDP according to Eurosystem

⁷⁰ In 2021, for example, retained equity added 6 pp to SME equity growth of 10%. Bulletin de l'Observatoire du financement des entreprises, Annual Report 2022.

projections), wiping out virtually all of the previous increase. This would result in a gap of more than 20 points of GDP between France and the euro area by the end of the projection period

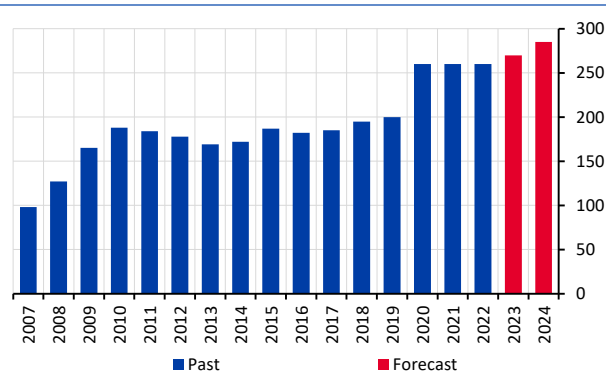
French sovereign debt issuance remains substantial. In September 2023, issuance of medium- and long-term sovereign debt was elevated and is expected to remain so in 2024 (see Chart 1.48). Agence France Trésor (AFT) is expecting government bond issuance net of redemptions to reach EUR 270 billion in 2023 and EUR 285 billion in 2024, up from EUR 260 billion in 2022. The average residual maturity of negotiable government debt continues to lengthen and reached 8.58 years in October 2023, compared with 8.36 years in December 2022. The longer maturity of sovereign debt issues helps to smooth out the effects of higher rates on debt service in the short term.

Chart 1.47: Sovereign debt
x: time / y: debt/GDP ratio



Sources: INSEE and Eurostat until 2022, Banque de France and Eurosystem and Eurostat projections until 2022, Banque de France and Eurosystem projections from 2023.

Chart 1.48: Debt issuance, net of redemptions
x: time / y: EUR billion



Source: AFT.
Scope: Medium- and long-term debt issuance (OATs).

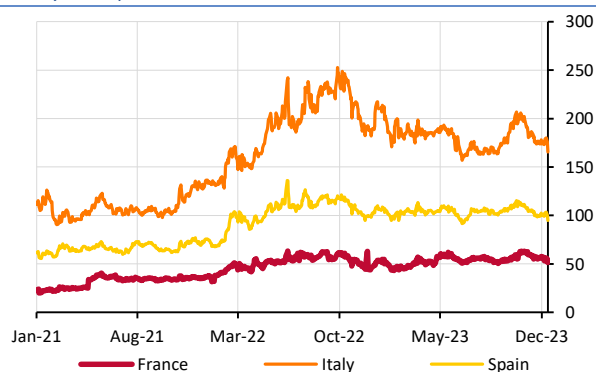
Demand for sovereign debt remains sustained. Gradual normalisation of the Eurosystem balance sheet, which implies that private and non-resident investors will have to absorb increased volumes of sovereign debt, is proceeding smoothly. It is being offset by increased non-resident holdings, which made up 52% of holdings in the second quarter of 2023, compared with 47.8% at the end of 2021 (see Box 1.5). Conversely, the share held by French insurers contracted to 11.5% in the second quarter of 2023, compared with 15.8% at end-2021. The bid-to-cover ratio has been trending downwards since 2021, but was still above 2 in 2023,⁷¹ pointing to strong liquidity on the primary market (see Chart 1.50).

Sovereign yield spreads in the euro area are widening slightly amid higher volatility. Spreads for French government bonds over German 10-year Bunds widened between September and October 2023, before narrowing again from November 2023. In December 2023, the spread averaged 56 basis points, up from 52 bps in the first half of 2023, compared with 176 bps for Italian government bonds and 100 bps for Spanish government bonds (see Chart 1.49). The spread for Italian bonds (BTPs) over German Bunds is particularly volatile. A downturn in investor perception of the sustainability of government debt could cause sovereign bond yields to come under stress. However, fragmentation risk remains contained, particularly since the Eurosystem has set up a Transmission Protection Instrument to combat disorderly market dynamics that pose a serious threat to the transmission of monetary policy.

⁷¹ Source: AFT.

Chart 1.49: Sovereign spreads over Bunds

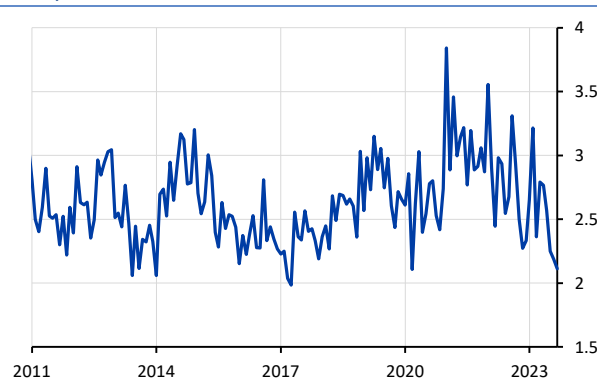
x: time / y: basis points



Source: Eikon Refinitiv.
Most recent value: 15 December 2023.

Chart 1.50: Bid-to-cover ratios, negotiable government debt issues

x: time / y: bid



Source: AFT.
Most recent value: September 2023.

Box 1.5: Effects of Eurosystem quantitative tightening on demand for sovereign debt

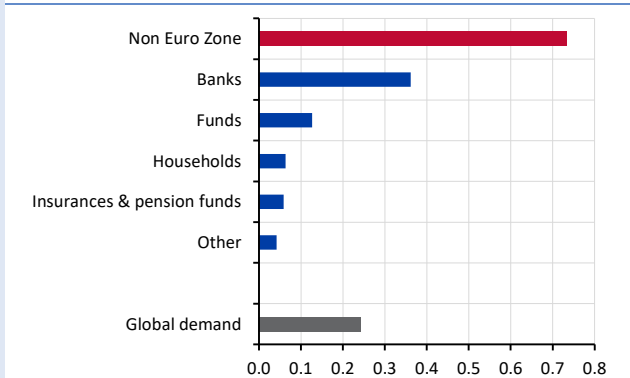
Quantitative tightening (QT) by the Eurosystem means that private investors need to absorb new euro area debt issuance. As part of its fight against inflation, the Eurosystem halted net purchases of securities under the asset purchase programme (APP) in July 2022, and in March 2023 began limiting reinvestments of maturing securities. Reinvestments under the APP were stopped altogether in July 2023, while reinvestments of purchases under the pandemic emergency purchase programme (PEPP) will continue at least until 2024. Financing needs have increased particularly for sovereign debt, which has seen a post-QT downturn in demand, whereas the supply of government securities remains elevated (see Part 2.3). Renewal of the investor base could result in yield corrections and asset switches.

Demand from non-euro area investors is playing a key role in absorbing new issuance, but could be a source of weakness in the event of an external shock. This box identifies the capacity of investors to absorb euro area debt using a model in which asset prices are determined by investor demand.⁷² To understand the price dynamics, the demand of each investor must therefore be characterised. As demand's sensitivity to price variations increases, so does the investor's capacity to absorb excess supply of debt securities with a low impact on yields. In the case of non-euro area investors, a 1% price decrease boosts foreign demand by 0.73% on average (see Chart 1.51). This high sensitivity may be attributable to the fact that it is easier for foreign investors to switch between different geographical regions. But it also means that an external shock, such as an increase in US interest rates, would weaken demand from non-euro area investors and, consequently, absorption of euro area debt. Conversely, holdings of insurers and pension funds are rather insensitive to price variations. By adhering to a defined investment strategy irrespective of price changes, insurers and pension funds behave like long-term investors with preferred-habitat constraints.

⁷² Kojien, Ralph, François Koulischer, Benoît Nguyen, Motohiro Yogo, Inspecting the mechanism of quantitative easing in the euro area, *Journal of Financial Economics* 2021. Aggregate data on securities holdings by sector (SHS-S) are used for this work.

Chart 1.51: Average price-elasticity (absolute value) of demand from euro area institutional sectors for EUR-denominated debt securities

x: holding sector / y: unit



Sources: ECB, SHS-S and CSDB, Banque de France estimates.

Notes: Elasticities are derived from estimates by euro area holding sector provided by a demand-based asset pricing model with the growth rate of nominal holdings of a bond as the dependent variable. The sample covers the periods from Q3 2017 to Q1 2023. All regressions include the yield to maturity (YTM), residual maturity, the security's rating as well as the US Treasury 10-year yield and the VSTOXX volatility index. YTM is instrumented by monetary surprises at different points in the yield curve constructed by Altavilla et al. 2019, "Measuring euro area monetary policy", Journal of Monetary Economics, Vol. 108, December 2019, pp. 162-179; these were interpolated to adjust the surprise to the maturity of securities; "Other" includes NFCs and the sovereign; "Banks" include credit institutions and money market funds; "Funds" include investment funds and other financial institutions.

Consistent with the orderly absorption of QT in 2023, our simulations indicate a limited effect from QT on yields.

In the euro area, sovereign debt yields are projected to increase by approximately 4 basis points following a 1% contraction in the Eurosystem balance sheet (see Chart 1.25).⁷³ The impact on French sovereign debt yields is even weaker, at 2.7 basis points, owing to the significant role of non-euro area investors in absorbing the shock. The mild impact of QT on yields is consistent with the contained increase of approximately 10 basis points in the 10-year BTP/Bund spread since March 2023.

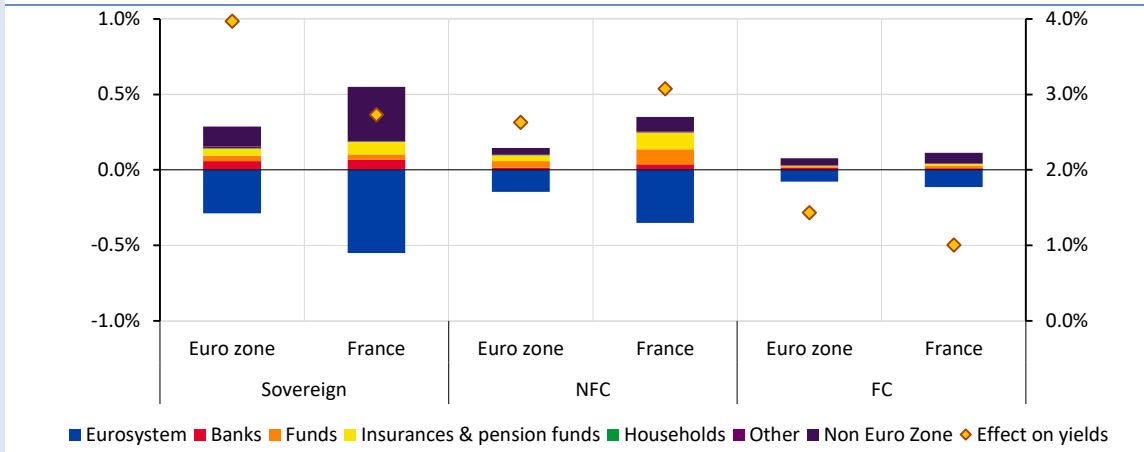
Reflecting the Eurosystem's footprint on euro area debt markets, QT especially affects sovereign debt.

Thus, a 1% reduction in the Eurosystem's balance sheet, corresponding in Q1 2023 to approximately EUR 49 billion, would translate into additional demand for the market to absorb of approximately 0.3% of outstanding euro area sovereign debt⁷⁴ (see Chart 1.52). Owing to the significant price-elasticity of their demand, non-euro area investors would purchase approximately one-half of sovereign

debt securities in the euro area and two-thirds in France. Changes to the investor base are also occurring for the debt of non-financial corporations (NFCs) and financial corporations (FCs). Absorption by other institutional sectors is consistent with their preferred habitats: insurers primarily buy long-term debt, whereas short-term debt is mostly absorbed by banks and money market funds.

Chart 1.52: Absorption by euro area institutional sectors of a 1% reduction in the Eurosystem balance sheet (= "QT shock"), for sovereign, NFC and FC debt, euro area and France

x: issuing sector / y: % of outstanding amount (left), effect on yields in basis points (right)



Source: ECB, SHS-S and CSDB, Banque de France estimates and simulations.

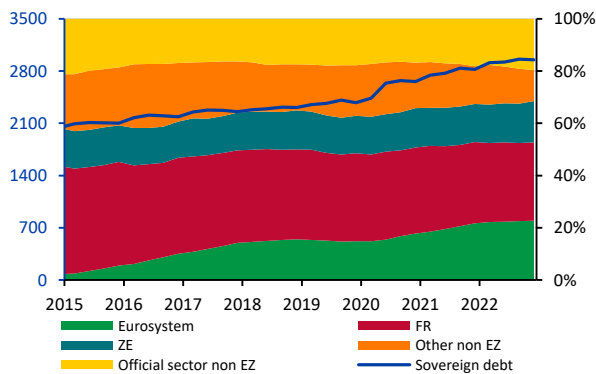
Notes: "Other" includes NFCs and the sovereign; "Banks" include credit institutions and money market funds; "Funds" include investment funds and other financial institutions; "NFCs" are non-financial corporations and "FCs" are financial corporations. Guide: The columns show the absorption of a decrease in Eurosystem demand for different classes of debt (as a percentage of outstandings) by euro area institutional sectors and non-euro area investors. The yellow dots show the impact on yields.

⁷³ Or 13 basis points for a decrease in demand of 1% of total outstanding euro area debt.

⁷⁴ The Eurosystem holds approximately 30% of outstanding sovereign debt in the euro area.

Strong performances by sovereign yields, especially in France, during QT are therefore dependent on demand from non-euro area foreign investors. Their share of holdings of French sovereign debt has decreased since 2014 (see Chart 1.53), reflecting the impact of purchase programmes. The public sector and non-bank investors account for the bulk of these non-euro area foreign holdings, in the amount of EUR 578 billion and EUR 289 billion respectively in Q4 2022. French investors held EUR 882 billion worth of French sovereign debt in Q4 2022 (see Chart 1.54), or 29.9% of the total amount.

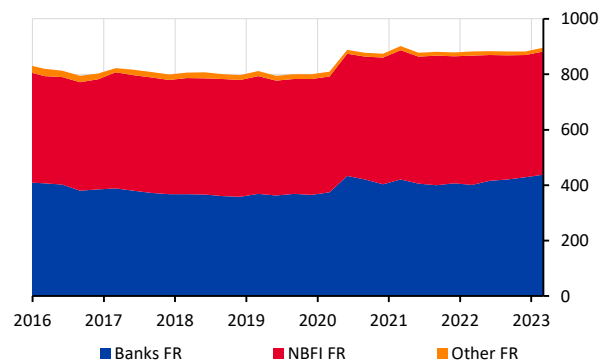
Chart 1.53: Holders of French sovereign debt, by geographical zone
x: time / y: % (left), sovereign debt in EUR billion (right)



Sources: Banque de France, ECB, IMF, BIS.

Notes: Holdings of non-euro area banks are calculated by subtracting the holdings of euro area banks from BIS bank cross-border holding statistics. Holdings of the non-euro area public sector are derived from the IMF's Quarterly External Debt Statistics. These principally include holdings by non-euro area foreign central banks. "Other" non-euro area holdings are equal to the difference between total sovereign debt and the sum of the rest of the holdings.

Chart 1.54: Sector holders of French sovereign debt, French investors
x: time / y: amount in EUR billion



Sources: Banque de France, ECB, IMF, BIS.

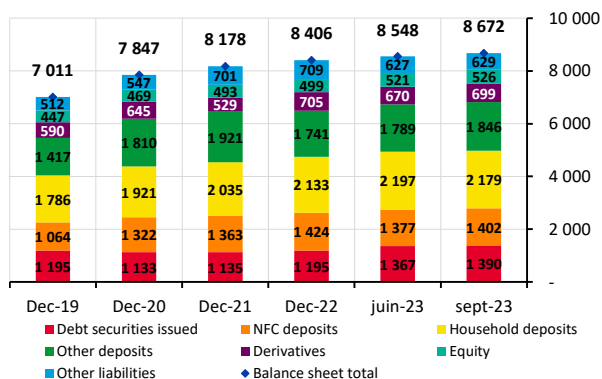
1.5 Banks and insurers continue to show resilience in the face of rising funding costs and a slowing economy

French banks have satisfactory access to financing despite the increase in funding costs

The balance sheet of French banking groups expanded significantly during the Covid crisis (+24% between end-2019 and September 2023), but has stabilised since the end of 2022. The liability structure, which reflects the sources used by banks to fund their activities, is stable and diversified overall, with shares of i) over 15% for debt securities, ii) around 60% for deposits (all customers) and a healthy balance between household and corporate deposits, and iii) 6% for equity.

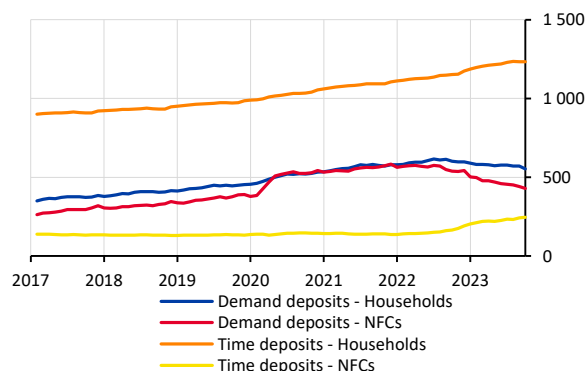
Funding costs have gone up for French banks since 2021. The average annual cost of liabilities⁷⁵, after taking hedging into account, rose from 0.32% at end-2021 to 0.65% at end-2022 and 1.67% in September 2023. This increase, which impacts net interest margin (NIM) and ultimately income and earnings, is chiefly linked to the rise in interest expense on NFC deposits, the remuneration of issued debt securities and, to a lesser extent, the deposits of households and other financial intermediaries (see Charts 1.55 and 1.56).

Chart 1.55: Decomposition of liabilities, France's six main banking groups
x: time / y: EUR billion



Sources: FINREP regulatory reporting, ACPR calculations.
Scope: France's six main banking groups.

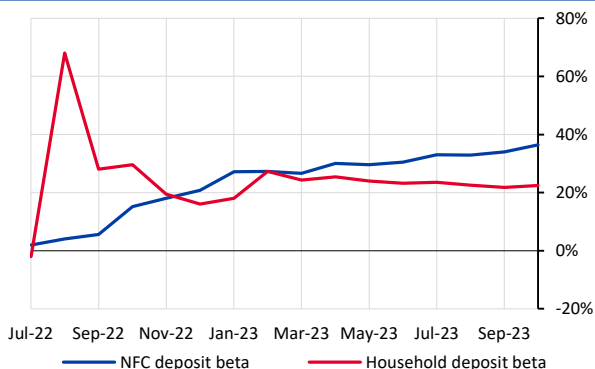
Chart 1.56: Outstanding household and NFC deposits
x: time / y: EUR billion



Sources: M. Clientre and M. Sitmens, ACPR calculations.
Scope: Filing officers at France's six main banking groups.
Most recent value: October 2023.

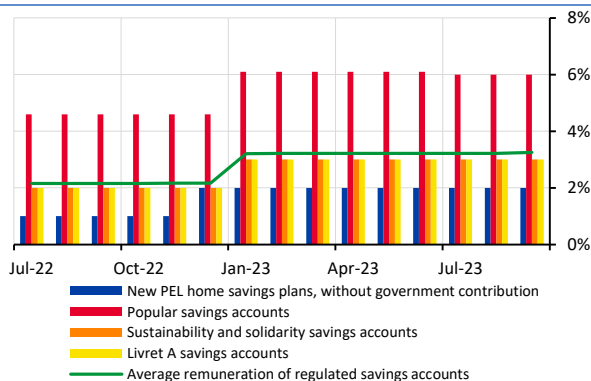
Total outstanding deposits grew by 2.4% from the end of 2022 to reach EUR 5,427 billion at the end of September 2023, with some reallocations into interest-bearing deposits. Over this period, a more detailed analysis shows that household deposits increased by 2.23% to EUR 2,179 billion, whereas corporate deposits contracted by 1.5% to EUR 1,402 billion. The household average deposit rate has gone up since February 2022 in response to the higher remuneration paid on regulated savings products. This effect was mitigated by the decision to keep the interest rate on Livret A savings accounts unchanged at 3% on 1 August 2023. The rate is expected to stay the same at least until 1 February 2025 (see Chart 1.58). Between July 2022 and September 2023, NFC deposit rates went up more gradually than household deposit rates, but with greater sensitivity to the increase in policy rates (deposit beta, see Chart 1.57), owing to proportionately larger reallocations from sight deposits into interest-bearing deposits.

Chart 1.57: Cumulative change in household and NFC deposit rates relative to policy rate hikes (deposit beta)
x: time / y: %



Sources: Banque de France, Banque de France calculations.
Note: Deposit beta measures monetary policy transmission to bank deposits. It is calculated by the change in the cost of outstanding bank deposits divided by the change in policy rates.
Most recent value: October 2023.

Chart 1.58: Interest rates paid on regulated savings accounts and PEL home savings accounts
x: time / y: %



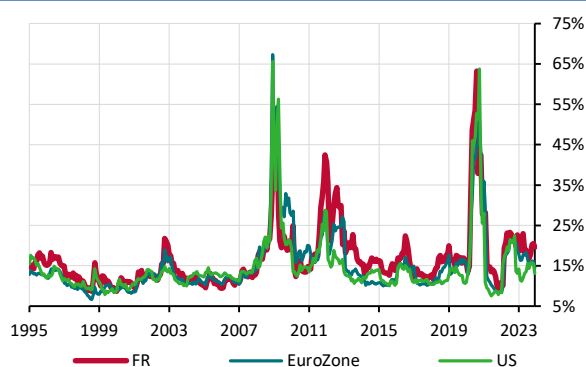
Source: Banque de France.
Most recent value: October 2023.

Over the first nine months of 2023, French banks maintained satisfactory access to market financing and yields on market debt remained stable (see Chart 1.60). They benefited from favourable conditions that enabled them to issue a large amount of securities at the start of the first quarter of 2023, before slowing down in March in the context of failing US regional banks and Credit Suisse. By end-September, France's six main banking groups had covered more than 80% of their 2023 issuance programmes, which amounted to nearly EUR 140 billion, compared

with less than EUR 130 billion in 2022. Between end-June 2023 and mid-December 2023, average yields on bonds issued by French banks fell (-70 bps to 3.60% for senior bonds). After severe turbulence on the AT1 bond market following the takeover of Credit Suisse by UBS, the primary market reopened and yields have fallen significantly from their peak in March 2023, broadly regaining pre-crisis levels by December 2023. **Valuation indicators for French banks have declined in 2022 and they remain at historically low levels** (see Chart 1.59). Cost of equity (CoE) is a measure of the cost of a financial or non-financial corporation's equity, based on a theoretical estimate using the firm's stock price and forecasts for the stock's future performance. The CoE estimate, which depend on the risk-free rates and the risk premium, is sensitive to the model's assumptions. This indicator can be used to estimate the evolution in stock valuations, but should not be understood as a target level. The CoE of French banks has been high since February 2022, at roughly 20% according to our estimates, owing to the increase in the risk premium and the rise in risk-free rates. It is higher than that of European and US banks (14% approximately at 1 December 2023). However, it remains well below the levels reached during the 2008 financial crisis, the euro area crisis and the Covid-19 crisis.

Chart 1.59: CoE comparison, French and international banks

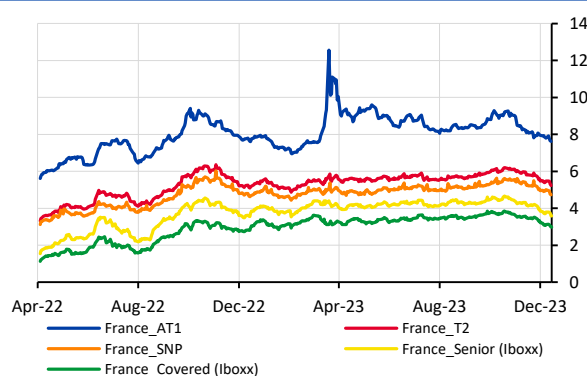
x: time / y: yield (%)



Sources: Eikon Refinitiv, IBES, Fred, Banque de France calculations.
 Note: Cost of equity (CoE) is a measure of the cost of a company's equity, estimated from the firm's stock price and analyst forecasts for the stock's future performance (dividend discount model). Accordingly, the CoE corresponds to the return demanded by shareholders.
 Most recent value: 1 December 2023.

Chart 1.60: Yields on bonds issued by French banks, by seniority level

x: time / y: %



Source: Eikon Refinitiv.
 Most recent value: 15 December 2023.

Box 1.6: The liquidity and funding situation of major French banking groups

Regulation and supervision of bank liquidity risk have improved significantly since the Great Financial Crisis of 2008, notably through the establishment of indicators combined with meaningful regulatory thresholds, and specific stress-testing exercises.

To assess short-term resilience, the **liquidity coverage ratio** (LCR), which is reported monthly, ensures the immediate availability of liquid assets to meet net cash outflows over a thirty-day stress period.

To maintain a resilient funding profile over the longer term, the **net stable funding ratio** (NSFR) is the amount of available stable funding relative to the required amount of stable funding over one year, weighted according to their level of stability and maturity. The NSFR thus limits overreliance on short-term wholesale financing, encourages better assessment of funding risk across all on- and off-balance sheet items, and promotes funding stability. This requirement is intended to mitigate potential difficulties that could disrupt an institution's regular sources of funding, eroding its liquidity position to the point of increasing the risk of default and generating stresses that could lead to a systemic effect.

For each of these two ratios, banks must at least comply with a threshold of 100%. Internally, within the context of determining their own risk appetite, they will also typically establish a higher warning threshold to anticipate any breaches. In the event of failure to abide by the threshold, the supervisor is immediately informed, a plan to restore compliance is drawn up, and its implementation is monitored.

Other indicators can help to assess banks' liquidity situation and refinancing capacity:

- the loan-to-deposit ratio provides information about the share of loans financed by deposits, *i.e.* without the use of market financing or secured financing transactions;
- the asset encumbrance ratio⁷⁶ provides information about the ability of banks to obtain additional financing secured by assets, particularly central bank financing;

The banking supervisor supplements its quantitative analysis of the liquidity and refinancing situation by examining information from banks' funding plans, maintaining an ongoing dialogue with the supervised entities and conducting on-site inspections. In 2019, Europe's Single Supervisory Mechanism (**SSM**) also assessed the capacity of banks to withstand idiosyncratic liquidity shocks. It reported that the results of the exercise were broadly positive: banks reported relatively long "survival periods" with readily available cash and collateral, enabling them to implement their emergency funding plans.

An analysis of liquidity indicators did not reveal any individual or systemic vulnerabilities among the six French main banking groups

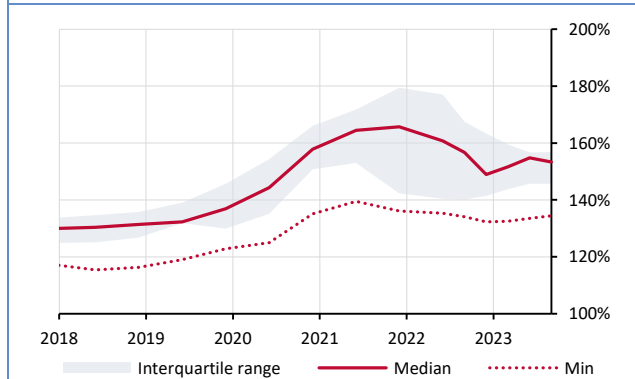
As of September 2023, the average aggregate 12M LCR was 146.7%, down 2 percentage points year-on-year, but still well above the regulatory threshold. **The NSFR contracted by 1.7 points to 114.7%,** particularly owing to the shortening of the residual maturity of targeted longer-term refinancing operations (TLTRO III) and past repayments (EUR 165 billion as at December 2022, EUR 224 billion between January and September 2023). The dispersion of these two ratios across the six groups has narrowed since 2022 (see Charts 1.61 and 1.62).

The loan-to-deposit ratio stood at 106.8% at end-September 2023, roughly stable year-on-year (down 0.12 of a point). While this indicator was up from its all-time low in September 2021 (102.8%), it was still well below its long-term trend (between 110% and 115% from 2014 to 2020), illustrating the ability of banks to fund their loans through their deposits. **The asset encumbrance ratio fell in September 2023 by 2.4 points year-on-year to 26.9%, after reaching its lowest level since 2019 in June 2023,** freeing up additional capacity to use assets to obtain secured funding.

LCR and NSFR projections in June 2023, following the gradual repayment of TLTROs based on their contractual maturities, reveal that **French banking groups are comfortably able to repay all amounts taken out while continuing to post ratios that exceed regulatory thresholds** (LCR > 130% and NSFR > 112%). Specifically, France's six main banking groups all have excess high-quality liquid assets⁷⁷ (EUR 430.1 billion), counterbalancing capacity⁷⁸ (EUR 1,960.7 billion) and stable funding (EUR 573.4 billion), exceeding the TLTRO amounts to be repaid by the end of 2024 (EUR 146.1 billion).

Chart 1.61: LCR dispersion, France's six main banking groups

x: time / y: average 12-month LCR as a %

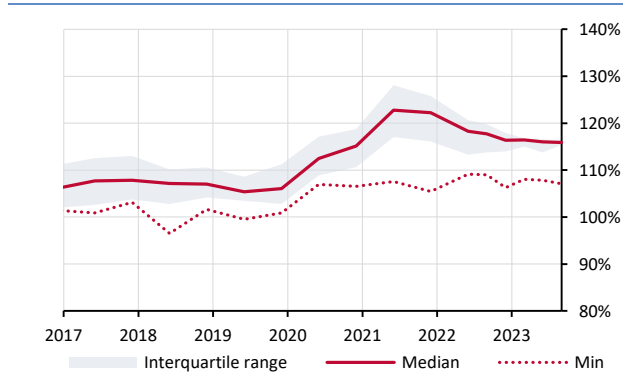


Sources: Regulatory reporting, ACPR calculations.

Most recent value: September 2023.

Chart 1.62: NSFR dispersion, France's six main banking groups

x: time / y: NSFR as a %



Sources: Regulatory reporting, ACPR calculations.

Most recent value: September 2023.

French banks got less of an income boost from higher interest rates than banks in other jurisdictions.

Net banking income declined in the first half of 2023, reflecting the contraction in net interest margin. In the first half of 2023, the net banking income (NBI) of France's six main banking groups amounted to EUR 78 billion, down about 10% relative to the same period in 2022 (EUR 86 billion), but roughly unchanged from the first half of 2021 (down 1%). Since the net interest margin (NIM) is a major component of NBI, accounting for more than 45% on average over the last eight years, the fact that it fell by almost 9% accounts for much of the decline in NBI. Other income components, such as fees, commissions and market income, were more stable.

The decrease in NIM stemmed from an increase in liability costs driven by the remuneration of deposits and the costs of market debt (see above), which outpaced growth of interest income. Most loans granted by French banks are at fixed rates and, in the case of property loans, over long credit periods, so higher interest rates are passed on chiefly as the loan portfolio is renewed, which depends on the strength of demand.

Cross-country comparisons reveal that since 2015, the NIM/total assets ratio of French banks has been structurally lower than that of international peers (see Chart 1.63). Over the recent period of rising inflation and interest rates, this gap has widened: on the asset side, foreign banks benefit from having larger floating-rate loan portfolios, while in terms of liabilities, they are less affected by the increased cost of funds, particularly if they do not offer regulated savings accounts. The denominator effect is also worth noting: French banks recorded the largest increase in total assets between end-2019 and June 2023, with growth of 20% compared with 16%, 14% and 5% for US, UK and other European banks respectively.

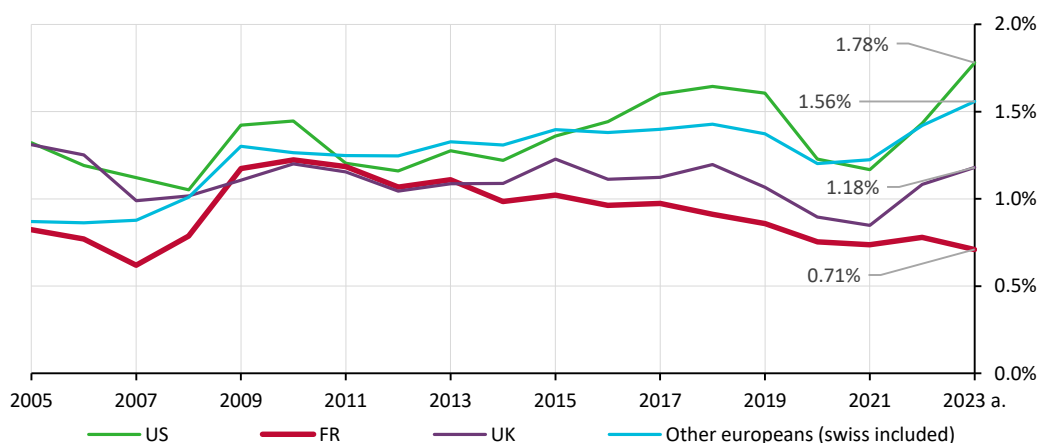
⁷⁶ An asset shall be deemed to be unencumbered where the credit institution is not subject to any legal, contractual, regulatory or other restriction preventing it from liquidating, selling, transferring, assigning or, generally, disposing of such asset via active outright sale or repurchase agreement within the following 30 calendar days.

⁷⁷ Excess liquid assets correspond to the amount of eligible high-quality liquid assets in the LCR numerator above the regulatory threshold of 100%.

⁷⁸ Counterbalancing capacity refers to the stock of unencumbered assets or other available funding sources to cover funding shortfalls.

Chart 1.63: Cross-country comparison of the NIM/total assets ratio

x: time / y: %



Sources: financial reporting and ACPR calculations; annualised data for 2023.

Lower management expenses and the moderate cost of risk are limiting the downturn in income from ordinary activities. Consolidated net profit was up 28.2% in the first half of 2023 relative to the first half of 2022 (EUR 17.1 billion vs. EUR 13.3 billion) and reflected the effects of non-recurring items in both of these halves.⁷⁹ Profitability increased (by 8 bps for RoA to 0.38% and by 1.1 pp for RoE to 7.2%), while remaining below the levels recorded by international peers.

The quality of banking assets is stable, and the cost of risk is under control

NFC failure numbers normalised as inflation and interest rates went up and economic prospects darkened. This normalisation process, which began in 2022, continued in 2023. The share of non-performing loans (NPLs) in the NFC portfolio shifted, increasing by 21 bps in nine months to 3.56% in September 2023 and impacting the overall NPL ratio (1.94%), which remains historically low (see Chart 1.64). The total outstanding leveraged finance exposures⁸⁰ of France's main banking groups amounted to EUR 179.8 billion in the second quarter of 2023, sharply down on end-2022 (-11%), and was equivalent to 8.9% of total outstanding NFC loans. The NPL ratio for leveraged loans continued to climb, reaching 7.5% at the end of June 2023.

Meanwhile, the share of stage 2 loans, which is a leading indicator of credit risk, is below the levels observed in 2022, at 8.11% across all portfolios, but above pre-Covid levels (see Chart 1.65). Over 2023 as a whole, notwithstanding the third-quarter rebound, there was a relatively pronounced decrease for NFCs, whose share

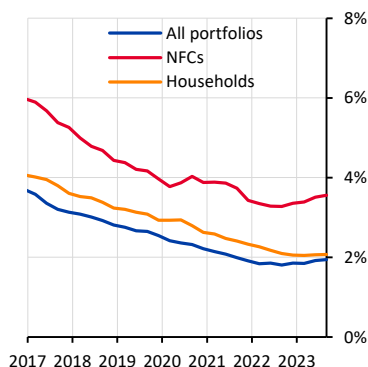
⁷⁹ The forced sale of Société Générale's Russian subsidiary reduced earnings in the first half of 2022, while completion of the sale of BNPP's US subsidiary Bankwest boosted them in the first half of 2023.

⁸⁰ Leveraged finance exposures are measured according to the definition provided in the ECB's 2017 guidance: https://www.bankingsupervision.europa.eu/ecb/pub/pdf/ssm.leveraged_transactions_guidance_201705.en.pdf

fell to 11.9% from 12.6% at the end of 2022, chiefly due to reclassifications to stage 1 (stable)⁸¹ and transfers to stage 3 (non-performing). After increasing sharply in June 2022, the household indicator stabilised at 8.8%.

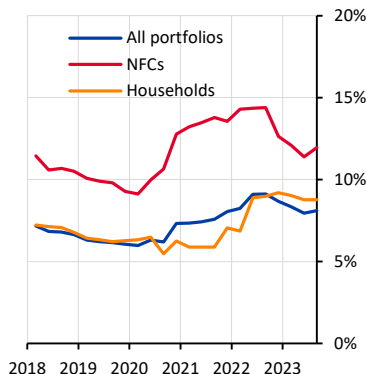
The annualised cost of risk⁸² came out at a moderate 23 bps, characterised in particular by reversals of stage 2 provisions. While the overall coverage ratio was steady at 1.53%, it continued to decrease for non-performing outstandings, partly owing to the treatment of PGE loans (because they are covered by state guarantees, banks can lower their provisions) (see Chart 1.66).

Chart 1.64: NPL ratios, NFCs and households
x: time / y: %



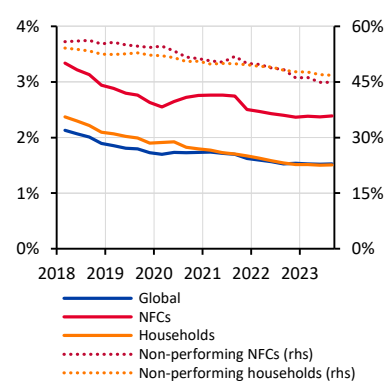
Source: ACPR.
Most recent value: September 2023.

Chart 1.65: Share of IFRS 9 stage 2 loans, NFCs and households
x: time / y: %



Source: ACPR.
Most recent value: September 2023.

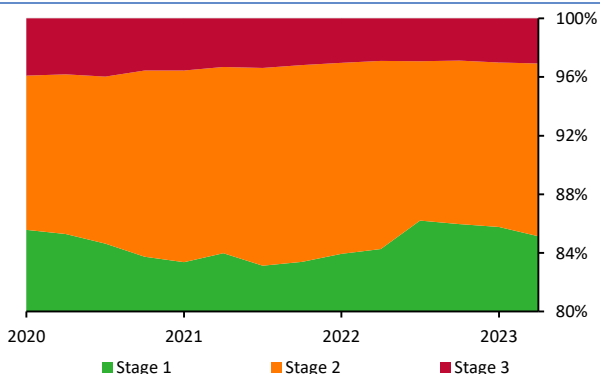
Chart 1.66: NFC and household coverage ratios
x: time / y: %



Source: ACPR.
Most recent value: September 2023.
Note: NPL outstanding loans = IFRS9 stage 3 outstanding loans.

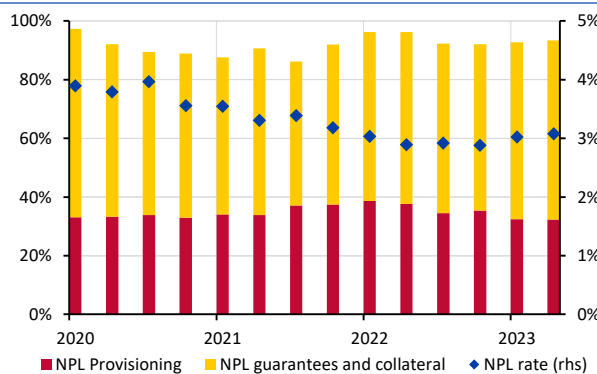
Looking specifically at outstanding loans related to commercial real estate (CRE), the share of stage 2 loans remains lower than it was in 2022, at 11.8% (see Chart 1.67). In recent quarters, the NPL ratio has flattened out at low levels, around 3.1% (see Chart 1.68). The NPL coverage ratio covers 93.4% of the exposure, when collateral and sureties are counted (see Chart 1.68).

Chart 1.67: Distribution of outstanding CRE loans by IFRS 9 stage
x: time / y: % rate



Source: ACPR (FINREP F18 reports).
Most recent value: September 2023.

Chart 1.68: Coverage of CRE NPL outstandings
x: time / y: % rate



Source: ACPR (FINREP F18 reports).
Most recent value: September 2023.

⁸¹ Under IFRS 9, loans are classified as stage 1 if credit risk has not deteriorated significantly since origination, as stage 2 if credit risk has deteriorated significantly, and as stage 3 if a default event has been identified.

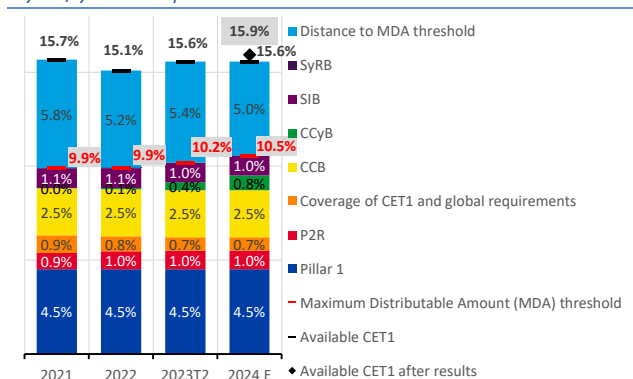
⁸² The cost of risk consists of impairment allowances net of reversals for credit risk, plus losses on irrecoverable loans less amounts recovered on written-off loans.

Regulatory solvency capital and leverage ratios are improving with the increase in equity

The six main French banking groups continued to report elevated solvency levels in September 2023. The aggregate Common Equity Tier 1 (CET1) ratio was 518 bps above the regulatory requirement at 15.4%, up 82 bps year-on-year, reflecting a slight decrease (0.24%) in risk-weighted assets (RWA), combined with a 5.4% increase in CET1 (see Chart 1.69). The aggregate leverage ratio of the six groups was 5.12% in September 2023, up 42 bps year-on-year, supported by the 6.4% increase in Tier 1 equity and the 2.4% decrease in leverage exposures. The six groups are also in compliance with total loss absorbing capacity (TLAC) and minimum requirement for own funds and eligible liabilities (MREL) ratios.

The results of the EBA's 2023 stress-testing exercise corroborate these findings. Despite facing an adverse scenario more severe than that of the 2008 crisis, assuming a 5.7% decrease in French GDP, 9.7% inflation and interest rates at 5.9%, the French banking system stayed resilient overall. In this adverse scenario, the aggregate CET1 ratio of French banks remained above the strict regulatory minimum requirements (Pillar 1 + Pillar 2), falling from 15.5% to 9.3% (see Chart 1.70). The low structural level of French banks' NIM mentioned earlier partly accounts for the greater impact of the adverse scenario on French banks: the selected interest rate scenario, plus methodological rigidities built into the exercise, such as the constant balance sheet assumption, amplify the time mismatch between the change in the return on assets and the change in the cost of funds.

Chart 1.69: Decomposition of the CET1 solvency ratio and margin
x: year / y: % decomposition



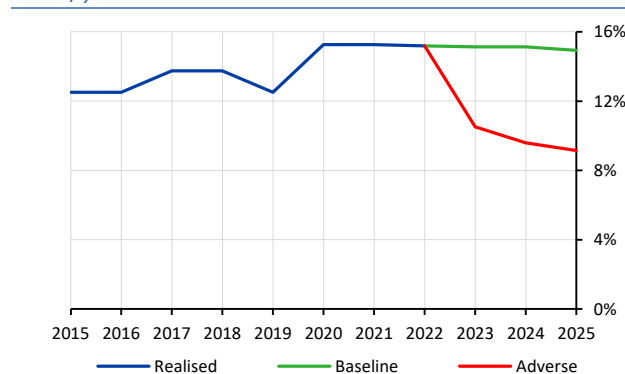
Source: ACPR.

Note(s): MDA: Maximum Distributable Amount (in red). Projections for 2024: CET 1 available after results of 15.81%; requirements based on constant equity and RWA levels at September 2023.

Scope: France's six main banking groups.

Guide: Discretionary payouts such as dividends are subject to restrictions if the Maximum Distributable Amount threshold is not respected.

Chart 1.70: Historical CET1 ratio and ratios resulting from the EBA's stress tests in 2023
x: time / y: %



Source: ACPR.

Scope: France's six main banking groups.

Insurers still have a sound balance sheet structure, but remain exposed to inflation and surrender risk.

Insurers' solvency is improving, and their balance sheets are sound. The insurance sector's capital requirements are comfortably covered, with a slight increase in coverage in the first half of 2023. Insurance undertakings hold significant surplus capital to cover capital requirements.⁸³ At end-June 2023 (see Chart 1.71), the average solvency capital requirement (SCR) coverage ratio⁸⁴ stood at 255%, compared with 247% at the end of 2022. The improvement concerned bank-insurers especially, and other life undertakings to a lesser extent. It was driven by

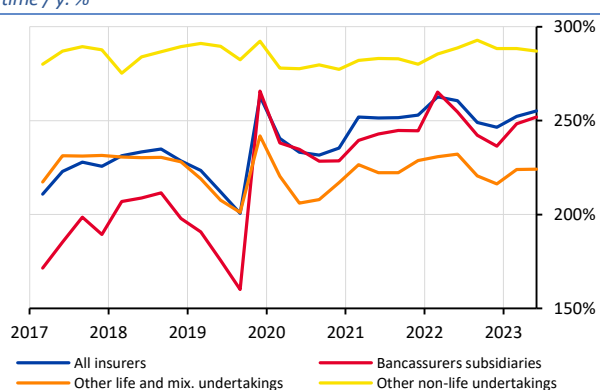
⁸³ Around EUR 180 billion at end-June 2023.

⁸⁴ The solvency capital requirement (SCR) is the level of capital needed for an insurance undertaking to meet its obligations over the next 12 months with a probability of at least 99.5%. It is calibrated to ensure that all the quantifiable risks to which the insurance or reinsurance undertaking is exposed are taken into consideration. The SCR coverage ratio is the ratio between eligible own funds and the SCR.

a small increase in capital, against the backdrop of an increase in risk-free rates on short-dated maturities and a slight decrease on medium- to long-dated maturities in early 2023.⁸⁵ Disparities between undertakings may be significant. For example, 25% of insurers have a ratio of lower than 175%, while 25% have a ratio in excess of 310% (see Chart 1.72). Having said that, all insurers are reporting ratios above the minimum of 100%. Other non-life undertakings have an average ratio of 289%, while the subsidiaries of bank-insurers, which need to be considered in the context of their group's conglomerate structure, have lower ratios.

Chart 1.71: Solvency capital requirement coverage ratio

x: time / y: %

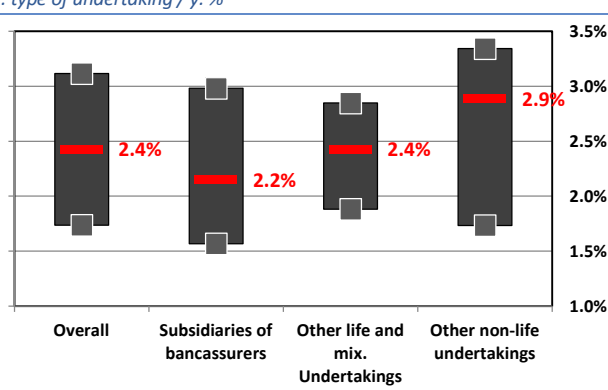


Source: ACPR.

Most recent value: June 2023.

Chart 1.72: Distribution of the SCR coverage ratio, end-June 2023

x: type of undertaking / y: %



Source: ACPR.

Taking a forward-looking view, the impact on insurer solvency of an additional increase in interest rates was simulated using an insurance sector model. If interest rates stay close to their current level, insurer solvency should remain stable overall on a ten-year horizon, reflecting the ability of undertakings to cope with reasonable economic changes and absorb the impact on fixed income assets of the increase in rates observed to date using their current resources (allocations to profit-sharing reserves and unrealised gains on “non-amortising assets”, mainly equity type and similar assets, real estate – Article R343-10 of the Insurance Code). A further rate increase would add to the existing unrealised losses on bonds due to recent economic developments, weakening the balance sheet of insurers. Capital requirements, meanwhile, would go up owing to an increase in the cost of massive surrender risk,⁸⁶ which is simulated for the SCR calculation under Solvency II rules. Offsetting effects could cushion these shocks, enabling undertakings to deliver revaluation rates consistent with market expectations, including in a higher interest rate environment. Specifically, by realising capital gains in equity portfolios and gradually tapping profit-sharing reserves, life insurers have significant tools when it comes to maintaining their competitiveness relative to other investments. Overall, after a 100-basis point increase in interest rates, the solvency ratio would decrease at a measured pace and would still be close to 200%. This limited impact illustrates the solvency resilience of the life insurance market against potential future rate increases.

Risks linked to a potential increase in surrenders persist but are contained. The low interest rate environment of recent years continues to constrain the financial income of insurers, particularly bond coupons. Bonds make up about 60% of insurers’ investments,⁸⁷ ahead of equity holdings (23%) and real estate held either directly or via

⁸⁵In theory, increased interest rates reduce the value of long-term technical liabilities, which are discounted at higher rates, by more than assets, which are affected by the decrease in the value of bond investments. Many other factors also impact the solvency of insurance undertakings, such as surrender risk, the cost of options and guarantees, levels of inflows/outflows, etc.

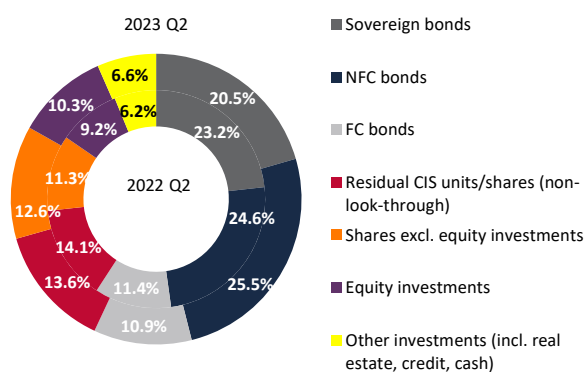
⁸⁶ The massive surrender SCR represents the loss of own funds associated with the surrender of 40% of individual contracts on a one-year horizon.

⁸⁷ After applying the look-through approach to CIS assets.

equities and CIS (8%) (see Chart 1.73). The average return on assets (RoA) of life insurers has thus been falling more or less steadily for several years, as older high-yielding bonds are replaced by lower-yielding ones. RoA stood at 2% in 2022 (see Chart 1.74).⁸⁸ By tapping profit-sharing reserves, which were equal to 5.4% of technical provisions at end-2022, insurers were able to boost the revaluation rate for individual life insurance contracts significantly in 2022, to 2%, compared with 1.3% in 2021. If long rates stabilise at current levels, insurers will be able to maintain revaluation rates and profitability at satisfactory levels in the medium term by drawing on profit-sharing reserves and reinvesting in higher-earning assets when their old investments mature. A further swift rise in interest rates would expose insurers even more to the risk of increased surrenders if they are unable to offer attractive returns due to the inertia of their investment income. However, other savings vehicles may also experience investment income inertia and do not offer the same characteristics, especially from a tax perspective.

Chart 1.73: Decomposition of insurers' assets

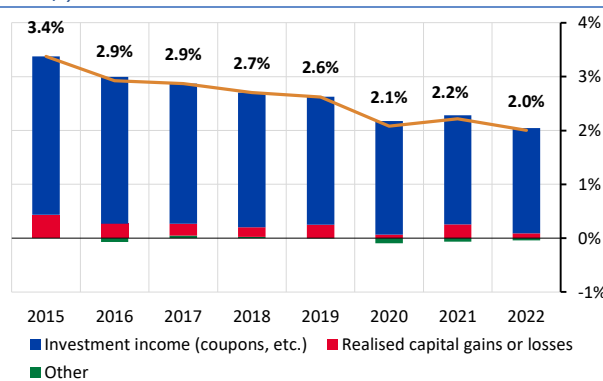
x: time / y: %



Source: ACPR.

Chart 1.74: RoA, life insurers

x: time / y: %



Source: ACPR.

Given their liquidity reserves and in view of the assets that are still recording capital gains, insurers would only be forced to materialize capital losses in low-probability scenarios. At the end of the first half of 2023, bonds were showing unrealised capital losses of around 8% on average, on a par with the end of 2022. Conversely, significant unrealised capital gains of more than 30% were still being recorded for equities and real estate. The investment portfolio of life and mixed insurers showed a small overall capital loss of 1.3% (see Chart 1.75). Furthermore, most of the securities held by insurers may be easily and immediately converted into cash: the liquidity ratio of assets held by life insurers is close to 50%⁸⁹ (cf. Chart 1.76).

Chart 1.75: Unrealised capital gain/loss ratio, as a % of the acquisition value of total investments by life and mixed undertakings

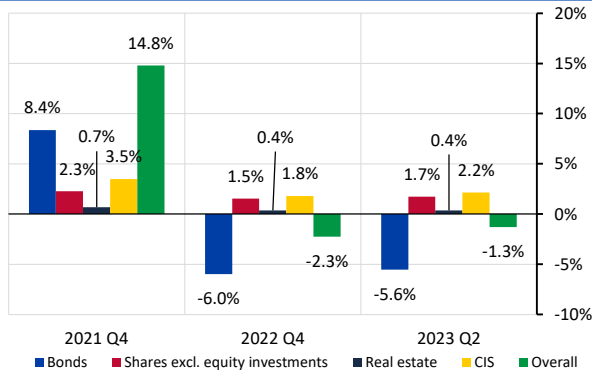
x: time / y: %

Chart 1.76: Share of liquid securities held by insurers

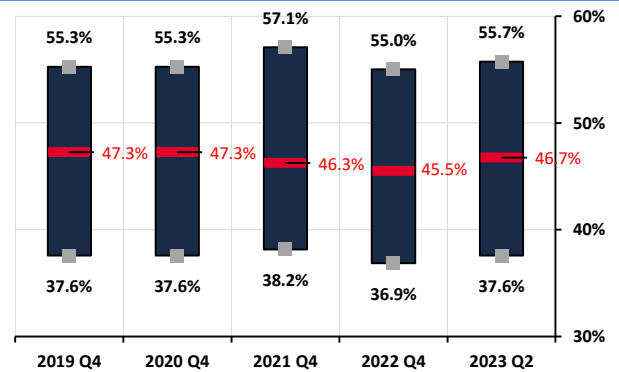
x: time / y: %

⁸⁸ In addition to interest rate scenarios, RoA projections also assume zero net inflows to non-unit-linked instruments.

⁸⁹ The calculation method for this ratio is inspired by the standards developed by the Basel Committee under the Basel III framework, which introduced a liquidity coverage ratio (LCR) whose purpose is to promote banks' short-term resilience to liquidity risk. This ratio, which is used for example by the European Insurance and Occupational Pensions Authority (EIOPA), represents the share of unencumbered high-quality liquid assets (HQLA) that may be converted into cash quickly and easily in private markets in the event of a liquidity crisis lasting three calendar days, relative to all investments.



Source: ACPR.



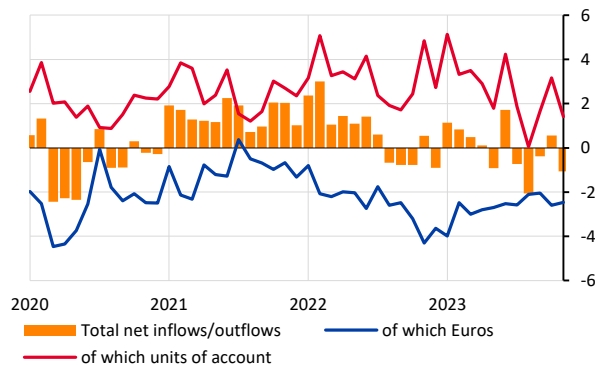
Source: ACPR.

Note: The calculation method for this ratio is inspired by the Basel III framework, which introduced a liquidity coverage ratio (LCR) whose purpose is to promote banks' short-term resilience to liquidity risk. This ratio, which is used for example by the European Insurance and Occupational Pensions Authority (EIOPA), represents the share of unencumbered high-quality liquid assets (HQLA) that may be converted into cash quickly and easily in private markets in the event of a liquidity crisis lasting three calendar days, relative to all investments.

Higher interest rates have not led to outflows from life insurance. To offset declining returns on non-unit-linked funds, in recent years insurers have promoted investments in unit-linked products, whose market risk is borne by retail investors. Non-unit-linked vehicles have seen virtually uninterrupted outflows since the end of 2019, while unit-linked products have posted positive net inflows over the period as a whole (see Chart 1.77). Outflows from non-unit-linked vehicles have however eased since the start of the second half of 2023. The average ratio of surrenders to market premiums has been trending upwards since the start of 2022 but is well below the level reached at the end of 2011, when investors were worried about sovereign debt securities (see Chart 1.78).

Chart 1.77: Net flows into/out of life insurance

x: time / y: EUR billion



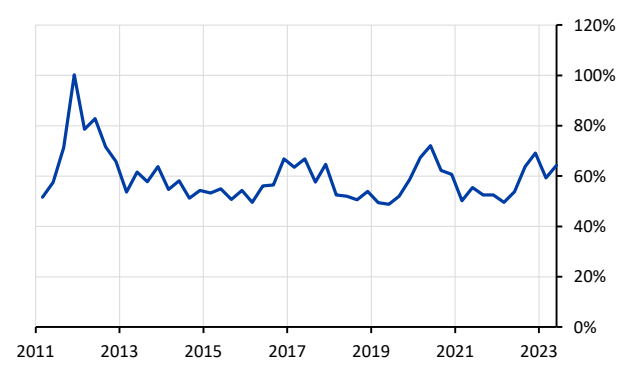
Source: ACPR.

Note: Monthly flows.

Most recent value: November 2023.

Chart 1.78: Ratio surrenders / premiums for life-insurance

x: time / y: %



Source: ACPR.

Note: The value surrendered by policyholders was equivalent to more than 60% of premium payments in Q2 2023 compared with 50% in Q1 2022.

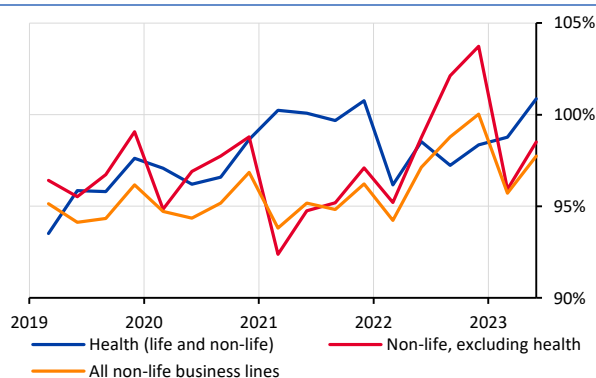
Most recent value: June 2023.

The inflationary environment is chiefly affecting non-life insurers, which may face a significant increase in the cost of claims. Insurers may therefore need to increase premiums or reduce management expenses to preserve positive underwriting profitability. This may be problematic in the case of long-term guarantees whose prices are not always revised annually. This is particularly true in construction, liability, and death & disability insurance. In the first half of 2023, the combined ratio (costs of claims and expenses relative to premiums) fell to 98% from 100% at the end of 2022. The improvement was driven by non-life insurance excluding health, whose combined ratio went from 104% at the end of 2022 to 99% at the end of June 2023, whereas the combined ratio for health (life and non-life) rose from 98% to 101% over the same period (see Chart 1.79).

Current conditions are also generating stress on the reinsurance market, which is a vital component of non-life insurance. On average over the 2017 to 2022 period, the cession rate⁹⁰ on the non-life insurance market stood at 20%, but was as high as 40% or more in some segments, such as marine, aviation & transport insurance and trade credit & guarantees (see Chart 1.80). Inflation especially increases the risk of underestimating claims. The rising frequency and seriousness of climate events is increasing required funding for the “natural catastrophes” regime, the probability of reinsurance treaties being activated, and the cost of reinsured claims.⁹¹ Geopolitical conflicts are adding further to the uncertainty. In addition to potentially raising prices, reinsurers may also tighten conditions for rolling over reinsurance treaties, notably by reducing coverage or raising deductibles. However, an analysis of reinsurance coverage between 2021 and 2022⁹² showed a significant proportion of treaties whose features, including intervention limits, maximum coverage and the annual number of possible reinstatements, remained relatively stable. In other words, only a small proportion of treaties (fewer than 10%) were subject to tougher renewal terms. The rollover conditions for this reinsurance coverage will be particularly significant in the coming months.

Chart 1.79: Combined ratios at 31 December 2022

x: time / y: %

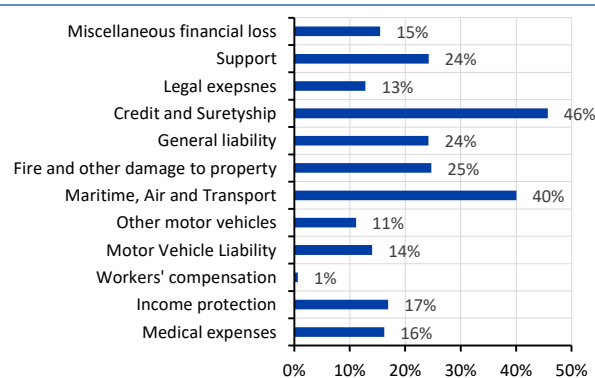


Source: ACPR.

Note: The combined ratio is the sum of claims paid and reserves divided by premiums earned. It measures an insurer’s underwriting profitability. Most recent value: June 2023.

Chart 1.80: Average cession rate (as a % of total premiums written), by non-life business line over the 2017-2022 period

x: % / y: business line



Source: ACPR.

1.6 The financial system needs to continue to adapt to the structural risks posed by cyber attacks and climate change

Cyber risk continues to pose a structural threat to financial intermediaries

Attacks targeting the financial system are on the rise. At the global level, after peaking in 2022, owing to geopolitical tensions linked to the Russia-Ukraine war, the number of cyberattacks appears to have levelled off,⁹³ according to the available data (see Chart 1.81). However, cyberattacks targeting the financial sector were up by more than 30% relative to 2022. A report published by cloud provider Akamai⁹⁴ showed for example that financial

⁹⁰ Cession rate: premiums passed on to reinsurers relative to total premiums received.

⁹¹ In France, contracts insuring against fire and damage to property, including vehicles, must include a set of natural disaster coverage. Pricing for the additional coverage takes the form of an additional premium set at 6% of the premiums for auto coverage and 12% of premiums for contracts insuring against damage to property. The *Caisse centrale de réassurance* (CCR – French central reinsurance fund) is authorised to provide state-backed reinsurance coverage against natural catastrophe risk arising from the mandatory insurance regime. It covers approximately 90% of the French market.

⁹² Most recent available statistics.

⁹³ Cyberattack data are taken from the web and enhanced by CISSM (University of Maryland). They are not exhaustive but present a general trend.

⁹⁴ The High Stakes of Innovation: Attack Trends in Financial Services - Akamai Group.

services were the third most attacked sector via web applications in the Europe, Middle East and Africa (EMEA) region, with a rise of 119% between the second quarters of 2022 and 2023. According to cybersecurity specialist Sophos, the rate of ransomware attacks in financial services also increased in 2023, rising from 55% in 2022 to 64%.⁹⁵

On 9 November, a ransomware cyberattack⁹⁶ paralysed the IT systems of the US branch of the Industrial and Commercial Bank of China (ICBC). The attack shut down the bank's IT systems, causing problems in processing transactions for other market participants and disrupting liquidity on the US Treasury market. The US subsidiary of ICBC needed a USD 9 billion liquidity injection from its parent company to cover unsettled trades with US bank BNY Mellon.⁹⁷ BNY Mellon temporarily disconnected ICBC from its clearing platform and used workaround solutions to process trades. The attack exposed the significant interconnectedness between market participants and the risk of contagion from cyberattacks to the entire financial sector.

The financial system is also exposed to increasingly sophisticated attacks, facilitated by access to generative artificial intelligence. The rise of generative artificial intelligence is enabling cyberattackers not only to create attacks that are harder to detect (phishing) but also to improve malware attacks. These technologies are enabling less experienced hackers to mount attacks that are harder to detect.⁹⁸ Phishing-based cyberattacks in particular are being facilitated by artificial intelligence, as high-quality emails can be produced in multiple languages without spelling mistakes. Attackers can therefore quickly generate phishing emails that are harder for recipients to identify. Artificial intelligence may also enable cyberattackers without the skills to successfully execute attacks to learn new technical skills that will allow them to carry out relatively sophisticated attacks. But artificial intelligence is also helping to improve cybersecurity. New cybersecurity services integrating generative AI may facilitate the identification of threats and bolster the expertise of security teams. According to IBM, 39% of financial organisations said that they used artificial intelligence and automated cybersecurity in 2023, enabling them to save USD 850,000 relative to the average global cost of a data theft.

Furthermore, the financial sector is indirectly exposed to cyber risk through financial services provided to sectors that themselves are heavily exposed to this type of risk. Client companies of banks and insurers are potential targets for cyberattacks that could impact their business and reputation. Such attacks could cause significant financial losses and threaten the solvency of firms, and consequently affect financial participants. Banks are particularly exposed through lending and insurers through coverage of losses attributable to attacks. The insurability of cyber risk is complex, and the frequency and intensity of cyber attack claims are hard to anticipate. The AMRAE, an association for corporate insurance and risk management,⁹⁹ notes that the loss ratio is not stable from one year to the next. If a high loss ratio were to coincide with the heightened threat level, premium income would no longer be sufficient to cover insurance payments.

Even so, the financial sector remains resilient to cyber risk thanks to ongoing investments in cybersecurity and preparedness work. Bad cybersecurity practices would result in 2.6 times more reported cyberincidents and ensuing financial losses (owing to reputation risk or data breaches).¹⁰⁰ Cybersecurity investments by the financial sector are rising and will continue to go up in the coming years. Across all economic sectors, 51% of organisations are planning to step up their cybersecurity investments, notably in planning, incident response testing, employee training and tools to detect and respond to threats (see Chart 1.82). Financial institutions are going to be more resilient to cyberattacks thanks to efforts to get ready for the European DORA Directive, which will come into force in January 2025 and which will require financial institutions to have an operational resilience testing programme. Enhanced cyber resilience in the financial sector will also be achieved through collective preparations to be ready to manage a cyber crisis and its financial impacts. In this regard, the French financial sector has already demonstrated its high level of maturity in annual crisis exercises organised by France's Marketwide Robustness

⁹⁵ The State of Ransomware in Financial Services 2023 - Sophos.

⁹⁶ Ransomware attack on ICBC disrupts trades in US Treasury market (ft.com).

⁹⁷ Wall Street and Beijing fight fallout of ransomware attack on China's biggest bank (ft.com).

⁹⁸ Cybersecurity cross region Generative AI may increase cyber risk - Moody's.

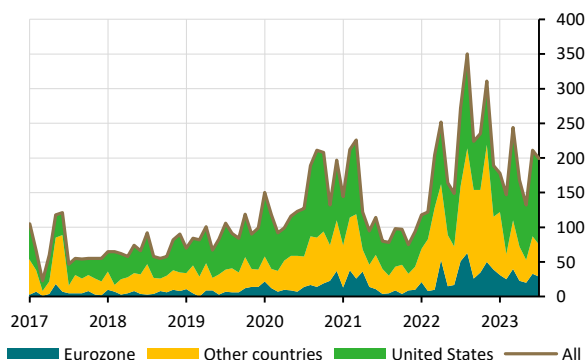
⁹⁹ AMRAE Library - AMRAE.

¹⁰⁰ The impact of cybersecurity management - Moody's.

Group (Banque de France).¹⁰¹ Mechanisms to share information and promote coordinate between financial authorities or with the financial sector are also being developed at European level, pointing to growing awareness of the cross-border nature of cyber risk.

Chart 1.81: Number of reported cyberattacks worldwide

x: time / y: number of reported attacks



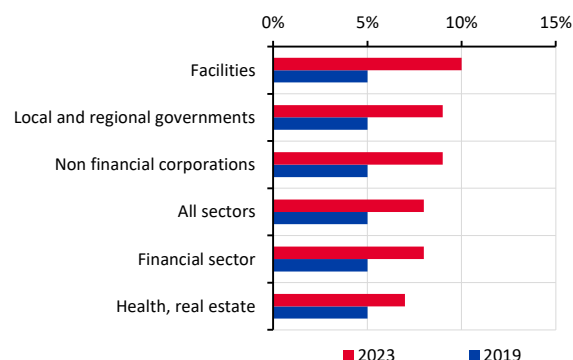
Source: CISSM University of Maryland.

Note: Cyberattack data are taken from the web and enhanced by CISSM. They are not exhaustive but present a general trend.

Most recent value: July 2023.

Chart 1.82: Share of cybersecurity spending in IT budgets

x: % / y: sector



Source: Moody's Cyber Survey.

The financial system is exposed to transition risk

As France and the European Union embark on their transition to a low-carbon economy, the financial sector needs to both manage the risks linked to this transition and fund it. The transition to a low-carbon economy means no longer financing some sectors, such as fossil-fuel extraction, and funding low-carbon activities instead. According to France's National Low-Carbon Strategy, approximately EUR 105 billion will be needed every year between now and 2030 to achieve Europe's goal of reducing emissions by at least 55% by 2030 under the Fit for 55 plan.¹⁰² The introduction of transition policies meeting these targets could lead to significant losses for financial institutions that are insufficiently prepared (see for example Jourde & Koné, 2023),¹⁰³ which is a risk for financial stability.

The French financial system's exposure to transition risk and its alignment with carbon emissions reduction targets may be measured by indicators on financial institutions' portfolio holdings at the sectoral level (banks, funds, and insurers). This approach (see Box 1.7 for details) is used to identify four metrics: i) the portfolio share invested in sectors that are likely to be affected by the transition and that are relevant to its successful implementation (climate-policy relevant sectors – CPRS), ii) the portfolio share invested in activities that are highly exposed to transition risk and therefore subject to a high risk of correction in the event of a disorderly transition, such as fossil fuels, iii) the portfolio share invested in activities that are key to the transition but do not necessarily make a substantial contribution to it, referred to as activities that are eligible for the European taxonomy, and iv) the portfolio share invested in activities that comply with transition-related technical criteria, which are said to be aligned with the European taxonomy, such as renewable energies.

French financial institutions bear a moderate exposure to transition risk, but are still insufficiently aligned with transition targets. Financial institutions need to give serious attention to ensuring that NFCs are implementing and complying with transition plans that are consistent with European emissions reduction targets. These

¹⁰¹ In 2023, more than 1,500 finance sector professionals took part in an exercise simulating a supply-chain cyberattack on several key market participants, which strained banking liquidity and created a need to coordinate on financial matters and communication issues. The exercise was used to identify future work areas as part of ongoing efforts to improve the Paris markets' crisis management framework.

¹⁰² Table 5 of the Panorama-des-financements-climat-edition-2022_au-16-12-22.pdf (i4ce.org) report.

¹⁰³ L'exposition des fonds d'investissement français aux risques climatiques de transition, *Bulletin de la Banque de France* No. 248/7, September-October, Banque de France.

institutions must also continue scaling back their exposures to the most at-risk activities. It is critical for financial institutions to establish and communicate their own transition plans, in order to establish specific and measurable carbon reduction targets for their portfolios. Opportunities for investor action depend on the type of assets held. As the main providers of credit, banks have a special role to play leveraging on their close relationship to borrowers. Furthermore, 60% of their loans to NFC are directed to taxonomy-eligible assets. Insurers invest more in bonds and may for example support the growth of the green bond market. Investment funds hold more equities and need to step up their ability to engage with companies. These measures will ultimately reduce the French financial system's exposure to the risk of a disorderly transition.

Box 1.7: Metrics tracking exposure to transition risk and alignment with carbon emissions reduction targets

Indicators of exposure to transition risk and alignment with carbon emissions reduction targets are based on identifying assets held by financial institutions that may be affected by the environmental transition or that are needed to support the transition.

The indicators are derived from the NACE classification of economic activities,¹⁰⁴ which Battiston et al. (2017) use to identify climate-policy relevant sectors (CPRS). The six CPRS are the fossil fuel, energy-intensive, construction, utilities, transport and agriculture sectors. These sectors include not only fossil-fuel extraction activities, which face a real risk of holding stranded assets, but also other sectors that are key to the transition and whose transition risk exposure depends on technology choices. Another approach, which may be used to supplement the widely used sector-based approach described here, identifies companies that are exposed based on the level or intensity of their greenhouse gas emissions. However this approach suffers from a lack of coverage of companies, particularly as regards bank lending.

Work by the European Commission's Research Centre has refined the CPRS into sector-based indicators of exposure to climate-related and transition financing risk (e.g., Alessi & Battiston, 2022,¹⁰⁵ Alessi & Battiston, 2023¹⁰⁶). Within each CPRS, Alessi and Battiston (2022) estimate the taxonomy eligibility, the taxonomy alignment, and a transition risk exposure coefficient for every NACE sector in each European Union country. Taxonomy-eligible activities are key activities that must meet one of the six environmental objectives defined by the taxonomy.¹⁰⁷ Eligible activities become aligned with the taxonomy if they provide a substantial contribution to at least one of the environmental objectives. This approach is required since NACE sectors are insufficiently granular to clearly distinguish polluting activities from low-carbon ones. Production of electricity (NACE D35.11), for example, is eligible for the European taxonomy. It is 35% aligned with the taxonomy at the

¹⁰⁴ Statistical classification of economic activities in the European Community.

¹⁰⁵ Alessi, L., & Battiston, S. (2022). Two sides of the same coin: Green Taxonomy alignment versus transition risk in financial portfolios. *International Review of Financial Analysis*, 84, 102319.

¹⁰⁶ Alessi, L., & Battiston, S. (2023). Taxonomy alignment and transition risk: a country-level approach. European Commission, JRC135889.

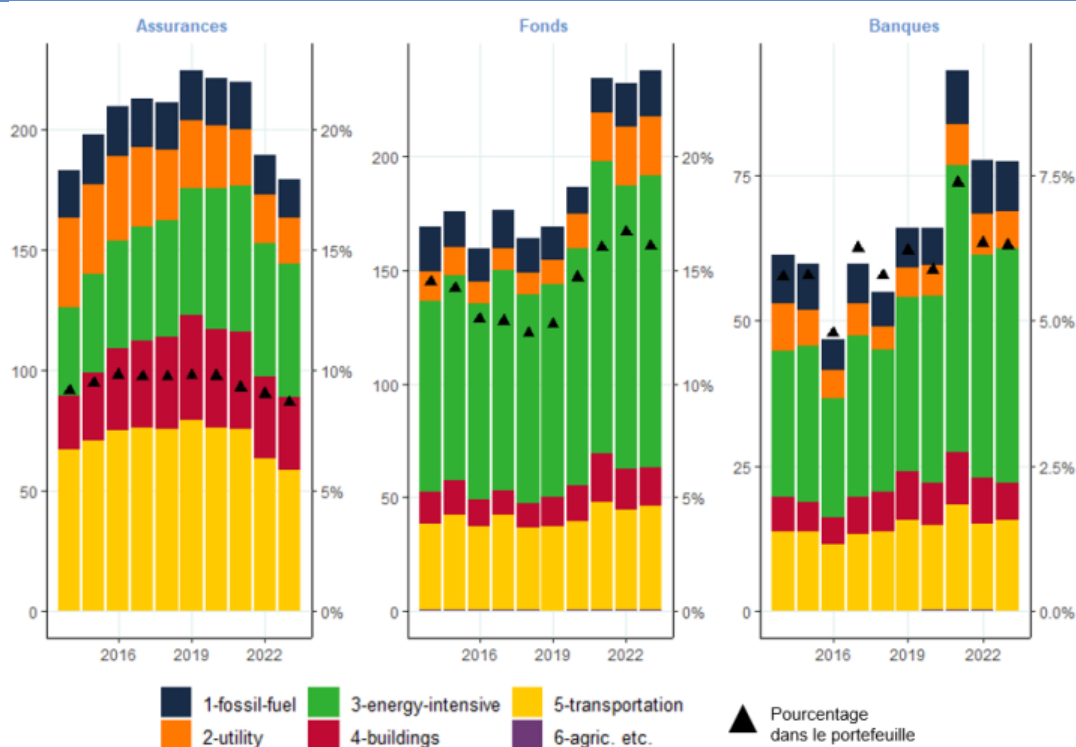
¹⁰⁷ The six environmental objectives are climate change mitigation, climate change adaptation, sustainable use and protection of water and marine resources, transition to a circular economy, pollution prevention and control, and protection and restoration of biodiversity and ecosystems.

level of the EU (share of renewable energies in total EU electricity production) but also has 39% exposure to transition risk (share of fossil fuels in total energy production).

Alessi and Battiston’s three indicators provide a complementary view of i) the exposure of financial institutions to transition risk, ii) the portfolio share that is likely to play a significant role in compliance with emissions reduction targets provided consistent transition plans are established by companies, and iii) financing of low-carbon activities, particularly those aligned with the European taxonomy. This sectoral approach to exposure does however assume that investors hold a “market portfolio” and does not capture differentiated exposures of investors to companies within a given sector.

CPRS exposure and financing indicators vary considerably across different types of French financial institutions (see Chart 1.83). In 2023, banks provided CPRS with EUR 938 billion in financing (EUR 863 billion through loans, or 58% of all bank lending to NFCs,¹⁰⁸ see Chart 1.85; EUR 75 billion via securities holdings). In 2023, the largest investors in CPRS securities (bonds and equities) were investment funds (around EUR 250 billion) and insurers (around EUR 175 billion). The funding structure of CPRS also varies considerably across financial sectors. Banks are the main funding source for construction and real estate (over 50% of NFC loans), and agriculture. Investment funds are more focused on energy-intensive sectors while insurers emphasise the transport sector. Bank loans to CPRS have increased considerably in absolute terms, while their share of overall bank lending to NFCs stayed the same. Funds and banks stepped up their CPRS financing and exposure between 2014 and 2023, while funding from insurers remained stable.

Chart 1.83: Exposure of French financial institutions to CPRS
 x: time / y: EUR billion (left); % of portfolio (right). Varying scales



Sources: SHS-S, CSDB, Battiston et al. (2017), Banque de France calculations.

Notes: estimates are based solely on securities included in portfolios. Bank loans are excluded from the analysis and are covered by a specific section (see Chart 1.85). The look-through approach is not applied to insurer holdings, so fund units are excluded from the insurance portfolio. CPRS: Climate Policy Relevant Sectors.

Most recent value: Q2 2023.

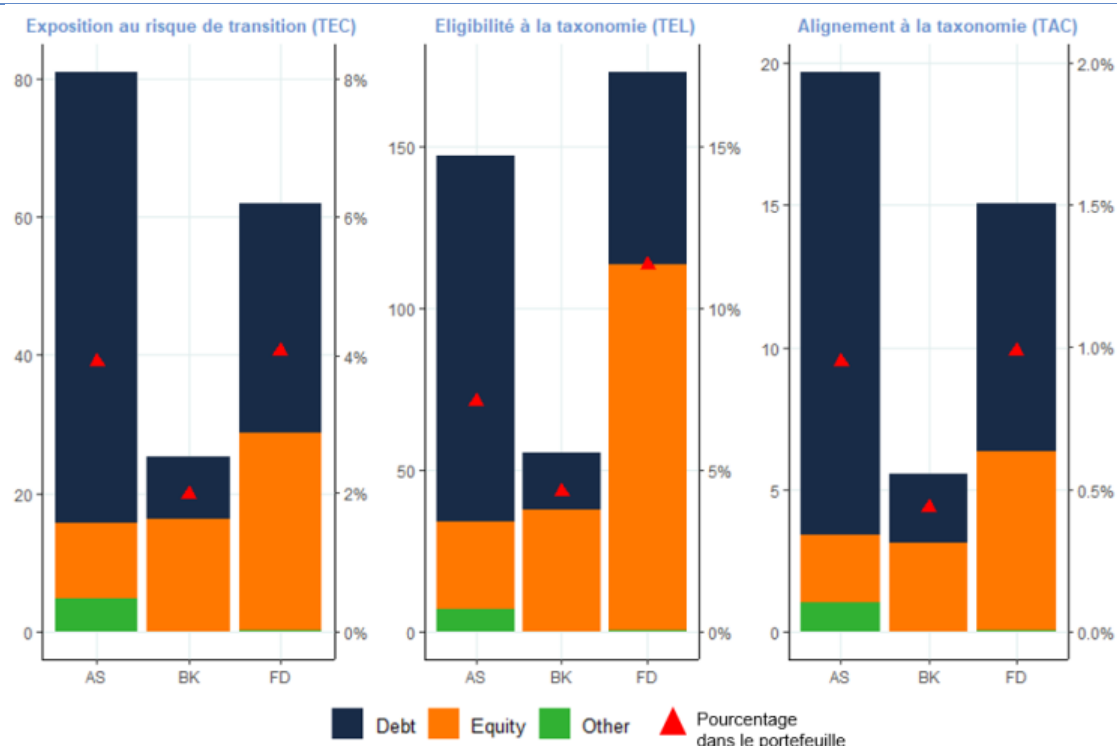
¹⁰⁸ This percentage is not directly comparable to the figures presented below, because the SRC database from which it is derived does not include loans to financial institutions, unlike the SHS-S database for securities portfolios.

In 2023, the securities portfolios of French financial institutions provided marginal financing to activities aligned with transition objectives. Only 1% of their portfolios is aligned with the taxonomy (see Chart 1.84). Funds and insurers are the main investors in securities issued by companies whose activities are taxonomy-eligible, in the amount of EUR 170 billion and EUR 150 billion respectively, or 12% and 8% of the securities portfolio. Conversely, financing of taxonomy-aligned activities remains tiny, at EUR 20 billion for insurers and EUR 15 billion for funds (approximately 1% of portfolios). This primarily reflects the lack of alignment of different sectors with the European taxonomy.

French financial institutions exposure to climate-related transition risks through their securities appears manageable. Insurers' and funds' exposure to climate-related risks amount to EUR 80 billion and EUR 65 billion respectively, or approximately 4% of their portfolios. Insurers are chiefly exposed through bond products, while funds have more balanced exposure between bonds and equities. In the short term, the impact of climate-related transition risks is probably higher for equities, whose prices are determined among other things by corporate growth prospects.

Chart 1.84: Securities exposure to climate-related transition risks and alignment with the European taxonomy in June 2023

x: institutional sectors / y: EUR billion (left); % in the portfolio (right). Varying scales



Sources: SHS-S, CSDB, Battiston et al. (2017), Banque de France calculations.

Notes: estimates are based solely on securities included in portfolios. Bank loans are excluded from the analysis and are covered by a specific section (see Chart 1.85).

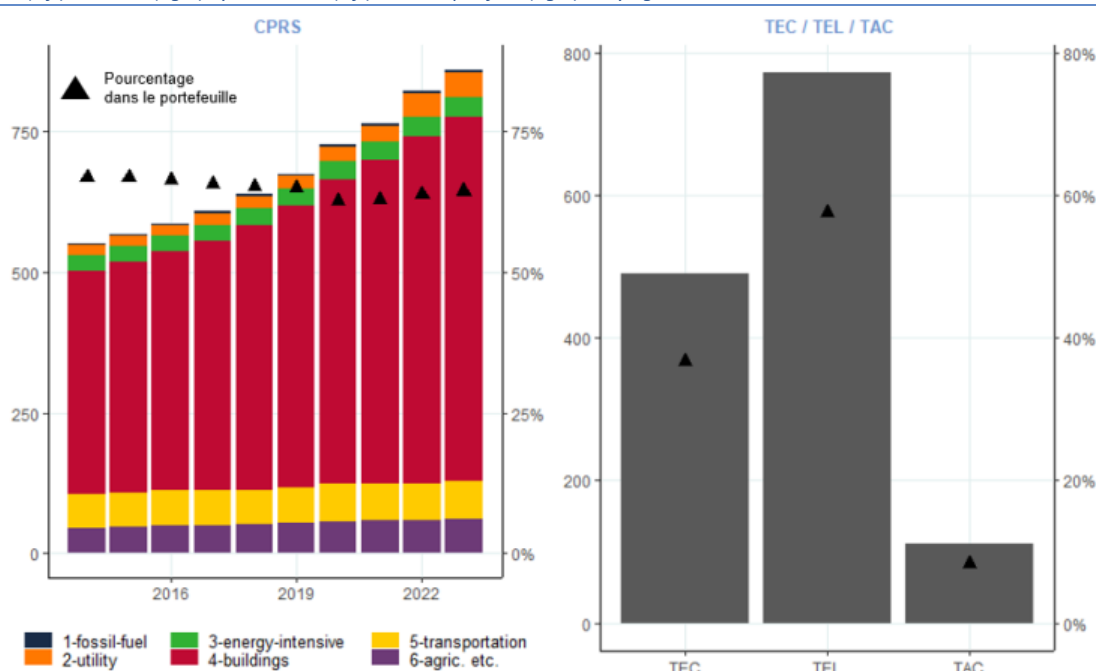
AS: Insurers; BK: Banks; FD: Investment funds.

Estimate in Q2 2023.

Bank loans are by far the main potential financing source for the transition, at the cost of increased transition risk exposure via the construction and real estate sectors. Financing for transition-eligible activities stands at close to EUR 770 billion. This reflects the large share of the construction and real estate sectors in NFC bank lending (Allen et al., 2023).¹⁰⁹ French banks are also the main source of funding for taxonomy-aligned activities, in the amount of EUR 100 billion. However, transition risk exposure is also much higher for banks than for other categories of investors (approximately EUR 500 billion, compared with EUR 80 billion for insurers and EUR 65 billion for funds). These observations underline the importance for banks of properly integrating corporate environmental performance issues, so that they become key players in the transition (Carradori et al., 2023).¹¹⁰

Chart 1.85: Focus on bank loans – CPRS and TEC/TEL/TAC in June 2023

x: time (left), indicator (right) / y: EUR billion (left); % in the portfolio (right). Varying scales



Sources: SHS-S, CSDB, Battiston et al. (2017), Banque de France calculations.

Notes: Taxonomy Eligibility (TEL), Taxonomy Alignment Coefficient (TAC), Transition risk Exposure Coefficient (TEC)

Most recent value: Q2 2023. The construction sector also captures exposures to real estate activities (NACE code 68), which include real estate companies.

¹⁰⁹ Changement climatique et immobilier résidentiel: quels risques pour le secteur bancaire?, *Bulletin de la Banque de France*, September-October 2023.

¹¹⁰ Carradori, O., Giuzio, M., Kapadia, S., Salakhova, D., Vozian, K. (2023). Financing the low-carbon transition in Europe. *ECB Working Paper N2813*.

2 The residential real estate market is correcting gradually as interest rates go up

The ongoing correction in the residential real estate market is driven by the contraction in demand as interest rates rise. The risks to financial stability remain contained at this stage. Residential real estate is watched especially closely because of the potentially systemic risks that it poses to the financial system. As the largest asset held by households (62% of their assets),¹¹¹ it is also the main reason for their high level of indebtedness. Maintaining sound credit standards is therefore critical to keeping household debt under control, fostering bank resilience and supporting financial stability more generally. Residential real estate is also a mainstay of the real economy. Construction is a major sector within the French economy, accounting for 6.7% of jobs in 2020 and generating 5.5% of value added in the fourth quarter of 2022.¹¹² Furthermore, housing is an essential good for households and an important driver of a healthy labour market. A thematic chapter of the December 2021 Assessment of Risks to the French Financial System was devoted to residential real estate. Conditions then were very different, featuring low interest rates, disparate price growth across the country and high levels of household debt.¹¹³

The ongoing increase in housing loan rates is the main driver of an adjustment in the residential real estate market, following a period of record expansion. Although underway since January 2022, the tightening of financing conditions has primarily affected transaction volumes since mid-2022. In parallel, nominal prices have slowed moderately so far. These factors have accelerated the downturn in residential real estate buying capacity, a process that began in 2020 chiefly in connection with the sharp increase in prices. Accordingly, the slowdown in the pace of new lending, while less pronounced than among other European economies, is mainly attributable to slacker household demand in response to tighter financial conditions (see Part 1).

The risks to financial stability are limited however, thanks to the resilience of France's housing financing model and measures taken by prudential authorities. The structural features of France's residential real estate market mitigate credit risk. This resilience was further strengthened by the measure introduced by the *Haut Conseil de stabilité financière* (HCSF – High Council for Financial Stability), which brought in safer credit standards on all market segments without impeding access to credit. The risk to financial stability connected with the market decrease in new-built properties sales seems to be under control at this stage, as bank exposures to the construction sector make up just 5.6% of outstanding lending to non-financial corporations (NFCs). Moreover, household debt recently declined over three consecutive quarters for the first time since 1999 (see Part 2.2).

¹¹¹ Source: INSEE.

¹¹² Source: INSEE.

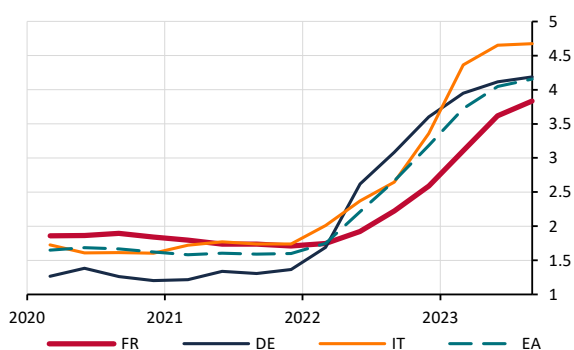
¹¹³ See Assessment of Risks to the French Financial System - December 2021 | Banque de France (bank-france.fr)

2.1 Following a strong expansion for the residential real estate market, the increase in interest rates is causing an adjustment

The end of the period of exceptionally low interest rates has brought an adjustment on the residential real estate market

In connection with tighter financial conditions, average interest rates on new property loans have gone up since the start of 2022, albeit at a more measured pace in France than elsewhere in Europe. Over the period from the fourth quarter of 2021 to the third quarter of 2023, interest rates on new loans (i.e. the effective annual percentage rate, which includes fees and insurance) rose by 255 basis points (bps) in the euro area (see Chart 2.1) to reach 4.15%. This was a more pronounced increase than during the last rate tightening period, when the effective interest rate on new loans went from 3.71% in the third quarter of 2005 to 5.69% in the third quarter of 2008, for a 198 bps increase. While also increasing by a record amount, the rise in average property loan interest rates in France since the end of 2021 has been more moderate (212 bps since the fourth quarter of 2021, compared with 168 bps between the third quarter of 2005 and the fourth quarter of 2008), notably owing to the capping associated with the usury rate, which is designed to protect borrower households from excessive lending rates. In the third quarter of 2023, the lending rate in France was 3.83%, higher than the average over the last two decades (3.58% since the first quarter of 2003). This tightening of financial conditions follows a period of ultra-accommodative monetary policy that drove a sharp reduction in the cost of property loans and strong growth on the real estate market. Interest rates on new loans fell by 100 basis points in the euro area in the five years prior to the Covid crisis (from 2.75% to 1.75% between the fourth quarter of 2014 and the fourth quarter of 2019) and by 142 bps in France.

Chart 2.1: Effective annual percentage interest rate on new property loans to households
x: time / y: %



Source: ECB.

Note: Effective annual percentage rate, i.e. interest rate on new property loans including expenses and insurance. EA denotes the euro area.

Chart 2.2: Cumulative transaction volume over one year, existing-homes segment
x: time / y: thousands

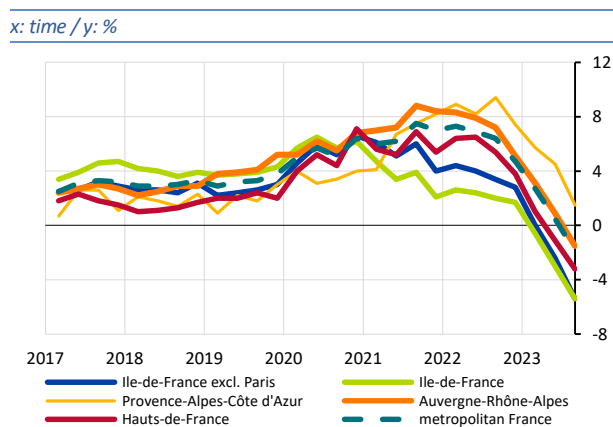


Source: Conseil général de l'Environnement et du Développement Durable (CGEDD).

Note: Most recent data available to end-August 2023.

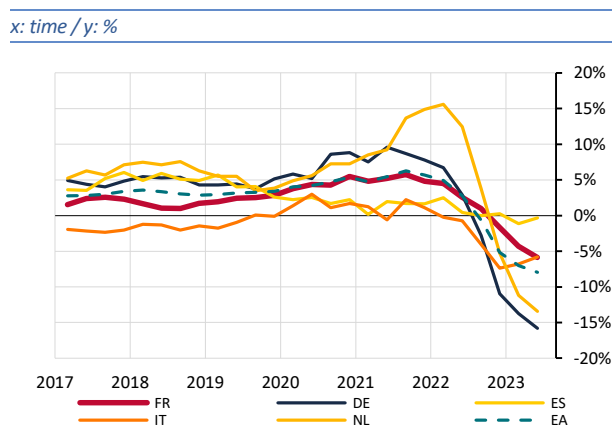
The increase in interest rates has triggered an adjustment on the residential real estate market, which manifested itself initially through a steep decline in transaction numbers. This was followed by a gradual price slowdown that was more pronounced in some larger cities. The cumulative number of transactions over 12 months in the existing-homes segment was thus down sharply in August 2023 (955,000 transactions). However, this was still well above the average over the 2010-2020 period (820,800 transactions), prior to the record post-Covid surge (see Chart 2.2). The effect on prices has been more gradual but nevertheless significant: year-on-year (yoy), existing-home prices in metropolitan France fell in the third quarter of 2023 by a seasonally adjusted 1.9%, after growing by 6.4% one year earlier (see Chart 2.3). Quarter-on-quarter, prices fell by 1.1% in the third quarter of 2023, after decreasing by 0.8% in the second quarter of 2023 and 0.2% in the first quarter of the year. The overall decrease concealed contrasting dynamics, with prices falling more markedly in the Île-de-France region (–2% in the third quarter of 2023 compared with the previous quarter). It also reflected a wait-and-see attitude among buying and selling households alike, prompted by uncertainty about economic developments. More stable interest rates should alleviate some of this uncertainty. The sharp increase in the stock of homes for sale on listing websites reflects the reduced number of transactions and could signal additional downside pressure on prices that has not yet been picked up by traditional indicators (see Box 2.1). This situation is consistent with previous episodes of higher interest rates: historically in France, house prices respond more slowly than transaction volumes to an increase in interest rates. Between 2005 and 2023, it took three to four quarters for higher rates to translate into a pronounced decrease in the number of transactions (see Chart 2.5), before being passed through gradually to house prices (see Chart 2.6). The relative steadiness of house prices at a time when credit is becoming more expensive impacts households’ buying capacity(see below).

Chart 2.3: Existing-home prices, by region and nationally



Source: INSEE.

Chart 2.4: Real house prices – European comparison



Source: OECD, calculations: Banque de France.

Note: Index of real house prices, corresponding to the ratio of the nominal house price index to the consumption deflator taken from the national accounts of each country.

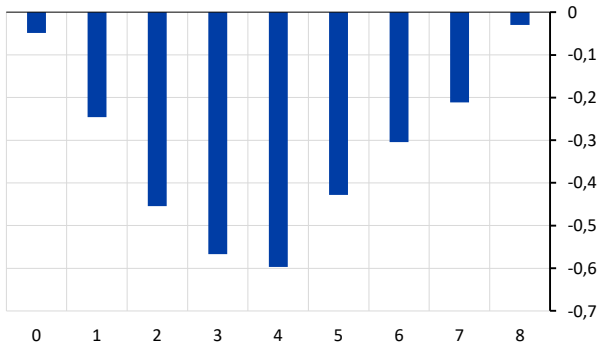
Developments on the real estate market in response to rising interest rates are being seen in other European countries as well. At the level of the euro area, real estate prices are continuing the slide that began in the third quarter of 2022 and were down 7.9% in the second quarter of 2023 yoy.¹¹⁴ Whereas prices grew at a far less sustained pace in France than in the Netherlands or Germany between 2015 and 2021 (16%, compared with 43.8% and 41.3% respectively), now these countries are experiencing a much more pronounced decline (cf. Chart 2.4).¹¹⁵ According to the economic literature, the disparity may be partly due to a lock-in effect (Campbell, 2023). Thus, when rates are rising, fixed-rate borrowers have little incentive to sell in order to buy elsewhere because their new loan would be more costly than the old one. Low liquidity on the real estate market thus reduces the number of transactions while stifling house prices.

¹¹⁴ Source: European Central Bank.

¹¹⁵ Source: Organization for Economic Co-operation and Development.

Chart 2.5: Correlation between the change in interest rates and transaction growth

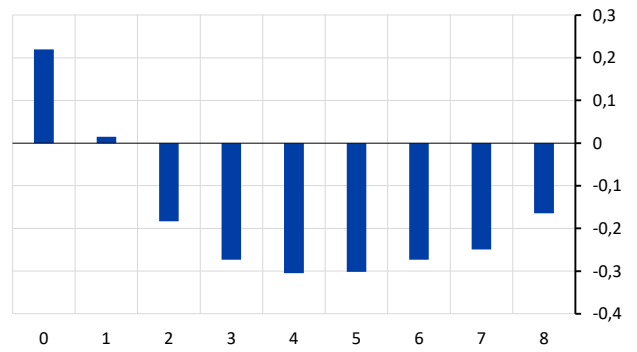
x : number of quarters / *y* : correlation coefficient



Source: IGEDD, Banque de France - Calculations: Banque de France.

Chart 2.6: Correlation between the change in interest rates and price growth

x : time / *y* : correlation coefficient

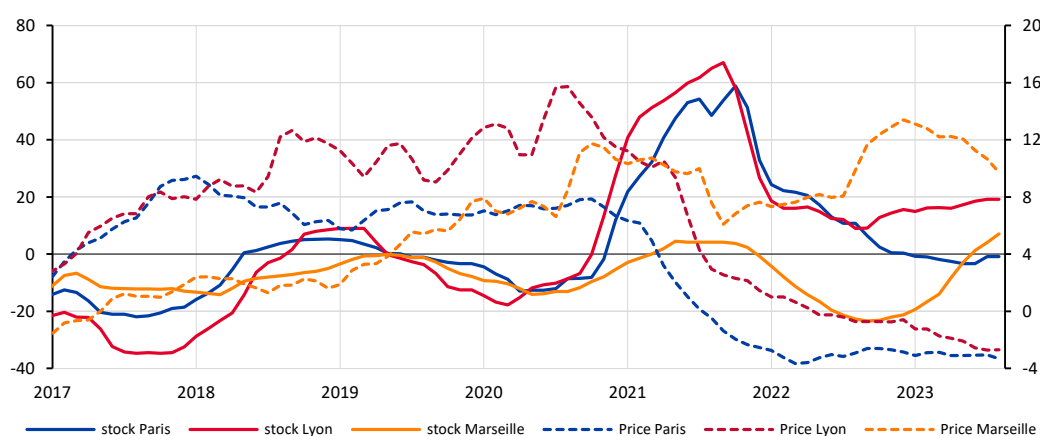


Source: INSEE, Banque de France, Calculations: Banque de France.

Box 2.1: High-frequency indicators supplement traditional statistics on the French real estate market

Web scraping, a technique used to extract massive volumes of unstructured data from the internet, can be used to monitor developments on real estate markets in a way that complements the view provided by standard metrics (for the United Kingdom, see Bricongne et al., 2023). Data made available by Yanport¹ enable listings posted on the main real estate websites in France since the mid-2010s to be monitored in virtually real time at national level, *département* level, and for cities with more than 100,000 residents. The data are available sooner than the official statistics and offer a different view of the supply side, tracking properties even before they are the subject of registered transactions. Besides the prices of posted properties, other calculated metrics include the stock of properties available for sale, the length of time for which listings are posted (approximately 60 days on average over the period for cities with over 100,000 residents, ranging from 46 days for Lyon to 86 days for Nice) and entry/exit flows. Among other things, these parameters reveal an inverse relationship between the stock of properties available for sale and the change in prices (see Chart 2.7).

Chart 2.7: Stock of homes up for sale and posted prices
(as a %)



Note: Most recent value: September 2023.

Sources: Banque de France, Yanport.

A panel regression on cities with more than 100,000 residents linking the monthly growth rate of prices to the stock of properties for sale in the previous month reveals the negative impact of the stock of available properties in each city: the larger the stock is in a given city, the less demand satisfies supply and the more downward pressure is exerted on prices. The regression also highlights a negative overall “time” effect roughly from the second quarter of 2022, which seems to be well correlated with the adverse trend in household home buying capacity (defined in Box 2.2).

Over 2023, the annual growth rate of stocks of homes for sale increased in virtually all cities with more than 100,000 residents, signalling possible downward pressure on prices over recent months.

1) Yanport is a private company that web scrapes real estate data to produce analyses of the real estate market.

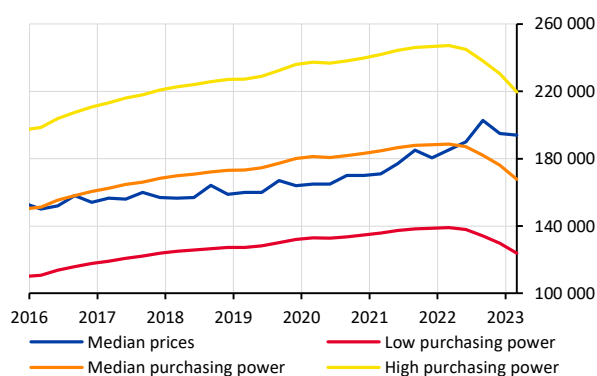
Fast price growth caused the gap between households' property buying capacity and house prices to begin narrowing before the start of monetary tightening

Beginning in 2015, rock-bottom interest rates and income growth drove a steady improvement in households' property buying capacity. But this was accompanied by even faster growth in prices, which narrowed the gap between buying capacity and house prices, even before higher interest rates bore on households' buying capacity. The buying capacity indicator, which is calculated in euros, shows the average amounts that different household categories are able to spend under lending conditions (credit period, debt-service-to-income (DSTI) ratio and down payment percentage) that are the same and fixed over time. The difference between buying capacity and median house prices thus acts as an indicator of pressure for buyers. A negative difference does not mean that buyers cannot buy property, but that they will have to scale back their aspirations (smaller surface area, less energy efficient, different location). The gap became negative in France in the second quarter of 2022, because the decline in house buying capacity caused by rising interest rates was not accompanied by an equivalent fall in prices (see Chart 2.8).

These dynamics varied widely across the country's départements: in the first quarter of 2023, the Paris region, the Atlantic coast and the south-east region, for example, recorded median prices that exceeded median buying capacity in the individual départements (see Chart 2.9). This wide spatial disparity reflects changing preferences post-Covid, as analysed in the December 2021 Risk Assessment. Greater demand for larger homes, partly facilitated by the new work-from-home approaches introduced and permanently adopted by some sectors of activity, gave peripheral regions more appeal. Thus, from the second half of 2020, real estate prices grew more rapidly outside Paris than in the capital. This increase in prices also outpaced income growth. Accordingly, whereas the gap between buying capacity and prices was positive in 73% of départements in the first quarter of 2015, it was true for just 40% in the first quarter of 2023. Another way to read the downturn in French buying capacity is to look at the proportion of communes where median buying capacity exceeds median prices in the commune. This share fell from 63% to 40%, signalling a decrease in the number of communes where a household with median buying capacity can become a homeowner. The same dynamic is apparent in the shift in home buying capacity expressed in terms of the surface area of the property that may be purchased (see Box 2.2). According to this approach, buying capacity surged between 2008 and 2015, evened off between 2015 and 2020, began falling in 2020, and then declined more steeply when interest rates started heading upwards in 2022.

Chart 2.8: Home buying capacity and median house prices in France

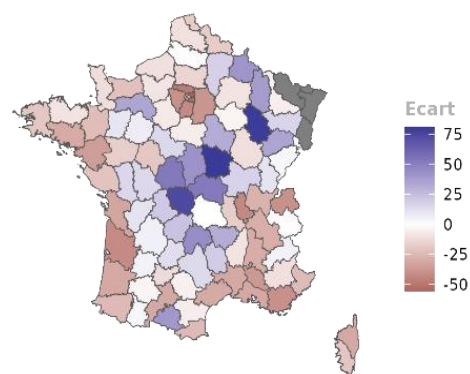
x: time / y: EUR



Source: INSEE, DVF+, Banque de France, calculations: Banque de France.
Most recent value: March 2023. Low income corresponds to the third decile, high income to the seventh decile.
Parameters: 25-year credit period, DSTI ratio of 33% and 20% down payment.

Chart 2.9: Difference between median home buying capacity and median home price

x: time / y: %



Source: INSEE, DVF+, Banque de France.
Note: Q1 2023, DVF+ data are unavailable for Alsace-Moselle.

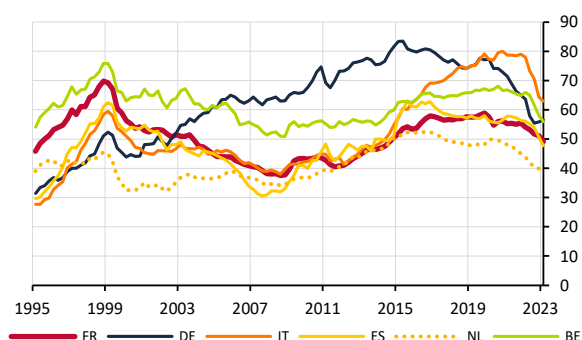
Box 2.2: France has seen a smaller decrease in household home buying capacity than other countries

To assess where the residential real estate market is in its cycle, an indicator of home buying capacity can be constructed for households in each country by calculating the number of square metres that an individual can acquire at a given time: i) the current level of house prices, ii) average gross disposable income per person, and iii) observed home lending rates. In order to draw cross-country comparisons, the harmonised home buying capacity metric is shown here.¹ This indicator imposes assumptions that are held constant over time and across countries for the DSTI ratio, the credit period and the percentage of the down payment.²

It reveals that buying capacity shrank in all countries in 2022, reflecting the direct effect of costlier property loans (see Chart 2.10). In France, this recent loss followed a spell between 2015 and 2021 during which home buying capacity was relatively steady, as higher prices offset the combined effects of nominal income growth and credit standards. However, France experienced a smaller downturn than other countries, losing 5 m² of buying capacity between the first quarter of 2022 and the first quarter of 2023, compared with 8.4 m² in Spain, 15 m² in Italy and 7.1 m² in Germany over the same period, notably because home lending rates rose more modestly in France (see Chart 2.11). In most countries other than Germany but including France, the situation by mid-2023 had not wiped out all the home buying capacity gains enjoyed by households between 2008 and 2020.

Chart 2.10: Buying capacity

x: time / y: m²

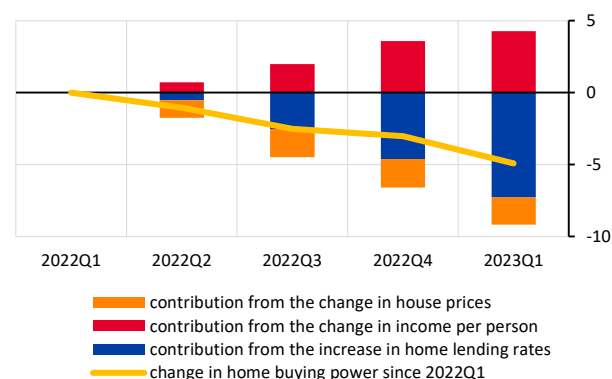


Sources: Eurostat, HouseLev DB, OECD, ECB.

Calculations: Banque de France.

Chart 2.11: Decomposition of the change in buying capacity

x: time / y: m²



Sources: Eurostat, HouseLev DB, OECD, ECB.

Calculations: Banque de France.

Note: the dotted bands show the min/max spread.

1) See in particular Banque de France, *Eco Notepads*, Post No. 148 "Changes in per capita property purchasing power in the euro area", Lalliard *et al.*

2) In its overview of home lending to households, the Banque de France publishes another indicator of home buying capacity that covers only France. See *Panorama des prêts à l'habitat des ménages*. It is based on the same methodology, but uses different technical assumptions, factoring in changes in the effective observed credit period. Conversely, the method used here for the cross-country comparison assumes a constant credit period over time and across countries.

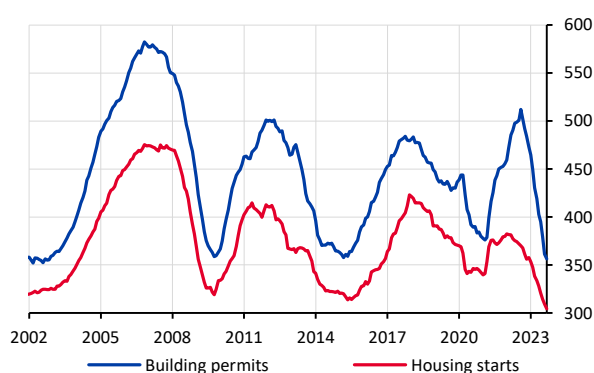
The new build properties and rental markets were more affected than other markets

The contraction in the market for new build properties market is attributable to a combination of factors, some of which should improve in the near term. The number of housing starts in September 2023 was 13% below the average calculated for the 12 months leading up to the Covid-19 crisis (see Chart 2.12). Furthermore, cumulative reservations, i.e. sales of new homes, over 12 months fell among institutional clients (by 12.7% in the second quarter of 2023 compared with the second quarter of 2022) and even more so in the retail segment (31.8% down relative to the second quarter of 2022). Price growth for new homes was zero in the first quarter of 2023 qoq and

has slowed significantly since the third quarter of 2022. The decrease in demand is primarily attributable to higher interest rates, which make property loans more expensive. Demand has now fallen by more than it did after the 2008 crisis. On the supply side, several significant constraints are combining for the construction sector, starting with the soaring increase in the cost of materials in an inflationary environment (see Chart 2.13), coupled with a labour shortage. However, the risks to financial stability look to be under control at this stage, as bank exposures to the construction sector account for just 5.6% of outstanding loans to non-financial corporations.¹¹⁶ Moreover, the most recent surveys of business conditions from France’s national statistics office (INSEE) point to supply-side improvements. The share of companies reporting procurement challenges was just 7.7% in October 2023, compared with 32.9% in October 2022, while the share of companies whose activity was restricted by a lack of personnel fell over the same period from 49.5% to 41.4%.¹¹⁷

Chart 2.12: Housing permits and housing starts

x: time / y: thousands of building permits or housing starts, cumulative over 12 months



Source: INSEE.

Chart 2.13: Index of materials costs for building construction

x: time / y: index



Source: INSEE.

While the rental market is experiencing significant stress, this does not represent a direct risk to financial stability. There are no official statistics to measure tension on the rental market, and real estate agents are the primary source of information. A survey by France’s National Federation of Real Estate Agents (FNAIM) in August 2023 revealed a 34% decrease in rented properties compared with the previous year,¹¹⁸ along with an increase in rents that was contained by rent controls in certain urban areas with tight rental markets.¹¹⁹ A number of factors may account for this stress (Benassy- Quéré, 2023). Demand is high owing to difficulties in accessing home ownership and social housing. At the same time, supply has been curbed, particularly by the rise of seasonal rental platforms (see, for example, Duso et al., 2021, on Berlin, and Institut Paris Région, 2023, on Paris). Furthermore, the bans on renting out properties with the worst energy efficiency rating (G+ under France’s official energy efficiency assessment scheme, DPE) or raising rent on private dwellings with low rating (F or G) do not currently apply to properties on these platforms, which could further boost the appeal of tourist rentals over long-term rentals. In addition, in an environment of higher interest rates, buy-to-let investments, particularly in zones under significant stress where price-to-rent ratios are high, are less profitable than other investments (Madec, 2023). While difficulties in accessing housing could have significant economic consequences, especially in terms of access to employment, the risk to financial stability is less direct. Although higher rents could affect the repayment capacity of some indebted households, particularly those on low incomes, overindebtedness remains limited in France (see Chapter 1, Section “1.2 Pass-through of higher interest rates to the real economy is ongoing and could increase the vulnerabilities of the most heavily indebted non-financial participants”).

¹¹⁶ See *Financing of Enterprises Sep 2023* | Banque de France (banque-france.fr)

¹¹⁷ Source: INSEE.

¹¹⁸ Source: FNAIM.

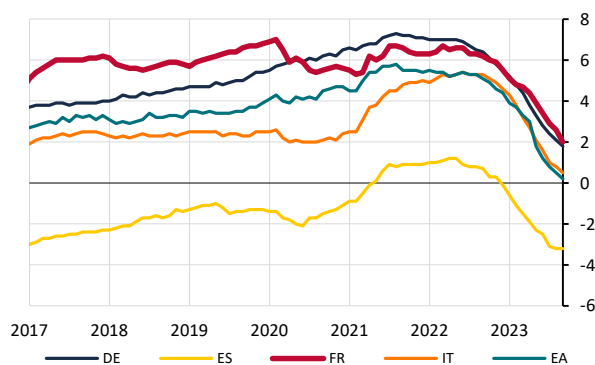
¹¹⁹ For example, in 2022 rents went up by 2.4% in the Paris area, in line with the benchmark rent index (IRL), which averaged 2.5%.

While less pronounced than in neighbouring European countries, the decrease in new housing loans is due to a slowdown in demand in response to changing financial conditions

After a highly favourable period, financial conditions tightened in response to the inflation shock, causing a fall in new property loans from mid-2022. However, property loan production remains relatively more resilient in France than elsewhere in Europe. The period of ultra-accommodative monetary policy that began in late 2014 fuelled sustained growth in property loans in France and around Europe, as lending rates fell to record low levels.¹²⁰ The end of the first lockdowns and the rise of teleworking paved the way for a catch-up and drove increased demand among households for housing, which led production to soar to record heights in France in 2021 (19% increase in annual credit production excluding renegotiations compared with 2019) and in the first half of 2022 (record high 12-month production in May 2022). This expansionary phase came to a halt as financing conditions tightened from early 2022 onwards, causing property lending to slow across Europe (see Chart 2.14). In France, 12-month production plummeted by 40% in September 2023 relative to the high point recorded in May 2022 (37% decrease for production excluding renegotiations). With the exception of France, annual property loan production in the third quarter of 2023 (as a ratio of GDP) in all major European economies was on a par with or below the average observed prior to the introduction of the ultra-accommodative monetary policy (i.e. 2003-2014). France stands out as its annual production (including renegotiations) stayed above the pre-2014 average (7% of GDP in the third quarter of 2023, compared with 4.6% between the fourth quarter of 2003 and the fourth quarter of 2014, see Chart 2.15). This situation is particularly due to the fact that lending rates adjusted relatively more gradually to policy tightening. Property loan production deflated by the house price index was down by 3% in France in the third quarter of 2023 compared with average observed over 2003-2014, while Germany saw a 50% decline in the second quarter of 2023.¹²¹

Chart 2.14: Growth in outstanding property loans to households

x: time / y: yoy change (%)

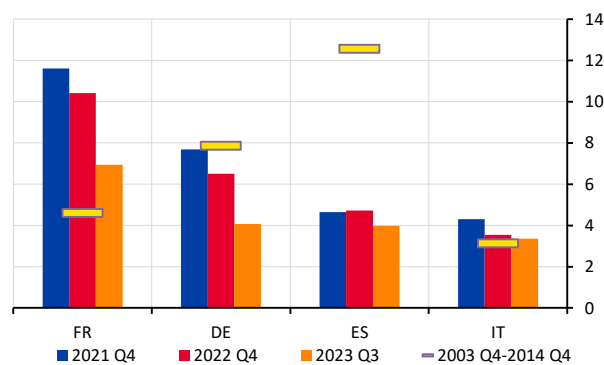


Source: ECB.

Note: Outstanding property loans. Securitisation transactions included, except for Spain and the euro area (EA).

Chart 2.15: New property loans (including renegotiations) over rolling 12-month period as a share of GDP

x: country / y: %



Source: ECB, OECD.

Note: The yellow line shows average production of new property loans over rolling 12-month period (including renegotiations) as a share of GDP over the 2003 Q4 - 2014 Q4 period.

The decrease in production is primarily due to a slowdown in household demand in response to increased lending rates. Every quarter, the ECB conducts a survey of euro area banks to monitor factors influencing credit distribution. In the case of the household sector, many French banks noted in their survey responses a significant fall-off in demand for credit starting in the fourth quarter of 2022, mainly due to higher lending rates (see Chart 2.16). Data also reveal two additional constraints that negatively impacted housing demand: gloomier prospects for the residential real estate market and weaker confidence about macroeconomic conditions. Responding to

¹²⁰ These trends are analysed in the *Assessment of Risks to the French Financial System* of December 2021.

¹²¹ These calculations were based on quarterly housing loan production (including renegotiations) published by the ECB and the quarterly house price index published by the OECD (2015 = 100).

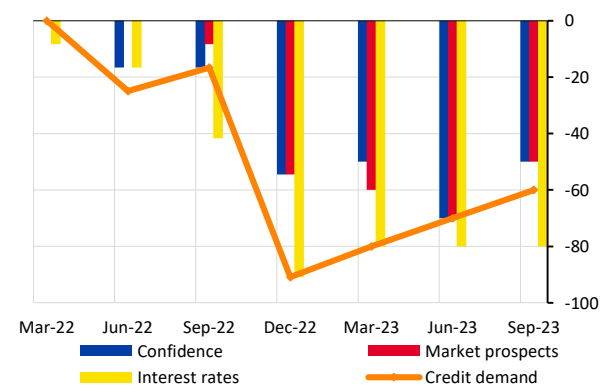
these constraints, some households decided to hold off on investing as they waited for real estate prices to come down and/or macroeconomic conditions to stabilise. However, the trends observed in 2023 point to a gradual decline in the number of banks reporting a reduction in credit demand.

On the supply side, bank margins have been impacted by the run-up in interest rates over the last year and a half. Since early 2022, refinancing conditions for new property loans have become less attractive amid an across-the-board increase in market rates and regulated saving rates, notably owing to the sharp rise in inflation, to which they are linked (see Chart 2.17). Interest rates on new property loans increased more moderately over the same period. Multiple factors have accentuated the pressure on bank margins. First, unlike refinancing conditions, which adjust quickly, rates charged to customers are subject to inertia, chiefly due to fierce competition between banks and, within each institution, the time delay between when a loan is offered and when it is actually put in place, plus the ceiling established by the usury rate. Prior to the second half of 2022, banks were also able to draw on a substantial pool of non-interest-bearing deposits, which allowed them to finance some new loans at below market cost. After that time, growth of bank margins was impacted as households replaced some of their sight deposits with interest-bearing term deposits.

Several measures in support of housing lending did however help banks as financial conditions tightened, enabling their margins to start recovering in 2023. The temporary switch to monthly adjustments of the usury rate from February 2023 enabled banks to keep step with the increase in refinancing rates and allowed net interest margins to recover. In addition, the rate of interest paid on Livret A savings accounts, which is a core factor in the cost price of property loans, has been steady at 3% since August 2023. When surveyed by the ECB,¹²² more French banks said that their margins went up in the third quarter of 2023 than in the first and second quarters (40% on a net basis, i.e. the share of banks that reported an increase less the share that reported a decrease in margins on average-risk property loans).

Chart 2.16: Demand for property loans and contributing factors

x: time / y: net % of banks reporting an increase in demand and contributing factors



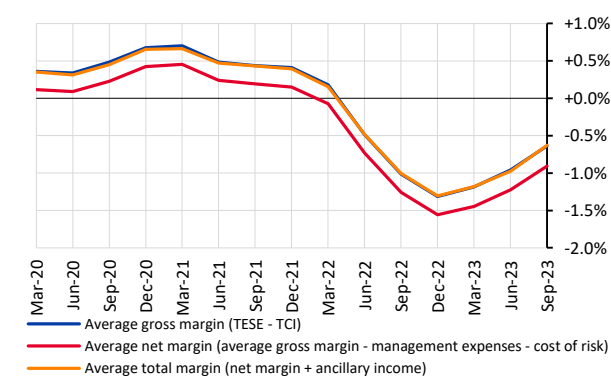
Source: ECB.

Note: Net percentages show the difference between the percentage of banks that reported an increase in demand for loans over the quarter and the percentage that reported a decrease.

“Confidence” identifies the role played by household confidence about macroeconomic conditions in the demand for property loans, “Market prospects” identifies the household outlook on the real estate market, “Interest rates” identifies the general level of interest rates.

Chart 2.17: Margins on new property loans

x: time / y: % rate



Source: ACPR (RENTIMMO reports); the average gross margin and average total margin curves are superimposed on each other.

Note:

TESE: Narrowly defined effective rate (customer interest rate)

TCI: Internal transfer price rate (refinancing cost)

¹²² In the context of the quarterly survey of factors influencing credit distribution.

Box 2.3: Macroeconometric analysis of the growth rate of outstanding property loans in France.

The growth rate of real outstanding property loans depends on multiple factors, whose effects may be quantified using a vector autoregressive (VAR) model. In this class of econometric model, the value at time t of each variable may be split into two components:

- a predictable component based on the information observed at time $t-1$, corresponding to a linear combination of past observed values for all of the model's endogenous variables,
- a random component, also called "residuals", corresponding to a linear combination of underlying "structural" shocks (such as a monetary policy shock) that the model seeks to identify. These shocks may be interpreted as forces that randomly disrupt the change in the model's variables.

This econometric approach offers a way to study how the growth of property loans changes as a function of supply and demand dynamics on the credit market, the housing market and changes in monetary policy rates. To do this, the approach incorporates i) two variables to assess the growth of housing lending (nominal interest rates on property loans and real outstanding loans), ii) two variables to model the residential real estate market (real house prices and real residential investment), iii) two variables to represent the real economy (household real disposable income and consumer price index), and iv) monetary policy rates (depending on the period under examination, the policy rate or the short-term rate incorporating the effects of unconventional monetary policy). The analysis is used to separate the systematic and exogenous components of monetary policy. The systematic part corresponds to the endogenous response of policy rates to macroeconomic conditions according to a pre-determined rule (i.e. a monetary rule), such as a period of decreasing rates responding to a decline in inflation (identified by an aggregate supply or demand shock). The exogenous part, meanwhile, corresponds to deviations in monetary policy rates from a monetary rule (i.e. monetary policy shocks). These shocks are identified by making assumptions about i) the sign of their immediate effects on the model's variables or ii) the absence of immediate effects (see Table 2.1).

Table 2.1: Identification of aggregate demand, aggregate supply and monetary policy shocks

Variable	Structural shocks		
	Aggregate demand shock	Aggregate supply shock	Monetary policy shock
Real residential investment	No constraint	+	+
Real house prices	No constraint	No constraint	+
Real outstanding property loans	No constraint	No constraint	+
Property loan rate	No constraint	No constraint	-
Monetary policy rate	+	-	-
Real household income	+	+	0
Consumer price index	+	-	0

Source: Banque de France.

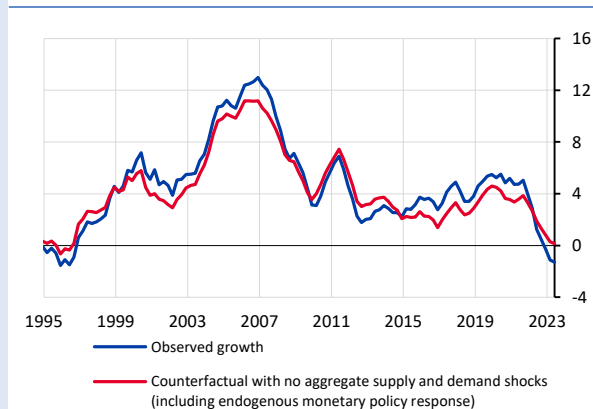
Note: Table of sign restrictions for the immediate effects (or absence of immediate effects) of different shocks on the model's variables.

Estimates show that monetary policy has played a decisive role in the growth of property lending in France, notably during the expansionary phase that began in 2015 and since the cycle reversed in 2022.

During the expansionary phase leading up to the Covid-19 crisis (2015-2020), the endogenous response of monetary policy to the low-inflation macroeconomic environment was the main growth driver of house prices and loans. This supports the notion of a significant house price/credit loop supported by lower interest rates. According to the findings, this effect is estimated to have contributed 1.2 percentage points (pp) to the average growth of real outstanding property loans over the period (3.9%, see Chart 2.18). Over the recent period, estimates show that the decrease in the real volume of property lending observed since mid-2022 is partially attributable to a tightening of the exogenous component of monetary policy. Removing the effects of monetary policy shocks, the average annual growth of real outstanding property loanhousing loans is estimated by the model to be 1 pp higher than the average observed growth rate (−0.19%, see Chart 2.19). Over the same period, **setting aside effects linked to the increase in policy rates, the model points to a lack of significant constraints on the supply of bank credit** (i.e. an absence of major credit supply shocks). The downturn in demand associated with higher rates is therefore the main drag on loan production, consistent with the banking sector's observations.

Chart 2.18: Growth rate of real outstanding property loans and counterfactual featuring no aggregate supply and demand shocks

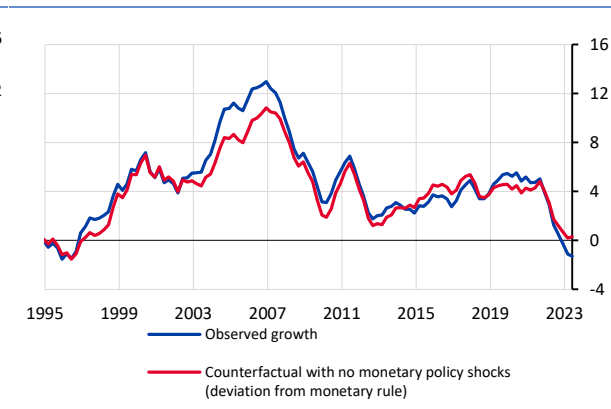
x: time / y: yoy change (%)



Source: Banque de France.

Chart 2.19: Growth rate of real outstanding property loans and counterfactual featuring no monetary policy shocks

x: time / y: yoy change (%)



Source: Banque de France.

2.2 The risks to financial stability are contained at this stage thanks to France's robust property loan financing model, which has been strengthened by the HCSF's measures on lending standards

The structural features that underpin the resilience of the French residential real estate market limit credit risk

France's property loan financing model rests on three key pillars: i) loans are at fixed rates for the entire duration of the loan, ii) most loans are guaranteed through a guarantor scheme, and iii) borrower solvency is assessed based on an analysis of income rather than on the value of the asset.

Widespread use of fixed rates for property loans in France means that property-owning households are protected against rising interest rates. Virtually all property loans are granted at fixed rates (99.3% of production in June 2023¹²³ and 97.7% of outstanding loans at 31 December 2022¹²⁴) for the entire duration of the loan. While remaining stable over time, the share of fixed-rate loans has actually edged upwards by 1.2 pp since January 2023. Interest rate risk is thus managed by financial institutions, which are better equipped than households to deal with it. France is one of the countries where the share of fixed rates is highest (the euro area average was 80.5% in September 2023) and also the most stable over time (see Chart 2.20). A recent study by Tzamourani (2021)¹²⁵ examines the exposure to interest rates changes of several euro area countries, including France. The analysis reveals that household exposures to rate changes differ across countries, and that much of the disparity is due to the share of floating-rate loans. In countries such as France where fixed-rate loans dominate, an increase in interest rates has little impact or may actually lift household income on average as their deposits become more valuable (*ceteris paribus*, notably assuming constant inflation). Conversely, in countries where floating-rate loans are in the majority, such an increase would, on average, adversely impact households, as borrowing costs would go up.

In France, more than 67% of outstanding property loans to households are secured by a guarantor (organisme de cautionnement),¹²⁶ under a scheme unique to France that limits losses for banks in the event of default through a risk-pooling system. Guarantors are bound by prudential regulations and are supervised by the *Autorité de contrôle prudentiel et de résolution* (ACPR – Prudential Supervision and Resolution Authority), which regularly assesses their resilience via stress tests. The most recent stress test was conducted in 2023 and focused on the three main guarantors, which together covered approximately 84% of outstanding loans secured at end-2022. The exercise found that the three entities were resilient enough to withstand the severe scenario.¹²⁷ Furthermore, in the event of default of a borrower, the scheme ensures that losses for the banks are not driven by house prices. Unlike mortgage loans, which dominate in Europe and for which a decline in the value of the property reduces the value recovered in the event of default, loans secured by a guarantor allow banks to recover the full loan amount if the borrower defaults. In France, where mortgages account for fewer than one-third of property loans (see Chart 2.21), banks are shielded against house price swings.

France's home lending approach, based on an assessment of the borrower's solvency rather than the market value of the financed asset, offers protection against real estate risk amplification. Solvency is generally measured using the debt-service-to-income (DSTI) ratio. In many European countries, borrower solvency is assessed using the underlying value of the real estate asset, which fluctuates over time. Furthermore, these assets may be used as collateral to secure other credits, such as consumer loans. As a result, when house prices go up, households benefit from a wealth effect that allows them to take on more debt. Conversely, a decrease in the value of the asset can lead to a reverse wealth effect. A self-perpetuating effect may also be generated if assets sold to cope with mounting payment defaults amplify the initial fall in house prices. Such amplification effects are

¹²³ Source: Autorité de contrôle prudentiel et de résolution (ACPR), available at <https://acpr.banque-france.fr/>

¹²⁴ Source: Autorité de contrôle prudentiel et de résolution (ACPR), available at <https://acpr.banque-france.fr/>

¹²⁵ Tzamourani P., The interest rate exposure of euro area households. *European Economic Review*, Volume 132, Feb. 2021.

¹²⁶ On taking out a loan, each household pays into a mutual guarantee fund that absorbs losses in the event of a payment default. If a borrower defaults, the guarantor agency reimburses the bank before recovering the claim by restructuring the loan or seizing the asset.

¹²⁷ Under the macroeconomic conditions of the severe scenario included in the 2023 stress test by the European Banking Authority (EBA), and applying EBA methodology and ECB reference parameters.

limited in France because borrower income, which is more stable over time, is used as the basis on which to assess solvency.

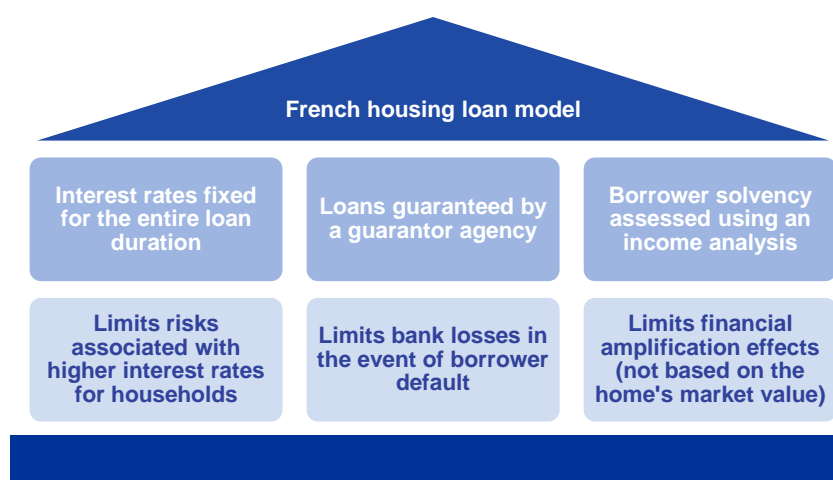
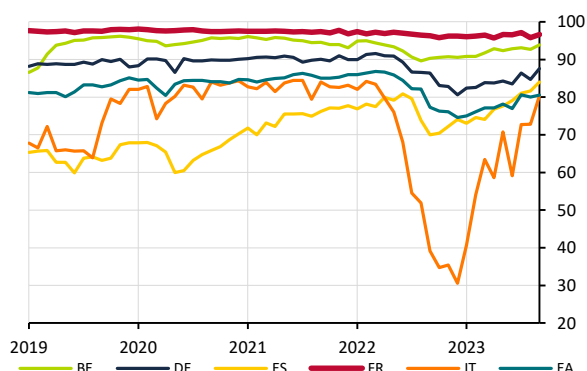


Chart 2.20: Share of fixed-rate loans in total property loan production

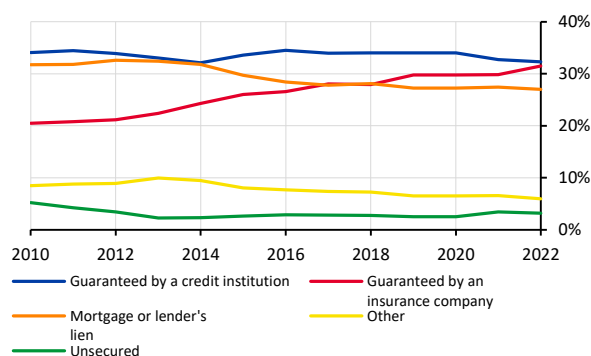
x: time / y: % of monthly property loan production



Source: ECB-SDW.
Note: EA for euro area.

Chart 2.21: Types of guarantees provided for property loans

x: time / y: % of outstanding property loans



Source: ACPR, Annual property loans survey, 2022.

Measures introduced by the HCSF in relation to lending standards help to strengthen financial stability

Following a period in which risks linked to residential real estate and household debt increased owing to the deterioration in lending standards, in late 2019 the HCSF introduced a measure to regulate those standards. The goal was to safeguard France's home financing model. The HCSF began by issuing a recommendation in December 2019,¹²⁸ before adopting a legally binding standard in January 2022.¹²⁹ The framework is based on two criteria that banks must meet: i) the DSTI ratio of borrowers must not exceed 35% and ii) the loan maturity must not exceed 25 years. This decision drew on long-standing prudential practices in the banking sector consisting in restricting the maximum DSTI ratio and loan duration. The measure was implemented following a risk assessment by the HCSF,¹³⁰ which identified two post-2015 trends on the residential real estate market that threatened

¹²⁸ HCSF20191212_R2019_1_Recommandation.pdf (economie.gouv.fr). This recommendation was subsequently amended in 2021: Recommendation_R-HCSF-2021-1.pdf (economie.gouv.fr)

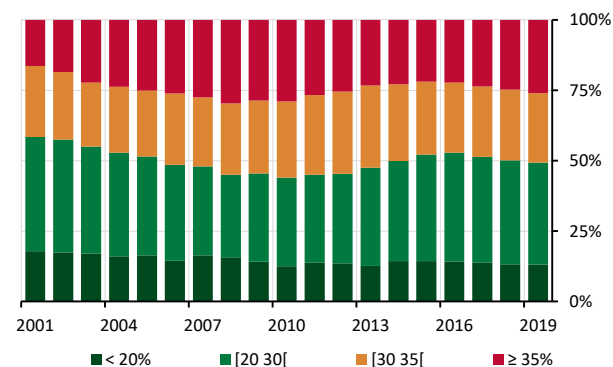
¹²⁹ SScanEmail21092910430 (economie.gouv.fr)

¹³⁰ HCSF 2019-10 - Diagnostic risques immobilier.pdf (economie.gouv.fr)

France's home financing model: a deterioration in lending standards for property loans and an increase in household indebtedness. Specifically, by 2019 the share of borrowers with a DSTI ratio of more than 35% had risen to 26% of new property loans, up from 22% in 2015 (see Chart 2.22). The average loan maturity, meanwhile, hit a record 20.3 years in 2019, driven by the sharp increase in loan maturities of more than 25 years (see Chart 2.23). This deterioration was compounded by a significant increase in the debt carried by French households over the previous two decades, which had weakened the macroeconomic resilience of France's economy. Today, France's household debt ratio is still among the highest in Europe, at 99.8% of gross disposable income in June 2023, compared with 56.8% 20 years ago; see Chart 1.37 [Chapter 1, Section on households]).

Chart 2.22: Distribution of DSTI ratios, new property loans

x: time / y: % of annual property loan production

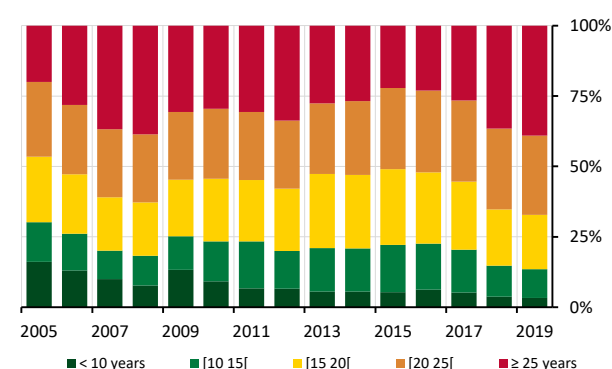


Source: ACPR.

Most recent value: 2019.

Chart 2.23: Distribution of loan maturity, new property loans

x: time / y: % of annual property loan production



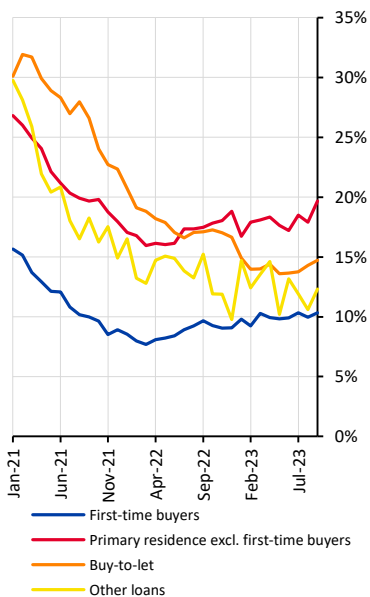
Source: Banque de France.

Most recent value: 2019.

The HCSF's measure improved lending standards across all market segments while not interfering with access to property loans. In fact, it coincided with 18 months of record credit production starting in early 2021. When the measure was implemented, non-compliance with the current maximum DSTI ratio of 35% was far greater than after January 2022 (32% of total new loans in January 2020, compared with 14.2% in January 2022). The same was true of non-compliance with the maximum loan maturity (12.8% of total new loan production in January 2020, compared with 5.9% in January 2022). Following the measure's introduction, the share of loans with a DSTI ratio of over 35% fell significantly for all borrower segments (-45,4% between January 2021 and January 2022 for first-time buyers, -36,4% for primary residence excluding first-time buyers, -31,2% for buy-to-let investment and -44,5% for other loans) while the share of loans not in compliance with the maximum loan maturity was reduced to less than 2% in each borrower segment from January 2022 (see Charts 2.24 and 2.25). As a result of these trends, the share of loans not in compliance with the HCSF's decision fell significantly, dropping to 14.3% in the third quarter of 2023 (see Chart 2.26). Banks and borrowers responded to the new constraints by increasing the average loan maturity from 21.6 years in January 2020 to 22 years in January 2022. They increased down payments to reduce the overall borrowing and the resulting debt service: the average loan-to-value (LTV) ratio fell by 1.4 pp between January 2020 and January 2022 (by which time non-compliant production at each banking group was already below the threshold of 20%) and stood at 77.8% in August 2023. Furthermore, the share of loans with an LTV ratio of over 100% was cut to 15.1% in the third quarter of 2023, compared with 29.6% in June 2020 (see Chart 2.29). An ex post analysis of the effects of the steps taken by the HCSF underlines the measure's effectiveness. Lending standards were improved without interfering with property loan production, which hit record levels in 2021 (average monthly production of EUR 22.8 billion over 2021, including renegotiations, compared with EUR 9.5 billion over the 2003-2014 period) and in the first half of 2022 (average monthly production of EUR 24.4 billion in the first half of 2022).

Chart 2.24: Share of new property loans with a DSTI ratio of over 35%, by borrower category

x: time / y: %

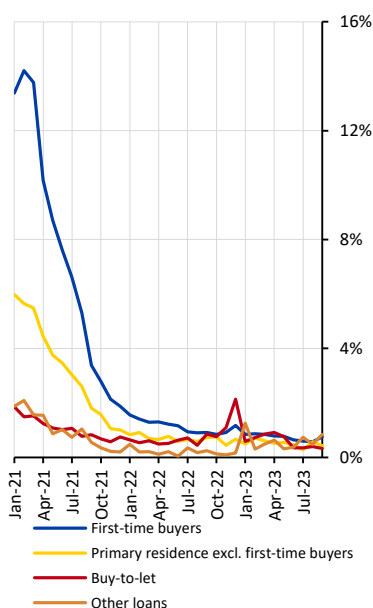


Source: ACPR.

Most recent value: September 2023.

Chart 2.25: Share of new property loans not in compliance with the maximum loan maturity, by borrower category

x: time / y: %

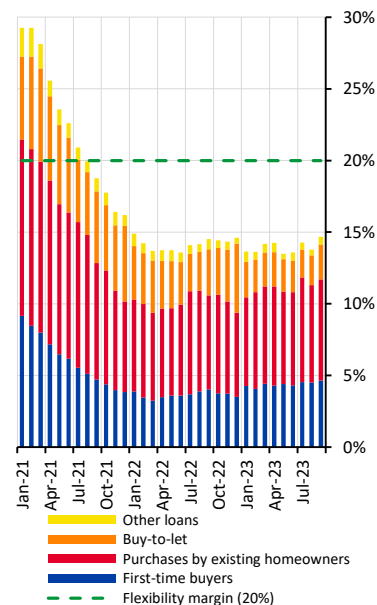


Source: ACPR.

Most recent value: September 2023.

Chart 2.26: Share of non-compliant loans in production

x: time / y: %



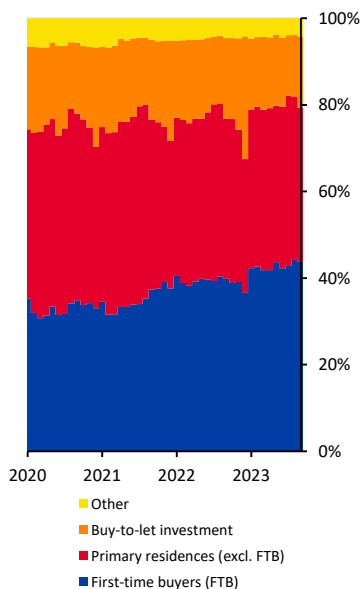
Source: ACPR.

Most recent value: September 2023.

Since the HCSF's measures were introduced, access to credit has been maintained fairly across different borrower categories, including loans to purchase a primary residence, but also lending to other categories of borrowers, with a seasonal peak in the fourth quarter for buy-to-let investment (see Chart 2.27). The share of first-time buyers in property loan production reached 43.7% in September 2023 and was higher than in previous years (up 3.9 pp compared with September 2022 and 8.8 pp compared with September 2020).

Chart 2.27: Share of borrower categories in total production

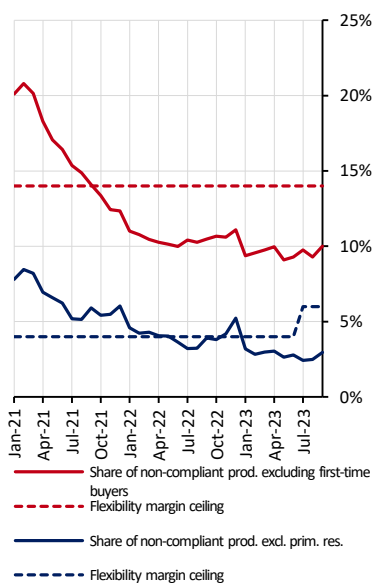
x: time / y: % of monthly property loan production



Source: ACPR.
Most recent value: September 2023.

Chart 2.28: Share of non-compliant production (R-2021-1 / D-2021-7) excluding first-time buyers (red) and purchases of primary residences (blue) in total production

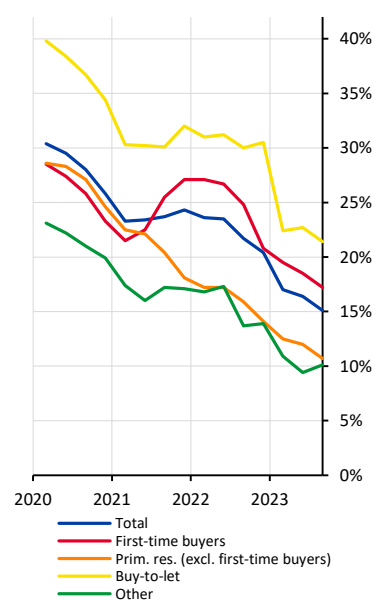
x: time / y: %



Source: ACPR.
Most recent value: September 2023.

Chart 2.29: Share of new property loans with an LTV ratio of more than 100%, by borrower category

x: time / y: % of quarterly property loan production



Source: ACPR.
Most recent value: Q3 2023

The DSTI ratio and loan maturity limits established by the HCSF allow for some flexibility (20% of quarterly loan production), which is reserved primarily for first-time buyers and other buyers of primary residences and which is only partially used by the banking sector (14.3% of non-compliant loans in the third quarter of 2023). The share of loans that are non-compliant with the maximum DSTI ratio has stayed below the 20% threshold and has not changed much (14.1% in the third quarter of 2023, or 0.2 pp higher than in the third quarter of 2022). The share of loans with a non-compliant loan maturity remains marginal (less than 1% in the third quarter of 2023), and the number of loans with a loan maturity of more than 25 years decreased slightly over 2023 (6.4% in September 2023, down from 7.1% in March 2023, but 1.6 pp higher than the low recorded in July 2022). Banks likewise made only partial use of the allocation limits within the 20% flexibility margin in the third quarter of 2023 (see Chart 2.26 and 2.28).

On 29 June 2023, the HCSF made technical adjustments to its decision. These particularly concerned the breakdown of the flexibility margin, as the HCSF raised the unrestricted-use portion from 20% to 30% (or 6% of total quarterly production, rather than 4% previously), thereby providing additional flexibility for the buy-to-let segment. The maximum flexibility margin (20% of quarterly production of property loans) is partially reserved for financing first-time home purchases (30%, or 6% of quarterly production) and purchases of primary residences (70% since July 2023, or 14% of quarterly production). The HCSF decided that in the event of a limited and temporary breach, the ACPR could potentially assess compliance with allocation limits within the flexibility margin by considering overall new lending over three consecutive quarters. In a press release published in September 2023, the HCSF noted that non-compliant loan production excluding purchases of a primary residence (essentially buy-to-let investment) made up just 2.8% of total production in the second quarter of 2023 (out of a possible maximum of 4% raised to 6% in June). It pointed out that banks therefore have leeway to increase their provision of credit even further, while complying with the HCSF's decision.

On 4 December 2023, the HCSF announced a new set of adjustments that should remove the last remaining operational difficulties in using the flexibility margins, without fuelling household overindebtedness.¹³¹ It indicated that the leeway granted to the ACPR in June to assess compliance with the standard, and in the event of a limited breach, applied to the allocation limits within the 20% flexibility margin as well as to the overall 20% margin. Furthermore, the HCSF decided to allow credit institutions to exclude interest expense on bridge loans when assessing the borrower's DSTI ratio,¹³² provided that the bridge loan's loan-to-value ratio is sufficiently conservative,¹³³ i.e. less than or equal to 80% of the value of the property being sold. Lastly, in order to foster energy renovation work, the HCSF decided to lower the threshold for renovation work above which house buyers are allowed to defer their loan repayments to 10% of the total cost of the operation.

As in other countries, the French measure on lending standards was designed as a structural policy aimed at preventing excessive household indebtedness. Its goal was to maintain healthy lending standards, including during periods of heightened real estate risks. Since the measure applies only to new loans, it was felt to provide phased-in protection against a potential future build-up of risks. According to a recent report by the Committee on the Global Financial System (CGFS) on macroprudential policies in the real estate sector,¹³⁴ several jurisdictions employ lending standards measures in such a way that they are not recalibrated as a function of the financial cycle, i.e. in a structural way.

In this environment, the default rate on property loans remains extremely low in France, and the cost of risk is extremely limited for banks

The protective role of the HCSF measure appears critical, considering that the last episode of rising interest rates in France (2005-2008) saw a swift deterioration in credit standards and an increase in default rates. Over that period, banks significantly eased lending standards to respond to the increased cost of credit and to stimulate loan production. A trend increase in the share of loans with DSTI ratios of more than 35% (from 25% in 2005 to 30% in 2008; see Chart 2.22) and loan maturity of more than 25 years (up from 20% to 39% over the same period, see Chart 2.23) was observed. A study of different borrower cohorts revealed that more flexible lending standards in France had contributed significantly to the increase in default rates between 2005 and 2014, even after neutralising the effects of other material factors, such as household characteristics and the business cycle.¹³⁵

After rising significantly over the 2021-2022 period, the share of outstanding property loans classified as stage 2¹³⁶ flattened out in the first half at 9.2%. At the same time, the share of non-performing property loans (NPLs) reached a record low of 1.8%. The NPL coverage ratio is stable at 32.8%. When collateral and sureties are taken into account, banks cover 96.8% of NPL outstandings (see Charts 2.30 and 2.31).

¹³¹ Op-ed by Agnès Bénassy-Quéré, Haut Conseil de stabilité financière: une notoriété inespérée, 4 December 2023.

¹³² A bridge loan is a short-term loan designed to provide a partial or total and temporary advance on the proceeds of the sale of one property in order to acquire another before the first asset is sold. Bridge loans are not subject to the HCSF measure as such, but the interest expense associated with this type of loan was included until now when measuring the DSTI ratio for new property loan applications.

¹³³ LTV is the ratio between the amount borrowed and the value of the asset put up for sale, net, where applicable, of any principal still due on the existing loan on the property.

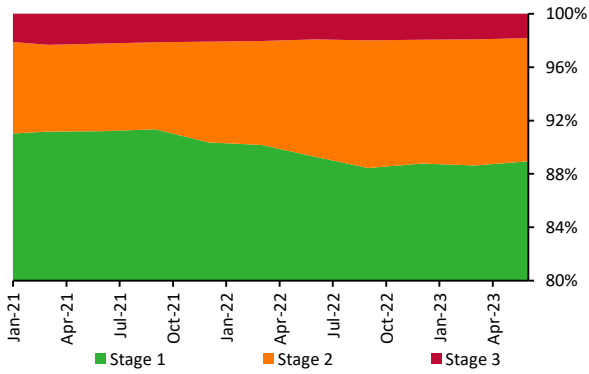
¹³⁴ CGFS, *Macroprudential policies to mitigate housing market risks: overview and Country case studies*, December 2023, available on the BIS website at <https://www.bis.org/>

¹³⁵ Source: Banque de France: [ers_2021-s2_vfclean4.pdf](#) (banque-france.fr)

¹³⁶ Loans are classified as stage 1 if credit risk has not deteriorated significantly since origination, as stage 2 if credit risk has deteriorated significantly but no default event has been identified, and as stage 3 if a default event has been identified.

Chart 2.30: Distribution of outstanding property loans, by IFRS 9 stage

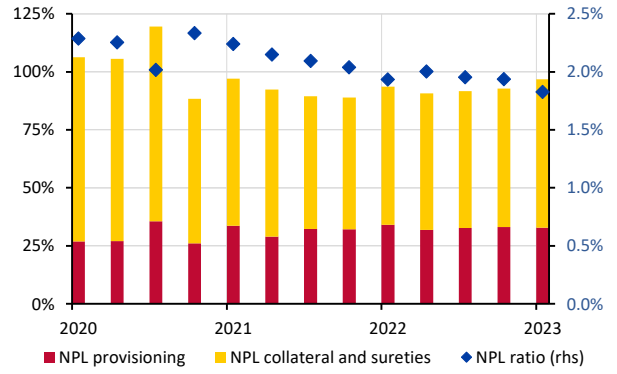
x: time / y: % rate



Source: ACPR (FINREP F18 report).

Chart 2.31: Coverage of outstanding non-performing property loans (NPLs) through provisions and collateral

x: time / y: % rate



Source: ACPR (FINREP F18 report).

3 French non-bank financial intermediaries: mapping, risks and regulatory framework

Since 2019, with impetus from the Financial Stability Board (FSB), the concept of “non-bank financial intermediation” (NBFi) has gradually become established as standard terminology in the field of financial stability, replacing the concept of shadow banking. NBFi was ultimately deemed to be a more neutral term, and already made up the broadest entity category in the FSB’s annual report on shadow banking, comprising all financial intermediaries other than banks. The terminological change¹³⁷ did not however alter the substance or scope of the FSB’s work, which remains focused on the “narrow measure of shadow banking”, now referred to as just the “narrow measure” (see below), which includes entities that pose bank-like financial stability risks, i.e. that engage in activities involving maturity/liquidity transformation and/or leverage.

Dispelling any potential ambiguity about the new concept is all the more crucial because some non-bank financial intermediaries (NBFis) are the new carriers of risks that were previously faced by the banking sector. This trend is linked to a number of factors,¹³⁸ including regulatory forum shopping by participants seeking to circumvent new prudential banking rules. The sector has seen faster growth in its financial assets than the banking sector, to the point that at end-2021, NBFis accounted for almost half of total global financial assets (49.2%). In 2022, however, for the first time since 2008, the FSB recorded a 5.6% decrease in NBFi total financial assets, and the NBFi share of total financial assets consequently fell to 47.8%, essentially reflecting asset valuation losses owing to the increase in interest rates. The recent – and surely temporary – slowdown in the relative pace of NBFi expansion must not however cause the systemic risks posed by non-bank intermediaries to be underestimated. Several recent episodes, including the “dash for cash” by institutional investors in March 2020, the collapse of the Archegos family office in 2021, which caused over USD 10 billion in losses distributed between a number of systemically important banks, and problems on the UK gilt market in September 2022, which resulted in forced sales by British liability-driven investment funds, highlight the potential risks to financial stability posed by the vulnerabilities of specific investment funds.

Building on [work by the HCSF](#)¹³⁹ on interconnectedness between asset management and the rest of the financial sector, this chapter offers a mapping of French non-bank finance. It draws on information prepared annually by the *Autorité des marchés financiers* (AMF – Financial Markets Authority) and the Banque de France as part of their joint contribution to the FSB’s data collection exercise. Rigorous application of the FSB’s methodological framework to the French financial sector reveals that the NBFi sector is smaller in France than in other jurisdictions. In France, NBFis account for less than one-third of financial assets; entities falling within the scope of the FSB’s “narrow measure”, which compose the lion’s share of bank-like risks, make up a mere 8% of total financial assets. Moreover, the vast majority of these entities are regulated by the AMF and the *Autorité de contrôle prudentiel et de résolution* (ACPR – Prudential Supervision and Resolution Authority).

The first section is followed by a closer analysis of the specific risks for different NBFi categories in France, based around a description of their business model, which draws on the FSB’s standard classification. This approach makes it possible to capture some specific features of French non-bank finance that are not fully reflected in the broad institutional categories measured at international level. Fixed income funds, mixed funds and money market funds in France account for the bulk of the FSB’s narrow measure, i.e. NBFis carrying the bulk of bank-like risks (leverage, liquidity transformation, credit risk). However, some of these funds, such as employee savings funds for example, are organised according to specific French regulatory models, which in practice greatly reduces the risks theoretically associated with the overall category.

¹³⁷ The main drawback in terms of the perception of this terminological change may however be that “it lacks focus on the risk elements (i.e. maturity/liquidity transformation and/or leverage)” because the new category is “broader than the narrow measure of shadow banking” . (Source: *Discussion note on the Potential change to the use of “shadow banking” terminology in the Global Shadow Banking Monitoring Report*, FSB May 2018.)

¹³⁸ Other factors accounting for the relative growth of NBFi assets include a substantial valuation effect (increase in financial asset valuations promoted by the low interest rate environment).

¹³⁹ “Les interconnexions entre le secteur de la gestion d’actifs français et le reste du système financier français”, HCSF report, June 2018.

Finally, a significant portion of this chapter is devoted to analysing and, where possible, quantifying the interconnectedness of NBFIs, not just between NBFIs themselves (particularly insurers and investment funds) but also between NBFIs and the banking sector and between NBFIs and the non-financial sector. Direct linkages between French banks and entities included in the scope of French non-bank finance look relatively limited. French NBFIs make up just 5.8% of their liabilities and 3.3% of total banking assets. When insurers are excluded, this share falls to 4.2% of liabilities and 2.8% of total banking assets respectively. However, the exposures of French banks to foreign NBFIs are approximately twice as large for assets and liabilities alike. Similarly, French NBFIs exhibit significant cross-border interconnectedness. These findings call for a coordinated European and international approach to regulating the sector, particularly from a macroprudential perspective.

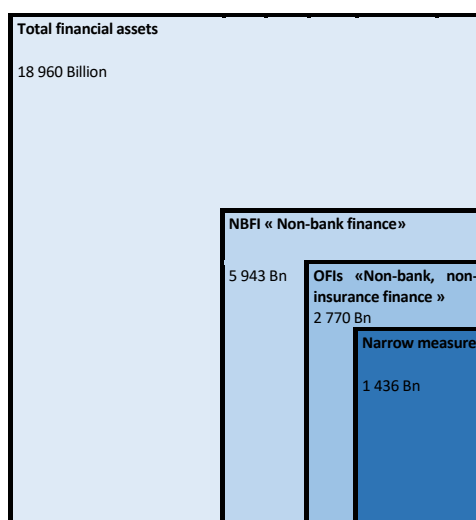
3.1 French non-bank finance encompasses a wide variety of institutions, risks and prudential regulations

Overview

NBFIs are defined as entities engaging in financial intermediation that are either totally or partially outside the banking system. At end-2022, NBFIs held assets worth EUR 5,943 billion, representing 31% of the total assets of French financial institutions¹⁴⁰ – a proportion that has stayed relatively stable over time (it was 33% in 2008). Insurers make up about half the total, with assets of EUR 2,798 billion (including pension funds).¹⁴¹ Non-bank and non-insurance finance, i.e. “other financial intermediaries” or OFIs under the FSB taxonomy, accounts for slightly less than the other half, at EUR 2,770 billion (see Chart 3.1). Investment funds make up more than two-thirds of French non-bank, non-insurance finance but bear different risks depending on the type of fund (see Table 1).

Chart 3.1: Decomposition of the assets of French financial institutions, according to the FSB classification

EUR billion



Source: Data taken from the AMF-Banque de France NBFI joint mapping exercise conducted in the context of the FSB Non-Monetary Experts Group.

The FSB’s annual NBFI monitoring exercise, whose methodology has been adopted by many jurisdictions for national monitoring purposes, is built along two stages: first (i) capture NBFI total financial assets, then (ii) narrow the focus to non-bank financial institutions where risks such as “maturity transformation, liquidity transformation or leverage may occur”. These institutions form the “narrow measure”, i.e. “all financial institutions involved in credit intermediation activities that may pose bank-like risks”. The FSB’s methodology proposes a classification of this narrow measure based on five economic functions (Table 1). Following this methodology, the Banque de France and the AMF, which take part in the FSB’s annual data collection exercise, estimate the narrow measure

¹⁴⁰ These are non-consolidated financial assets at market value (i.e. no consolidation of entities within a given sector, sub-sector or group).

¹⁴¹ Financial auxiliaries are generally classed by the FSB as “traditional” financial participants, like insurance companies and pension funds. They include mutual fund management companies, asset management companies and head offices whose subsidiaries are primarily financial corporations.

at EUR 1,436 billion in France, or one-quarter of the total assets of French non-bank finance and less than 8% of total French financial assets (see Chart 3.1). The entities listed within the narrow measure are mostly, like other NBFIs, regulated by the AMF and the ACPR. Annex 1 provides detailed information on the different NBF categories, their regulatory frameworks and the reasons why Banque de France and the AMF either count them under or exclude them from the narrow measure.

Table 1: Mapping of French non-bank finance based on the FSB methodology

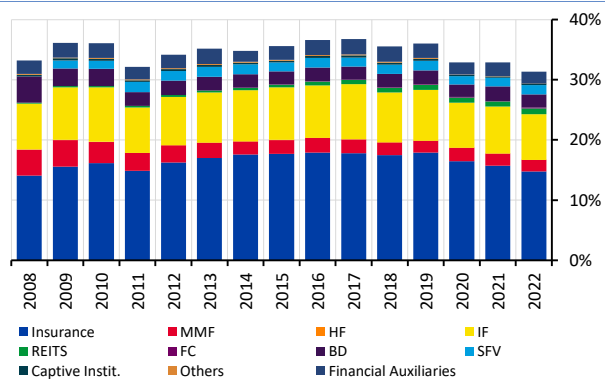
FSB category	Type of non-bank financial institution	Total assets (EUR bn)	Key features	Main bank-like risks	Supervisor and regulatory regime	
NBFI	Insurers*	2,798	Premiums collected from policyholders are invested in various, often long-term, assets	Leverage (low) Liquidity transformation (low)	ACPR Solvency 2	
	Financial auxiliaries	374.9	Auxiliary financial activities that do not involve taking ownership of the financial assets handled	-	ACPR/AMF	
NBFI/OFI	Equity funds	376.5	Funds holding mainly equities	Leverage	AMF UCITS/AIFMD	
	Private equity funds	192.1	Funds invested in equity stakes in unlisted companies	Leverage	AMF AIFMD/ French Monetary and Financial Code	
	Real estate funds	181.1	Funds invested primarily in commercial real estate	Leverage, some liquidity transformation	AMF AIFMD/French Monetary and Financial Code	
	Captive financial institutions	42.8	Institutions that provide financial services but whose assets and liabilities are not transacted on open markets, e.g. holding companies	Credit risk		
NBFI/OFI/Narrow measure (of Shadow banking)	Economic function n°1	Money market funds	365.3	Funds investing in securities issued on short-term markets	Liquidity transformation	AMF UCITS/AIFMD/ MMFR
		Fixed income funds	318.4	Funds holding bonds primarily	Leverage	AMF UCITS/AIFMD
		Mixed funds	337.7	Funds invested at least in equities and bonds but possibly in other assets as well	Leverage	AMF UCITS/AIFMD
		Employee savings funds (excl equity funds)	218.2	Employee savings funds that may be money market, fixed income or mixed funds	Liquidity transformation	AMF AIFMD
		Hedge funds	0.6	Funds that pursue absolute return goals, charge performance fees and employ strategies that may involve arbitrage	Leverage	AMF AIFMD
	EF n°2	Finance companies	22.9	Use their own resources to conduct non-intermediated credit transactions	Credit risk	ACPR CRR/CRD
	EF n°3	Investment firms (Broker-dealers)	1.7 + 409.9 consolidated	Facilitate customer transactions through their business dealings or their own assets. They often allow their customers to employ leverage	Leverage	ACPR IFR/IFD
	EF n°4	Mutual guarantee companies	2.3	Provide guarantees to members, who hold registered units, to cover their business activities	Credit risk	ACPR
	EF n°5	Structured finance vehicles	169.2 +130.8 consolidated	Vehicles investing in various, potentially risky, assets, and issuing debt securities with different levels of seniority	Credit risk transformation	ACPR/AMF

Source: Data taken from the AMF-Banque de France joint mapping exercise conducted in the context of the FSB Non-Monetary Experts Group; Banque de France for entity features and risk assessment; all figures relate to domiciliation in France*: currently, there is no “pension funds” institutional sector in the national accounts but the few existing funds have been counted in the insurance sector since 2019. The FSB’s five economic functions are defined as follows: EF1 Management of collective investment vehicles with features that make them susceptible to runs; EF2: Loan provision that is dependent on short-term funding; EF3: Intermediation of market activities that is dependent on short-term funding or on secured funding of client assets; EF4: Facilitation of credit creation; EF5: Securitisation-based credit intermediation and funding of financial entities.

The shares of NBFi and the narrow measure remain lower in France than in most other G20 jurisdictions. NBFIs account on average for 47.8% of assets in G20 jurisdictions, and in some European jurisdictions, such as Luxembourg and Ireland, their share exceeds 90% of the total assets of financial institutions, reflecting the importance of these jurisdictions as centres where dollar funding is raised in Europe. For example, many Irish funds are denominated in USD and a significant portion of investors in Irish funds are not resident in the euro area. The share of the narrow measure, which faces bank-like risks, is also low and below the average for advanced economies (7.5% vs. 14.1% of financial assets).

Chart 3.2: Change in the French non-bank finance sector

x: time / y: % of domestic financial assets



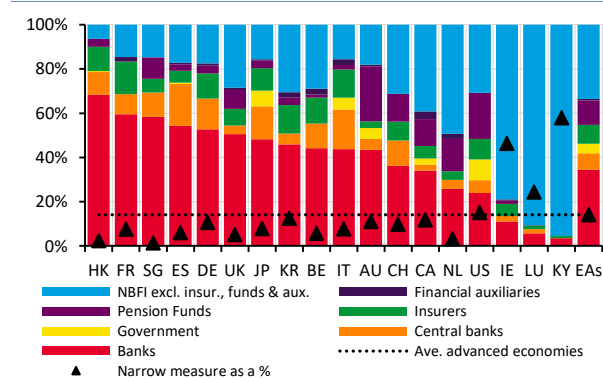
Source: Quarterly financial accounts, ACPR and Banque de France calculations. Data taken from the FSB annual data collection.

Most recent value: 2022.

Note: MMF = money market funds, FC = finance companies, IF= investment firms, SV = securitisation vehicles.

Chart 3.3: Share of the narrow measure in the assets of financial institutions in advanced economies

y: % of total assets



Source: Banque de France-AMF data collection, FSB.

Data to end-2022.

The main bank-like risks to which non-banks are exposed are liquidity risk and leverage.

NBFIs that are involved in credit intermediation either directly (lending/guarantees) or indirectly (claims acquisition) engage in maturity and liquidity transformation activities that expose them to bank-like risks, namely credit risk, leverage risk and liquidity risk. While the credit risk associated with NBFIs is generally lower than it is for banks, they are more exposed to leverage and liquidity risks, which could create systemic risks for financial stability.

Liquidity risk stems from a mismatch between the liquidity of securities held as assets and that of securities held as liabilities. It corresponds to the time lag needed to sell assets and the frequency with which investors can ask to redeem their claims. The risk is especially present in open-ended funds that promise to redeem investor units on request on a daily or weekly basis, but that hold illiquid securities as assets. The danger is that a fund may face significant redemption request but the assets it holds are insufficiently liquid to be sold quickly and at a reasonable price. Moreover, asset liquidity may vary over time depending on market conditions. For example, during a financial crisis, market liquidity may contract severely, leaving these funds heavily exposed to liquidity risk, hence amplifying their initial difficulties as well as liquidity demands from investors. Liquidity management tools (LMTs), such as gates, swing pricing and fees, can help to manage this risk at the level of the fund.

Leverage refers to the positive or negative amplification of the rate of return on a position or investment beyond the rate obtained by investing own funds directly on the market. Leverage is obtained by increasing investment either through borrowing or through off-balance sheet transactions, in particular those involving derivatives.¹⁴² Leverage may create or amplify vulnerabilities in the global financial system through direct and indirect channels. In the first place, leveraged entities are more sensitive to movements in asset prices. Second, leverage may contribute to procyclicality if entities scale back their exposures when the business cycle is slowing or sell off assets when market volatility rises. Overall, leverage may increase the risk of an entity experiencing

¹⁴² See the thematic chapter on the use of leverage at NBFIs – Assessment of Risks to Financial Stability, BDF, 2022 H2.

financial distress, which could then spread to direct counterparties and the wider financial system due to interconnectedness, e.g. via indirect exposures or portfolio similarities.

As Table 1 shows, most NBFIs are exposed to these bank-like risks to varying degrees. The methodology used by the FSB to determine the scope of the narrow measure is thus heavily reliant on the assessment of national authorities to identify NBFIs exposed to significant risks in this regard and therefore included in the narrow measure. Annex 1 provides a detailed description of risks specific to each NBF category in France, based on a description of the business model.

Recent regulatory changes for investment funds

Under French regulations, collective investment schemes (CIS) are defined as funds that invest in securities, such as equities and bonds, on behalf of retail savers. There are two classes of CIS: undertakings for collective investment in transferable securities (UCITS), which are governed by the directive of the same name, and alternative investment funds (AIFs), which are governed by the Alternative Investment Fund Managers (AIFM) Directive. UCITS are authorised to invest only in securities, such as equities, bonds, money market products and derivative instruments. AIFs are not bound by the same restrictions and may invest in riskier assets, such as real estate, commodities and private assets. There is a significant difference in the scope of application of the two directives: the UCITS Directive considers the country where the fund is domiciled, whereas the AIFMD is focused on the manager's country of origin. This leads to differences when categorising the French fund population, particularly in the case of hedge funds. A full 93% of management companies licensed in France are subject to one or other of the directives, including 108 that are solely governed by the UCITS Directive, 372 that are exclusively governed by the AIFMD and 175 that are subject to both regimes.¹⁴³

Revisions to the AIFM and UCITS directives are pending final adoption following the tripartite agreement reached by the European Council, the European Parliament and the European Commission in July 2023.¹⁴⁴ The revisions will help to harmonise the availability of LMTs across Member States. Each fund will be required to have at least one LMT and to include this in its contractual documentation, which will help investors to become more familiar with the tools. The European Securities and Markets Authority (ESMA) is going to establish regulatory technical standards that will define the features of LMTs, as well as the rules for selecting and calibrating the tools. The directive also includes provisions to merge reporting to central banks and market regulators within a single integrated system, which will give supervisors access to all fund data. Additional reporting fields are set to be introduced to obtain data on portfolios and LMT activation and deactivation. The revision is also expected to allow AIFs to engage in lending. This activity will be regulated and will include a risk retention requirement, obliging AIFs to retain at least 5% of the notional value of each loan issued and sold on the secondary market, for eight years. AIFs whose originated loans account for more than half of their net asset value will be subject to additional rules, including a leverage limit of 175% for open-ended funds and 300% for closed-end funds.

3.2 The network created by NBF interconnectivity is a systemic risk factor

While they are relatively small in size in France, NBFs may generate systemic risks due to their interconnectedness via "internal" linkages between insurers and investment funds and "external" linkages between NBFs and the banking sector or between NBFs and the non-financial sector. Direct and indirect linkages with banks are generally considered to be the most significant in terms of financial stability. Entities are directly interconnected via exposures on the asset side, i.e. via their holdings of securities issued by other entities, and via their exposures on the liability side, i.e. their own commitments. Indirect linkages exist when one institution is connected to another via shared or closely correlated holdings or via involvement in a holding chain. Banks' exposure to NBFs also far exceeds the strict scope of French non-bank finance owing to cross-border interconnectedness, which has considerably increased.

¹⁴³ The remaining 7% is made up of companies that fall below the thresholds set by the AIFMD and that are governed by a domestic regime. These mainly include companies operating in private equity. See AMF 2023

¹⁴⁴ Confirmation of the final compromise text with a view to agreement, Council of the European Union (2023, link).

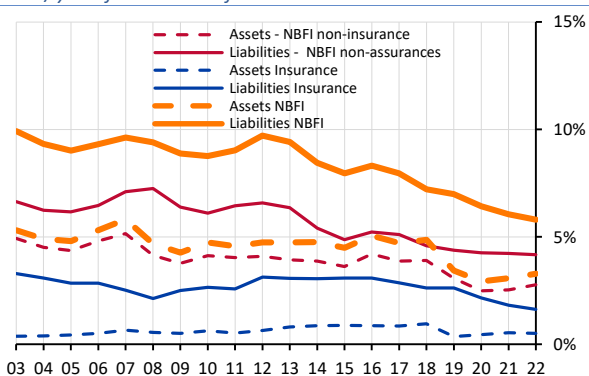
Exposures between NBFIs and French banks

The share of resident OFIs in the claims of the French banking sector (including equities) fell by 44% between 2007 and 2022, from 5% of total assets to 2.8% (see Chart 3.4). The share of claims on French insurers, conversely, was unchanged over the same period at around 0.5% of banks' total assets. The exposure of French banks to domestic non-bank finance thus currently represents 3.3% of their total assets (including equities). However, on average and on a consolidated basis, their exposure to all resident and foreign NBFIs stands at 10.6% of the total assets of the seven largest French banking groups (which account for over 90% of total French banking assets).

In other words, foreign NBFIs account for approximately two-thirds of the asset exposure of French banks to non-bank finance. Overall, bank exposures to NBFIs consist primarily of loans and advances¹⁴⁵ (6.1% of total assets), although OTC-traded derivatives also represent a significant portion (see Chart 3.5).

Chart 3.4: Claims and liabilities of French banks vis-à-vis resident non-bank finance

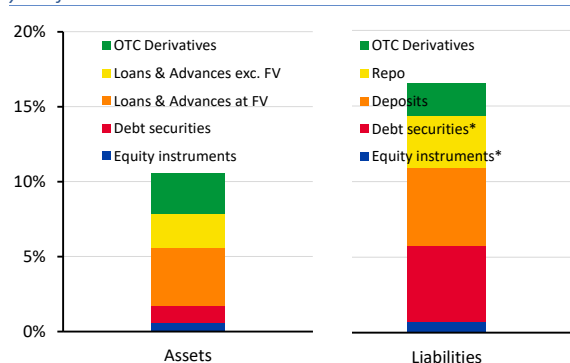
x: time / y: % of total assets of French banks



Source: Quarterly Financial Accounts, ACPR and Banque de France calculations. Data taken from the FSB annual data collection. Most recent value: 2022.

Chart 3.5: Consolidated assets and liabilities of France's seven main banking groups with NBFIs (all countries)

y: % of total balance sheet



Source: ACPR, FINREP, *SHS-S, data in Q2-2023. Note: Consolidated data for France's seven largest banking groups. Reverse repos are included in assets under loans and advances.

Likewise, funding for French banks provided by resident OFIs fell from 7.1% of their liabilities in 2007 to 4.2% at the end of 2022. French NBFIs, including insurers, make up 5.6% of the liabilities of the entire French banking sector. Once again, however, the total share of funding for the seven largest French banking groups provided by resident and foreign NBFIs is far more significant, at approximately 16.5% of their liabilities, slightly more than the share observed among systemically important euro area banks (14%).¹⁴⁶

As on the asset side, foreign NBFIs provide approximately two-thirds of the financing supplied by the NBFi sector to French banks. Deposits and debt security holdings account for most of the funding provided by NBFIs, followed by repos and derivatives. NBFi holdings of equity instruments are small, accounting for less than 1% of bank funding. NBFIs thus act mainly as providers of short-term liquidity. Granular data show that roughly one-third (36% of the total) of funding for resident banks on the repo market is via NBFIs, of which just 5% via resident NBFIs.¹⁴⁷ Meanwhile, data on security holdings reveal that money market funds hold 13% of banks' short-term debt securities.¹⁴⁸

Besides these direct balance sheet linkages, off-balance sheet connections between banks and NBFIs are created via derivatives markets. Owing to their market-making role on OTC markets, banks buy and sell

¹⁴⁵ Including reverse repos.

¹⁴⁶ See Key linkages between banks and the non-bank financial sector (ECB, 2023).

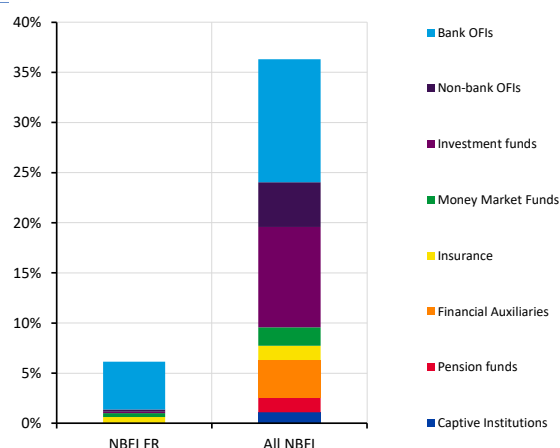
¹⁴⁷ If OFIs consolidated into banking groups are excluded, the share of total repo financing provided by NBFIs to French banks measured through the SFTDS database is more like one-fifth (20%).

¹⁴⁸ Data on holdings of bank debt securities are taken from the SHS, whose scope covers only European counterparties.

derivatives contracts to investors and are exposed to counterparty risk throughout the life of the contract, even if that risk is contained by exchanges of initial and variation margin. Banks are also members of clearing houses. Granular data on derivative positions show that exposures of French resident banks to NBFIs are limited and equivalent to less than 10% of banks' total exposures to derivatives. However, these connections could create liquidity risk if customers struggle to honour margin calls following a shock, as illustrated by the collapse of Archegos, a family office, which led to losses of several billion euros for some banks.¹⁴⁹

Chart 3.6: Borrowing by resident French banks on the repo market, by NBF type

x: % / y: sector

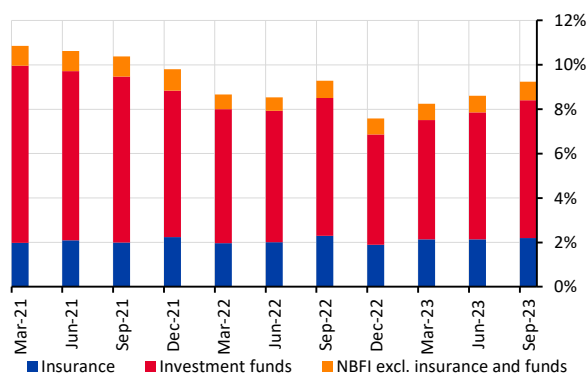


Source: SFTDS.

Note: All NBFIs mean NBFIs involved in repos between French banks and entities resident in the euro area or entities from any foreign country if: one of the securities used as collateral is issued by an entity resident in the euro area, or if liquidity exchanged is in euros, or if the trade is centrally cleared and the clearing house is resident in the euro area. Bank OFIs mean OFIs that are consolidated into banking groups.

Chart 3.7: Change in the share of derivatives of French banks that are contracted with NBFIs

x: time / y: % of total notional amount held by banks



Source: EMIR. Data on derivative positions subject to the EMIR Directive and including at least one European counterparty or one French underlying.

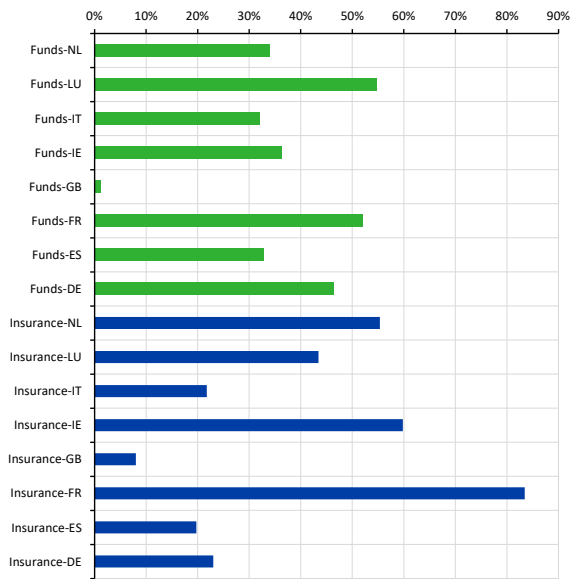
Note: Gross notional amount of derivatives contracts between banks resident in France and non-bank finance entities as a % of the total notional amount held by banks.

The indirect connections linking French banks' securities portfolios to French and European NBFIs are elevated.

As illustrated by Charts 3.8 and 3.9, similarities between the securities weightings of the portfolios of banks and of European non-bank finance are high on average, albeit with significant disparities depending on the type of institution and across countries. Unsurprisingly, the greatest similarity is with the portfolios of French NBFIs and particularly with French insurance companies, which reflects use of the bancassurance model. In terms of the issuers held in portfolios, French banks exhibit similarities mainly with Irish (60%) and Dutch (57%) insurers and with Luxembourg funds (57%). In terms of securities, they exhibit major similarities with Luxembourg funds (18%). Overall, these results indicate strong indirect interconnectedness between French banks and European NBFIs that could give rise to simultaneous losses on the portfolios of these institutions.

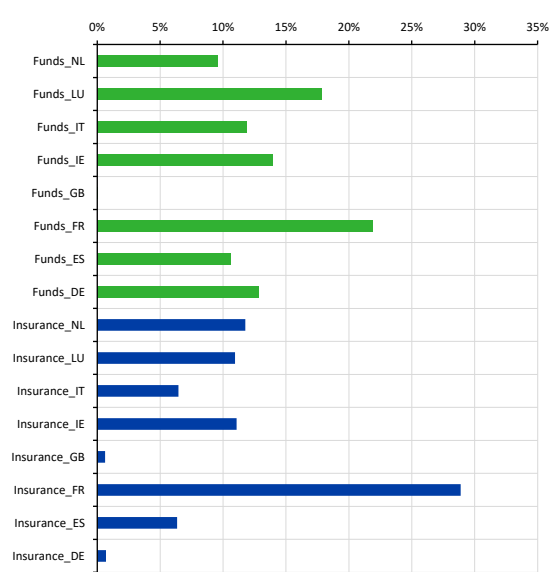
¹⁴⁹ See [Leverage_and_derivatives,_the_case_of_archegos.pdf](#) (europa.eu) ESMA.

Chart 3.8: Similarities between the securities portfolios of French banks and European non-banks (by issuer)
x: cosine similarity as a % / y: institution type and country



Sources: SHS, Banque de France calculations. Data in Q2-2023.
 Notes: Similarity between two financial portfolios is measured by the cosine similarity, whose values range between 0 and 1. A value of 1 means that portfolios are identical and a value of 0 that they have no issuers in common. The measure is based on weightings of issuers within the aggregate portfolios of each financial institution for a given country. Where weight vectors are centred, the cosine similarity is identical to the Pearson correlation coefficient.

Chart 3.9: Similarities between the securities portfolios of French banks and European non-banks (by security)
x: cosine similarity as a % / y: institution type and country



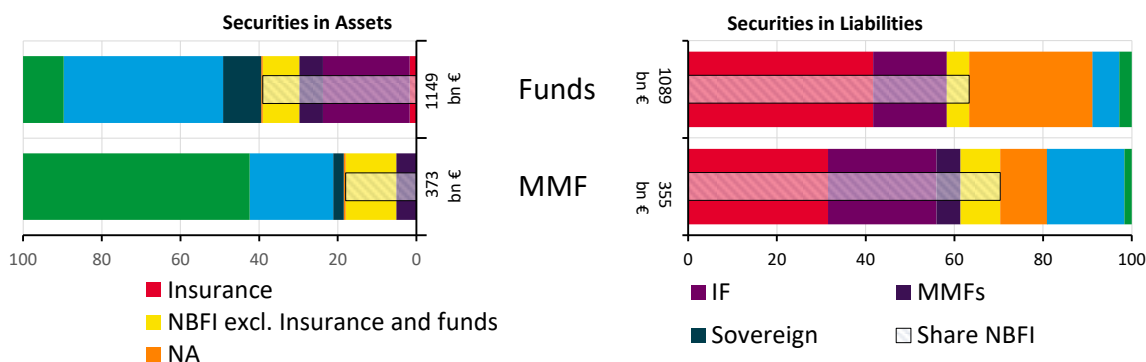
Sources: SHS, Banque de France calculations. Data in Q2-2023.
 Notes: Similarity between two financial portfolios is measured by the cosine similarity, whose values range between 0 and 1. A value of 1 means that portfolios are identical and a value of 0 that they have no securities in common. The measure is based on weightings of issuers within the aggregate portfolios of each financial institution for a given country. Where weight vectors are centred, the cosine similarity is identical to the Pearson correlation coefficient.

Interconnectedness between non-banks

Strong interconnectedness is revealed when the focus is turned on the securities included in NBFi balance sheets (see Charts 3.10 and 3.12).

The business model of money market funds (MMFs), which are the funds that represent the highest share of NBFi liabilities, is readily apparent in Chart 3.10. These funds hold most of their assets in bank debt and particularly in short-term debt, i.e. less than one year. This helps to explain their significant footprint on the market for commercial paper, i.e. non-collateralised debt securities issued by financial institutions, non-financial corporations and public issuers.

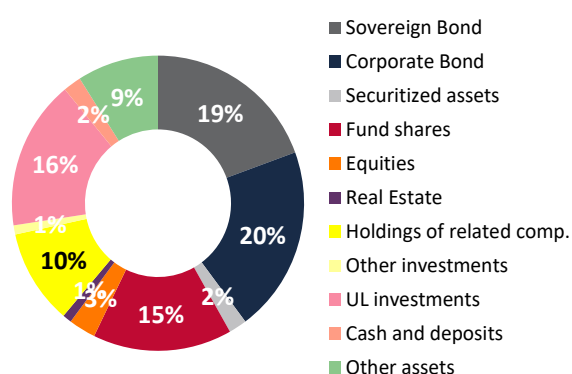
Chart 3.10: Securities on the balance sheet of French MMFs and non-MMFs, broken out by sector counterparty
x: % y: issuing sector (assets) / holding sector (liabilities)



Sources: SHS, Banque de France calculations. Data in Q2-2023. Debt securities, equities, fund units held by European residents (or non-Europeans if the depository is European). "Funds" include all non-MMFs.

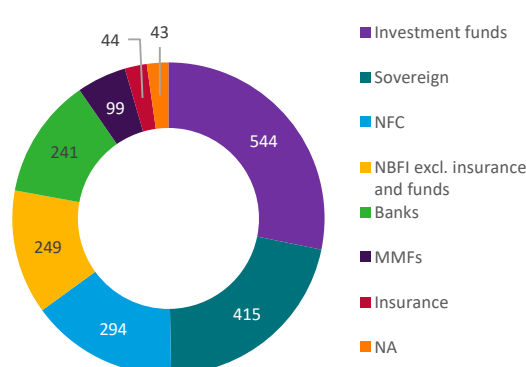
The insurance business model is characterised by an inverted production cycle. That is, insurers sell insurance contracts and record the final outgoing cash flows (benefits, compensation payments, fees, etc) ex post. For this reason, they have to build up financial reserves or provisions to cope with future settlement demands. They establish a value reserve that is invested such that the cash flows earned by asset portfolios (dividends, coupons, rents, bond redemptions, securities sales) match as far as possible in time and value the outgoing flows generated by the coverage sold (see Chart 3.11). **The securities portfolios of French insurers are more diversified than the average for European insurers.** French insurers invest across the entire financial sector (see Chart 3.12) and hold a significant share of investments in the securities of French and European funds (see Chart 3.10). The dominant presence of insurers in securities forming the liabilities of OFIs makes the stability of insurer funding especially critical to the sector as a whole.

Chart 3.11: Decomposition of the total assets of French insurers, by instrument
% of total assets



Sources: ACPR. Data to end-2022.

Chart 3.12: Decomposition of the securities portfolio of French insurers, by sector counterparty
EUR billion



Sources: SHS, Banque de France calculations. Data in Q2-2023. Debt securities, equities, fund units held by European residents (or non-Europeans if the depository is European).

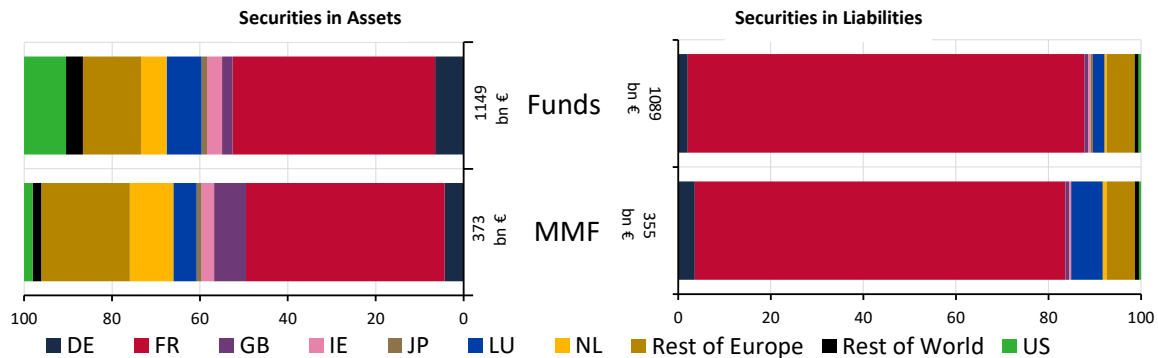
French NBFIs have significant direct cross-border exposures but low currency risk.

The cross-border exposures of the portfolios of French investment funds are elevated, but country and currency risk remain low. Cross-border investments make up 54% of the portfolio of non-MMFs and 50% of the portfolio of MMFs. These investments are mainly in the euro area (37% for non-MMFs and 43% for MMFs), in the United States (9.5% for non-MMFs compared with less than 1% for MMFs) and the United Kingdom (8.1% for MMFs and 2.3% for non-MMFs). The portfolio share invested in assets from emerging and frontier markets is extremely low, which limits country risk. Conversely, the domestic bias of French investment funds, i.e. the significance of domestic investments relative to foreign investments and potential portfolio under-diversification, is considerable. The market in short-term debt securities (negotiable European commercial paper – NEU CP) is characterised by significant issuer concentration (most issues are by a small number of participants)¹⁵⁰ and significant holder concentration (securities are held by a few participants, particularly MMFs), which means that vulnerabilities may be transmitted from holders to issuers and vice-versa. The currency risk of French non-MMFs is moderate, since 17.5% of their portfolios are invested in assets that are denominated in foreign currencies (12% in USD and roughly 1% in JPY, GBP and CHF respectively), while their liabilities are exclusively in EUR. However, funds often use derivatives to neutralise a portion of their currency risk. French MMFs have virtually no currency risk (1.5% of portfolios in JPY, USD and SEK).

¹⁵⁰ In October 2023, there were 66 financial issuers and 106 non-financial issuers (excluding securitisation vehicles) on the French NEUCP market. See Banque de France.

Chart 3.13: Securities on the balance sheet of French MMFs and non-MMFs, broken out by geographical counterparty

x: % y: issuing sector (assets) / holding sector (liabilities)

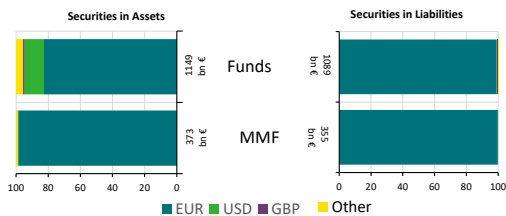


Sources: SHS, Banque de France calculations. Data in Q2-2023.

Note: Debt securities, equities, fund units held by European residents (or non-Europeans if the depository is European). "Funds" include all non-MMFs.

Chart 3.14: Securities on the balance sheet of French MMFs and non-MMFs, broken out by currency

x: % y: issuing sector (assets) / holding sector (liabilities)

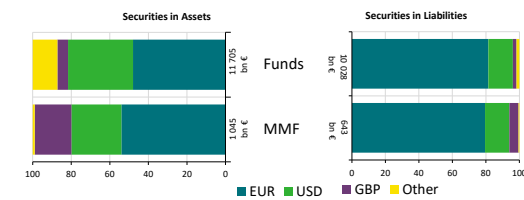


Sources: SHS, Banque de France calculations. Data in Q2-2023.

Note: Debt securities, equities, fund units held by European residents (or non-Europeans if the depository is European). "Funds" include all non-MMFs.

Chart 3.15: Securities on the balance sheet of European MMFs and non-MMFs, broken out by currency

x: % y: issuing sector (assets) / holding sector (liabilities)



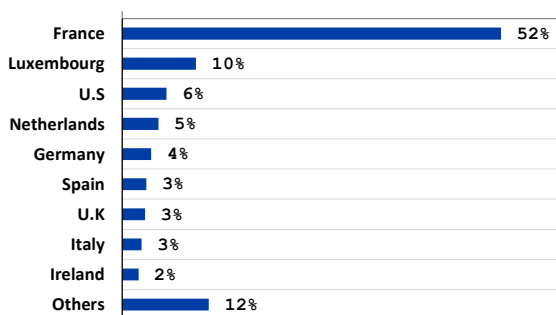
Sources: SHS, Banque de France calculations. Data in Q2-2023.

Note: Debt securities, equities, fund units held by European residents (or non-Europeans if the depository is European). "Funds" include all non-MMFs.

Looking specifically at the securities in French insurers' balance sheets, it becomes apparent that French insurers are directly interconnected with foreign participants, and especially with European participants owing to the European passporting scheme, but have little exposure to currency risk. Holdings in EUR make up over 90% of insurers' investments, with USD-denominated securities in particular representing a tiny share.

Chart 3.16: Geographical exposure of the investments of French insurers in 2022, after application of the look-through approach

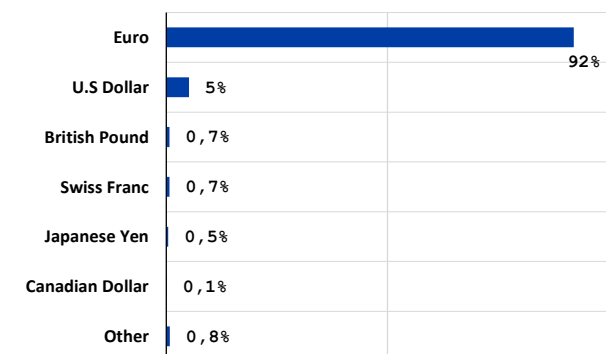
%



Source: ACPR. Data to end-2022.

Chart 3.17: Currency exposure of the investments of French insurers in 2022, after application of the look-through approach

%



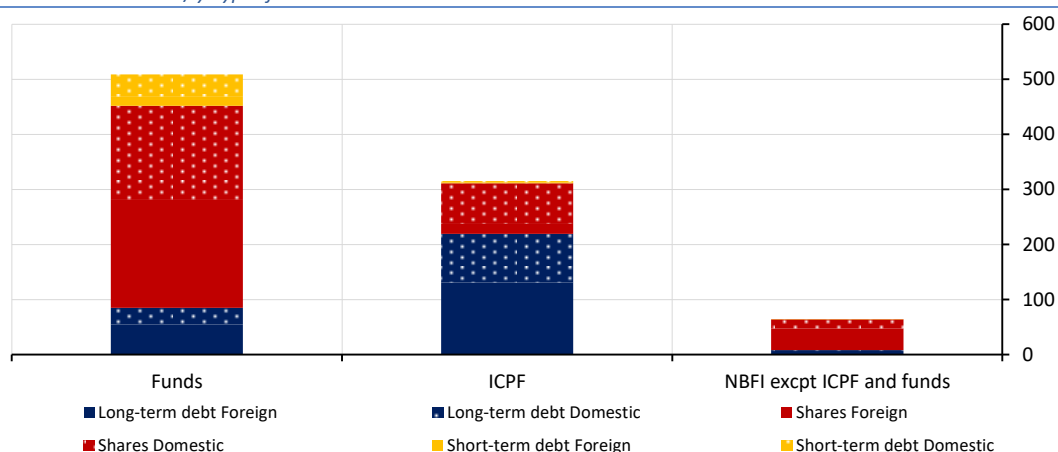
Sources: ACPR. Data to end-2022.

Interconnectedness between non-bank financial intermediaries and non-financial entities

French investment funds and insurance companies are exposed to non-financial corporations (NFCs), via different types of holdings. On aggregate, funds hold more securities issued by NFCs than insurers: in Q2 2023, funds held EUR 507 billion in corporate debt securities and equities, compared with the EUR 315 billion held by French insurers. This overall number masks disparities in exposure type (see Chart 3.18): insurers hold more long-term debt securities issued by NFCs, while funds' footprint is higher in equities and short-term debt securities such as commercial paper. For NFCs, this means that investment funds provide a significant share of the short-term funding provided by NBFIs. French households have a reduced direct exposure to NFCs.

Chart 3.18: Holdings of NFC debt and shares by French non-banks, by asset type

x: amount held in EUR billion / y: type of institution



Sources: SHS, Banque de France calculations.

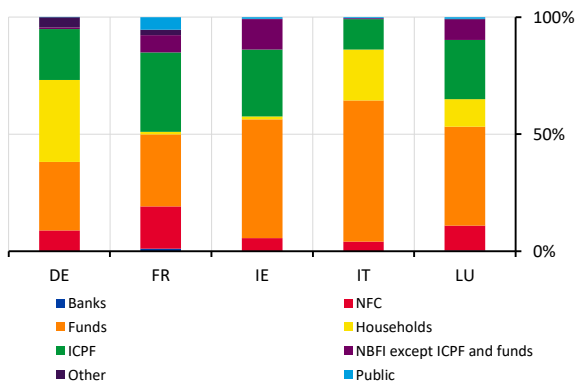
Notes: Data at Q2-2023. Debt securities, equities, fund units held by European residents (or non-Europeans if the depository is European).

Within their corporate debt holdings, funds and insurers share similar exposure to domestic and foreign securities. The previously observed differences between holdings of equities and debt securities are also remains in the geographical tilt of securities holdings (see Chart 3.13): funds are more exposed to equities issued by foreign and French corporates, but hold more domestic short-term debt securities. Long-term debt held by funds is mainly foreign. Conversely, insurers are more exposed to domestic long-term debt and hold more foreign short-term debt. While these holdings make it possible to diversify fund and insurer portfolios in terms of exposure types (equities, short-term debt, long-term debt) and countries, they may also increase the transmission of cross-border shocks. French insurers are more exposed than French funds to sovereign debt or debt issued by public entities: in Q2 2023, they held EUR 501 billion in government debt, compared with EUR 125.9 billion held by funds, mainly via long-term debt in both cases, with short-term debt occupying a smaller share for public issuers.

Households, corporates and public-sector participants may be exposed to funds through shares holdings. Households in France do not usually represent a significant sector among funds' shares compared to other European countries. Direct holdings by households are smaller, particularly in comparison with Germany and Italy, across all types of funds, mostly because household holdings of fund shares may be intermediated by insurers. Some funds are sold through life insurance, potentially exposing insurers to liquidity risk if funds become illiquid and creating a liquidity mismatch with life insurance.

Chart 3.19: Sectoral investor base of MMF

x: % / y: sector

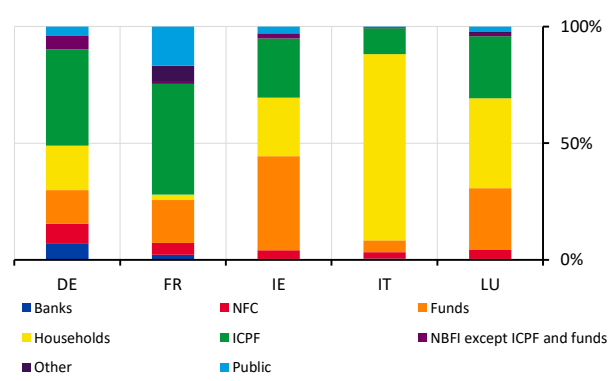


Sources: SHS, Banque de France calculations.

Notes: Data at Q2-2023. Debt securities, equities, fund units held by European residents (or non-Europeans if the depository is European).

Chart 3.20: Sectoral investor base of equity, fixed income and mixed funds

x: % / y: sector



Sources: SHS, Banque de France calculations.

Notes: Data at Q2-2023. Debt securities, equities, fund units held by European residents (or non-Europeans if the depository is European).

French firms primarily use MMFs for cash management. NFCs hold a significant portion of MMF shares (18% in Q2 2023), compared to other fund types (fixed income, equity and mixed).

These vulnerabilities call for an appropriate and internationally coordinated response

Since the Covid-19 crisis, several stress episodes have highlighted the risks associated with the fund sector and the possibility of contagion to the wider financial system. These shocks also underlined the need to adapt the current regulatory framework for funds, which is currently focused on investor protection.

Several initiatives targeting open-ended funds are underway. The Central Bank of Ireland¹⁵¹ has launched a discussion paper on a macroprudential approach for investment funds,¹⁵² with the aim of identifying mechanisms that could contribute to risk transmission from the investment fund sector to the wider financial system. The paper discusses potential avenues for the design and implementation of policy tools, including reducing the frequency of fund redemptions, increasing asset liquidity, and introducing LMTs. The Bank of England has also launched policy initiatives on non-banks. It has revised its stress-testing methodology, bolstered MMF liquidity requirements and is planning to set up a standing lending facility for non-bank finance participants, starting with insurers and pension funds.¹⁵³ In the United States the Financial Stability Oversight Council (FSOC) adopted in November a revision to its methodology for identifying systemically important financial institutions (SIFIs), which are non-bank participants subject to direct supervision by the Federal Reserve and enhanced regulations owing to their importance to the financial sector. The FSOC is expanding the criteria for identifying SIFIs, which should lead to stronger oversight and regulation for more institutions.¹⁵⁴

The introduction of directives and statistical data collection by market authorities, central banks and international institutions have enabled an initial assessment to be made, but data gaps remain, which restricts the analysis of vulnerabilities. Data on interconnectedness between jurisdictions are sparser than the information on interconnectedness within jurisdictions. For example, in Europe, exposures between European entities can be precisely monitored, but it is not always possible to track interconnections with the rest of the world. Even when granular data are available, exposures between sectors or currencies cannot always be distinguished. Furthermore, the available data may not be of sufficiently high quality, potentially owing to inconsistencies in reporting and the use of different methodologies or standards.

¹⁵¹ Central Bank of Ireland, Discussion Paper 11: An approach to macroprudential policy for investment funds (2023).

¹⁵² Link

¹⁵³ A journey of 1000 miles begins with a single step: filling gaps in the central bank liquidity toolkit - speech by Andrew Hauser | Bank of England.

¹⁵⁴ FSOC Approves Analytic Framework for Financial Stability Risks and Guidance on Nonbank Financial Company Determinations | U.S. Department of the Treasury.

Developing a macroprudential approach and strengthening NBFIs vulnerabilities assessment would help to create a framework that could overcome the lack of data. For example, standardised stress tests by fund managers would allow supervisory authorities and managers to collect granular data on the liquidity of portfolio assets, in order to better assess risks and appropriately calibrate policy tools. System-wide stress tests that examine the spread of a shock between entities within the financial system could round out the analysis. Finally, the data collected by the authorities should be as uniform as possible at the international level, to facilitate the multilateral assessment of risks linked to interconnectedness, and, ultimately, make the financial system more resilient.

ANNEX: Categories of non-bank financial intermediaries

Insurance companies

Insurers account for around half of the financial assets of French NBFIs (47%). Unlike banks, insurers generally have liabilities with a longer maturity than their assets, making them less vulnerable to surrender risk. The ability to withdraw savings is limited or discouraged (notably by tax provisions) in most insurance contracts and is also more costly than in the case of bank deposits, even if it is usually possible to switch between vehicles within the same wrapper. Insurers do not extensively acquire leverage through loans. They may make limited use of leverage via derivatives as part of managing interest rate risk. Liquidity and leverage risks are thus present but broadly limited.

Other financial intermediaries (OFIs) not included in the narrow measure

Not all investment funds that are classified as OFIs are included in the narrow measure: equity funds, private equity funds and real estate funds, in particular, are excluded. However, this does not mean that they are totally insulated against bank-like risks.

Private equity funds are alternative funds that are regulated under the AIFM framework (see box) and that invest in the equity of unlisted companies. They had assets of EUR 192 billion at the end of 2022, or 6.9% of the total assets of OFIs, and invest at different stages of the corporate lifecycle, including start-up, growth and distressed funding. Private equity funds are typically closed-end funds and as such are excluded from the narrow measure. However, they are exposed to valuation risk, which may materialise if interest rates rise, and they also use leverage at different points in the funding chain.¹⁵⁵

Real estate funds are also alternative funds subject to the AIFMD and invest primarily in commercial real estate.¹⁵⁶ France, Germany and Luxembourg are the largest European markets. In France, these funds had total assets of EUR 181.1 billion at end-2022, or 6.5% of the total assets of OFIs. As with private equity funds, they are excluded from the narrow measure because most of them are closed. However, there are different types of real estate funds and some, which are open-ended, would not be out of place in the narrow measure:

- Real estate investment companies (SCPIs, 38% of total assets) are alternative funds serving retail and institutional investors, and may be closed-end or open-ended. In practice, when these funds are open-ended, the redemption criteria are extremely strict.
- Professional real estate collective investment schemes (OPPCIs, 32% of total assets) are solely for institutional investors. These funds are open-ended, but have features that allow them to manage redemption requests, such as multi-year lock-in periods and very low gate activation thresholds (0.1% or even 0.01%).
- Retail real estate collective investment schemes (OPCIs, 11% of total assets) mainly serve retail investors. These funds must have at least 5% liquid assets (deposits, liquid financial instruments or cash). Their leverage may not exceed 40%.
- Other alternative real estate funds (19% of total assets) are often organised as real estate companies (SCIs) and are open-ended in many cases. They are sometimes sold under unit-linked life insurance contracts.

French real estate funds are less leveraged than funds in other euro area countries: average leverage¹⁵⁷ at real estate funds was 5.9% in June 2023, compared with 16% for German funds and 29.1% for Irish funds. Highly leveraged funds (>60%) made up just 4% of total assets in September 2022.¹⁵⁸ In Ireland, high levels of leverage prompted the central bank to introduce the first macroprudential measure for real estate funds, which capped their leverage at 60%.

¹⁵⁵ See the thematic chapter on private capital markets in the H1 2023 Risk Assessment.

¹⁵⁶ Commercial real estate makes up approximately 70% of the portfolio of French real estate funds (source: ESRB).

¹⁵⁷ Average leverage is calculated as the ratio of loans to assets under management.

¹⁵⁸ Source: AMF.

Equity funds are UCITS that mainly hold equities. At end-2022, the sector had total assets of EUR 376 billion, or 13.6% of the total assets of OFIs. The FSB's methodology recommends excluding them from the narrow measure on the basis that the equity market enjoys good liquidity, so funds have relatively low exposure to the risk of a liquidity mismatch. These funds obtain leverage via loans and derivatives, but overall their leverage remains contained in France and Europe.¹⁵⁹

The FSB's narrow measure

Fixed income funds are CIS that hold a significant majority of debt securities, whereas mixed funds have a more balanced composition of at least two asset classes, such as equities and debt securities, but also money market instruments, currencies, commodities and real estate. They had total assets under management of EUR 318.4 billion and EUR 337.7 billion respectively at end-2022, or 11.5% and 12.2% of the total assets of OFIs. Fixed income and mixed funds are exposed to the risk of liquidity mismatches owing to the low liquidity of some debt securities, particularly those issued by high-yield companies. As with equity funds, their leverage remains contained in France and Europe.¹⁶⁰

MMFs are collective investment funds that invest in securities issued on short-term markets. They are typically used by institutional investors to manage surplus cash. MMFs are governed by the 2017 Money Market Fund Regulation (MMFR), a European regulation that came into effect in 2019, and are therefore subject to requirements for liquidity, concentration, and eligibility of the assets that they hold. There are three types of MMF: variable net asset value (VNAV), low volatility net asset value (LVNAV) and constant net asset value (CNAV).¹⁶¹ France is one of the main euro area markets (EUR 365 billion in assets under management at end-2022, or 13.2% of the total assets of OFIs), behind Ireland and Luxembourg, and its industry exclusively comprises VNAV funds, almost all of which are EUR-denominated. USD and GBP funds dominate in Ireland and Luxembourg, but are virtually absent in France. Investors have displayed renewed appetite for these funds following the rise in short-term interest rates, to which their returns are closely tied. MMFs could be hurt by a liquidity mismatch between assets and liabilities. Investors may redeem units daily, which is consistent with the way in which MMFs are used, i.e. for cash management, but funds could be weakened by this, as honouring redemption requests during periods of stress may be costly, especially if assets have to be sold at reduced prices. This liquidity risk explains why MMFs must meet requirements in terms of holding liquid assets (ratios of assets coming due within one day and one week). These liquidity reserves are designed to enable the fund to meet redemption requests without having to sell securities.

Hedge funds are not formally defined by any European regulation. However, they share the common trait of pursuing return goals that are uncorrelated with the general market price trend. In practice, these funds are identified less by their legal status and more based on the techniques used by their managers, raising questions for the scope of regulation. In Europe, HFs may be governed by the AIFMD or by the UCITSD.¹⁶² France had the fourth-largest number of HF managers at end-2021 (67), but most of them are domiciled abroad. At end-2022, based on domiciliation in France, the AMF identified total assets under management of just EUR 3.4 billion (and EUR 6 billion in net assets of HFs managed by French portfolio management companies). HFs are typically closed-end, making them less vulnerable to liquidity risk. But some HFs, are especially those domiciled abroad, apply strategies involving intense leverage use, which is why the FSB methodology recommends including them in the narrow measure.

Employee savings plan investment funds (FCPEs) are investment funds set up by companies for their employees. They are classified as alternative investment funds and governed by the AIFMD. There are two main fund families:

¹⁵⁹ See the thematic chapter on leverage at non-bank financial institutions, [H2 2022 Risk Assessment](#).

¹⁶⁰ See the thematic chapter on leverage at non-bank financial institutions, [H2 2022 Risk Assessment](#).

¹⁶¹ According to the AMF's guide, variable net asset value (VNAV) funds may be standard or short term. Units are issued or purchased at a value corresponding to the net assets of the fund divided by the number of units in circulation. Constant net asset value (CNAV) funds must invest at least 99.5% of their assets in public debt. Units are issued or redeemed at a constant net asset value per unit. Low volatility net asset value (LVNAV) funds offer a constant net asset value per unit or share as long as the constant net asset value does not deviate from the market net asset value per unit or share by more than 20 basis points.

¹⁶² These UCITS, which are sometimes called liquid alternatives, deploy investment strategies that are in many cases similar to those customarily employed by hedge funds, although subject to certain restrictions, while offering daily or weekly liquidity.

diversified funds and employee shareholding funds. Employee shareholding funds allow employees to invest in the shares of their own company, making them risky and under-diversified. Diversified funds are less risky and offer varied investment strategies in equities, bonds or money market instruments. FCPEs investing in equities are included in the overall assets under management of equity funds in Table 1. Non-equity FCPEs had assets under management of EUR 218.2 billion in late 2022, or 7.9% of the total for OFIs. Although the decision was made to include the latter in the FSB's narrow measure, it is important to point out that money invested in employee savings funds is tied up for an initial period of five years, except in early release situations,¹⁶³ which makes these funds less vulnerable to redemption risk than traditional funds. Switches between fund types, where some or all of the investment is reallocated to a different strategy, are nevertheless possible at any time.

Investment firms provide a variety of services to financial market investors. These services are critical to the functioning of financial markets and include order reception and transmission, the provision of investment advice, portfolio management and trading on own account. The population of investment firms in France and in the EU is extremely diverse, and companies vary enormously in terms of their size, business model, risk profile, complexity and interconnectedness, ranging from sole proprietorships to major internationally active groups. In all, 90% of the total assets of investment firms are consolidated for prudential purposes into banking groups and thus excluded from the narrow measure. Investment firms are subject to bank-type regulation and are supervised by the ACPR.

Securitisation vehicles transform financial assets, such as loans, into negotiable financial securities. In other words, securitisation makes illiquid financial assets, such as real estate loans or auto loans, more easily tradable. In France, securitisation vehicles may be organised as securitisation investment funds (FCTs) or as securitisation companies (STs). They are classified as alternative investment funds pursuant to the AIFMD. However, the question of to what extent the manager of a securitisation vehicle should be subject to the AIFMD is somewhat complex and is addressed by the provisions of Article L. 214-167-I of the French Monetary and Financial Code. Securitisation vehicles are exposed to credit transformation and liquidity risks and may use leverage. France is the fourth-largest player in the euro area securitisation market behind Ireland, Italy and Luxembourg, with total securitised assets of more than EUR 300 billion. However, some of this is consolidated into banks, such that the assets included in the narrow measure amount to just EUR 169.2 billion or 6.1% of the total assets managed by OFIs.

¹⁶³ Early redemption situations include marriage, divorce, the birth of a child or the purchase of a primary residence.

Published by

Banque de France
39, rue Croix des Petits-Champs – 75001 Paris

Head of publication

Claude PIOT

Editorial managers

François HAAS
Édouard VIDON
Jean BOISSINOT

Coordinators

Lucille COLLET; Frédéric GUEVEL

Editorial committee

Frédéric AHADO; Jade AL YAHYA; Herizo ANDRIANIAINA RANAIVOSOA; Vladimir AZZOPARDI; Ludivine BERRET; Pierre BERTHONNAUD; Clément BOURGEY; Raphaël BRACQUART; Jean-Charles BRICONGNE; Claire BROUSSE; Béranger BRUTUILLE, Pierre BUI QUANG; Aurore CAMBOU; Emilie CAMBUS; Marion COCHARD; Jérôme COFFINET; Etienne DE L'ESTOILE; Grégoire DESBROSSES; Feyrouz DJABALI; Marine DUJARDIN; Niamh DUNNE; Anne DUQUERROY; Fanchon DURAND; Aurélien ESPIC; Laurent FAIVRE; Thomas FERRIERE; Tommaso GASPARINI; Adam GOLINSKI; Olivier GONZALEZ; Raphaël GORRAND; Sophie GUILLOUX-NEFUSSI; Déborah HADDAD; Jonas HEIPERTZ; Dalia IBRAHIM; Caroline JARDET; Tristan JOURDE; Yannick KALANTZIS; Lisa KERDELHUE; Antoine LALLIARD; Mathias LE; Sandrine LECARPENTIER; Alexandre MENARD; Tarik MOUAKIL; Youssef MOUHEB; Thibaut PIQUARD; Martin SAILLARD; Dilyara SALAKHOVA, Alice SCHWENNINGER; Matthieu SEGOL; Louise TUPINIER; Floris VAN DIJK; Lucas VERNET; Yann WICKY

Translation and production

Data Unit
Financial Stability Directorate
Publishing and Languages Division
Press and Communication Directorate

Registration of copyright

December 2023
ISSN 2268-5278 (online)

Internet

<https://www.banque-france.fr/liste-chronologique/rapport-sur-levaluation-des-risques>