

Financial Stability Report

JUNE 2026



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The French financial system continues to display resilience in the face of a series of shocks since 2020, and now faces the consequences of the war in Iran. The outbreak of the Middle East conflict on 28 February triggered a negative supply shock in commodity markets, notably following the closure of the Strait of Hormuz, a critical transit route for around 20% of global hydrocarbon consumption.

However, this shock is taking place in a very different context from 2022. Hydrocarbon inventories are much higher than at the time, which explains why crude oil prices have risen relatively moderately. Sharp reductions in demand since the start of the conflict, particularly in East Asia, have also helped to limit price pressures, while the shock to liquefied natural gas (LNG) has been much milder than after Russia's invasion of Ukraine. Reductions in European demand since 2022 and an expansion of global liquefaction capacity have also contributed to price moderation.

Nevertheless, price pressures are also affecting other commodities, not just hydrocarbons, leading to upward revisions to inflation forecasts. In the baseline scenario for its June macroeconomic projections, the Banque de France raised its forecast for 2026 inflation to 2.5%, after 0.9% in 2025 (+0.8 percentage point compared with the March interim projections). Market participants now expect the Eurosystem to tighten its monetary policy going forward; as of 12 June 2026, they were pricing in between one and two additional 25-basis-point rate hikes by the end of the year, on top of the increase decided by the ECB Governing Council on 11 June.

The rise in long-term interest rates in G7 countries has increased vulnerabilities related to government finances

Expectations of further hikes in key euro rates have driven up sovereign yields, although without increasing significantly the risk premium on French debt. The yield on French ten-year government bonds reached 3.75% on 12 June, representing a 40-basis-point rise since the start of the war. However, over the same period, the spread between the ten-year OAT and the German Bund only widened by 8 basis points only. The stability of France's risk premium reflects persistently strong demand for the country's debt, both historically and compared with other European countries. However, this demand will need to absorb the government's growing financing needs.

If France fails to lower its budget deficit to at least 5% of GDP, the factors supporting its sovereign debt could be eroded further, raising the risk of further downgrades by rating agencies. Such a scenario could lead to higher volatility and reduced liquidity in the market for French sovereign debt, which could potentially be amplified by investors pursuing short-term and procyclical strategies – notably hedge funds. The latter are particularly active in repo markets where they deploy highly leveraged arbitrage strategies involving OATs.

The thematic chapter in this report analyses the functioning of the repo market and the emergence of vulnerabilities linked to the growing presence of hedge funds. The trend is heightening the risk of sudden price fluctuations and creating channels of contagion to the broader financial system in the event of a liquidity shock. These vulnerabilities are being exacerbated by the concentration of transactions among a small number of market participants, the predominance of very short maturities and the use of risk management tools (haircuts and margin calls) that are sometimes insufficient and can prove procyclical in the event of a shock.

A significant deterioration in sovereign financing conditions could spill over to French banks and corporates. Given that sovereign debt issuance is expected to remain high in the euro area in 2026, particularly in France and Germany, it is essential to ensure a sustainable debt trajectory to maintain sound financing conditions for all economic actors.

In June, the inflationary environment was already weighing on French government finances. Various spending items are indexed to inflation, including pensions and family benefits. Moreover, around a tenth of France's debt takes the form of indexed bonds, meaning that part of the debt burden is directly tied to inflation. On the revenue side, any slowdown in consumption tends to reduce government tax receipts – both directly, as in the case of fuel duties which depend on the volumes sold, and more broadly via a decline in activity. Although financial aid for households and businesses remained targeted at the start of June and has only pushed up government expenditure very moderately, the war in Iran will have a non-negligible impact on the budget deficit in 2026.

Risky asset markets, especially US equity markets, remain vulnerable to a sudden reversal in investor sentiment

The war in Iran triggered only a moderate and temporary correction in equity prices, and markets quickly recouped their losses. After falling markedly in the first four weeks of the conflict, equity markets subsequently recovered, with US technology stocks seeing particularly strong gains. Since equity markets – especially US indices – are still largely being driven by a small number of technology stocks, valuation ratios and market concentrations remain historically high. This means markets are particularly vulnerable to a sudden reversal in investor sentiment. A downward revision to the earnings outlook for technology stocks could trigger a disorderly correction, with potential spillovers to other markets.

Investor appetite for US – and, to a lesser extent, European – corporate bonds also remains high.

The fact that corporate credit spreads remain narrow, despite the geopolitical context and macroeconomic risks, could indicate that investors are underestimating the credit risk for certain borrowers. The European corporate debt market has absorbed a wave of large-scale fund-raising by the US technology sector. Between October 2025 and March 2026, nearly two-thirds of net euro-denominated corporate bond issuance was by companies domiciled in the United States.

The private credit market has expanded sharply over the past decade but experienced turbulence in early 2026. Concerns emerged in the first quarter about the quality of loans originated in the sector and funds' high exposures to software firms. As a result, several large semi-liquid funds managed by US asset managers received significant redemption requests from retail investors. The sector's growing exposure to the AI sector also makes it particularly vulnerable to downward revisions to expected revenues. AI therefore poses two types of risk: first, the potential negative impact if increasingly indebted AI firms underperform expectations; second, the risk of losses for private credit funds exposed to the software sector in the event of strong competition from AI. The relative opacity of private credit, and its growing concentration among a few large, international asset management firms, further heighten its vulnerability and underscore the need for greater transparency.

European and French financial institutions have limited direct exposure to private credit, but they could be affected if a shock was propagated to other asset classes. These exposures can take the form of bank loans, often secured by fund assets, while insurers may be exposed directly as investors in private credit funds. In Europe, under a narrow definition of private credit, these exposures account for only a small share of total assets for banks and insurers.

The deterioration in the international environment could pose a risk for small and medium-sized enterprises and low-income households

The negative supply shock caused by the geopolitical crisis is dragging on French growth. In its June 2026 macroeconomic projections, the Banque de France lowered its 2026 growth forecast from 0.9% to around 0.5%, citing a disappointing first quarter, a deterioration in the global environment and a

resurgence of inflationary pressures. It presented several scenarios in its projections that are consistent with those published by the European Central Bank (ECB) for the Eurosystem on 11 June. In its “adverse” and “severe” scenarios, the path of oil and gas prices is based, respectively, on the 75th and 95th percentiles of the implied price distribution derived from options on energy futures. Both scenarios reflect a more protracted conflict, with stronger pressures on global oil and gas supplies that can no longer be mitigated by available reserves. The “favourable” scenario corresponds to a faster and steeper decline in energy prices compared with the assumptions in the baseline scenario. In the adverse scenario, France avoids slipping into recession over the full year 2026, with weak but positive growth of 0.3%. In the severe scenario, gross domestic product (GDP) remains flat in 2026 and then contracts slightly by 0.1% in 2027, while inflation rises significantly, reaching 4% in 2026 and 3.9% in 2027. Lastly, under the favourable scenario, the slightly faster fall in energy prices has positive effects on both activity and inflation.

French firms have demonstrated resilience to the successive shocks since 2020, but their high aggregate debt levels leave them particularly vulnerable to potential revenue shocks. Their debt-service-to-EBITDA (earnings before income tax, depreciation and amortisation) ratio increased in 2025 and remains higher than in the other main euro area countries. This gap reflects a higher consolidated-debt-to-GDP ratio for non-financial corporations (NFCs), and the fact that the rise in interest rates compared with 2021 has already been passed through to corporate balance sheets.

Since early 2025, business failures have been mounting steadily and can no longer be attributed solely to a post-pandemic catch-up effect. Additional factors need to be considered, including higher energy prices and the trade war. The rise in failures is mainly concentrated among intermediate-sized enterprises and small and medium-sized enterprises (SMEs), while business creations remain largely driven by small enterprises, particularly micro-enterprises.

The French commercial real estate market showed signs of stabilising in 2025 but lost momentum again in early 2026. The sector is particularly sensitive to financing conditions, which affect economic agents’ investment capacity, and to economic activity, which influences rental demand. However, credit risk remains contained in the commercial real estate sector, due to a low default rate and the very limited share of these exposures in banks and insurers’ asset holdings. Moreover, liquidity pressures in real estate investment funds appear to be easing gradually.

Heightened macroeconomic uncertainty is weighing on the recovery in the residential real estate market. Household investment slowed in the first quarter of 2026, and rising household borrowing rates could continue to dampen demand for housing loans. The pick-up in French residential real estate prices is also less marked than in the rest of the euro area. This is in part linked to the prevalence of fixed-rate lending for house purchases in France, which creates a certain amount of inertia in the market that slowed the price falls when interest rates rose in 2022. Defaults on housing loans are continuing to rise at a moderate pace, reflecting the gradual increase in the unemployment rate since 2023 to its highest level since 2021.

Banks and insurers remain resilient in an uncertain environment

French banks benefit from diversified business models and limited exposure to those sectors most sensitive to fossil fuel prices. In the first quarter of 2026, they also appeared to have very limited exposure to counterparties in countries linked to the conflict in Iran. Household and corporate credit risk is rising, but French banks continue to report robust earnings growth and maintain strong solvency and liquidity positions. Their exposure to private credit also remains limited.

The insurance sector's solvency position has improved and is well above regulatory requirements.

Life insurance revaluation rates have been supported by higher investment returns and the mobilisation of profit-sharing reserves accumulated in previous years. These revaluations have made life insurance policies more attractive to savers, resulting in higher gross inflows and lower redemptions, pushing net inflows up to record highs. After deteriorating following the inflationary shock in 2022, underwriting profitability in the non-life segment improved in 2024 and 2025, returning towards levels last seen before the high inflation episode. Insurers remain only marginally exposed to private credit, mainly through their diversified general account holdings.

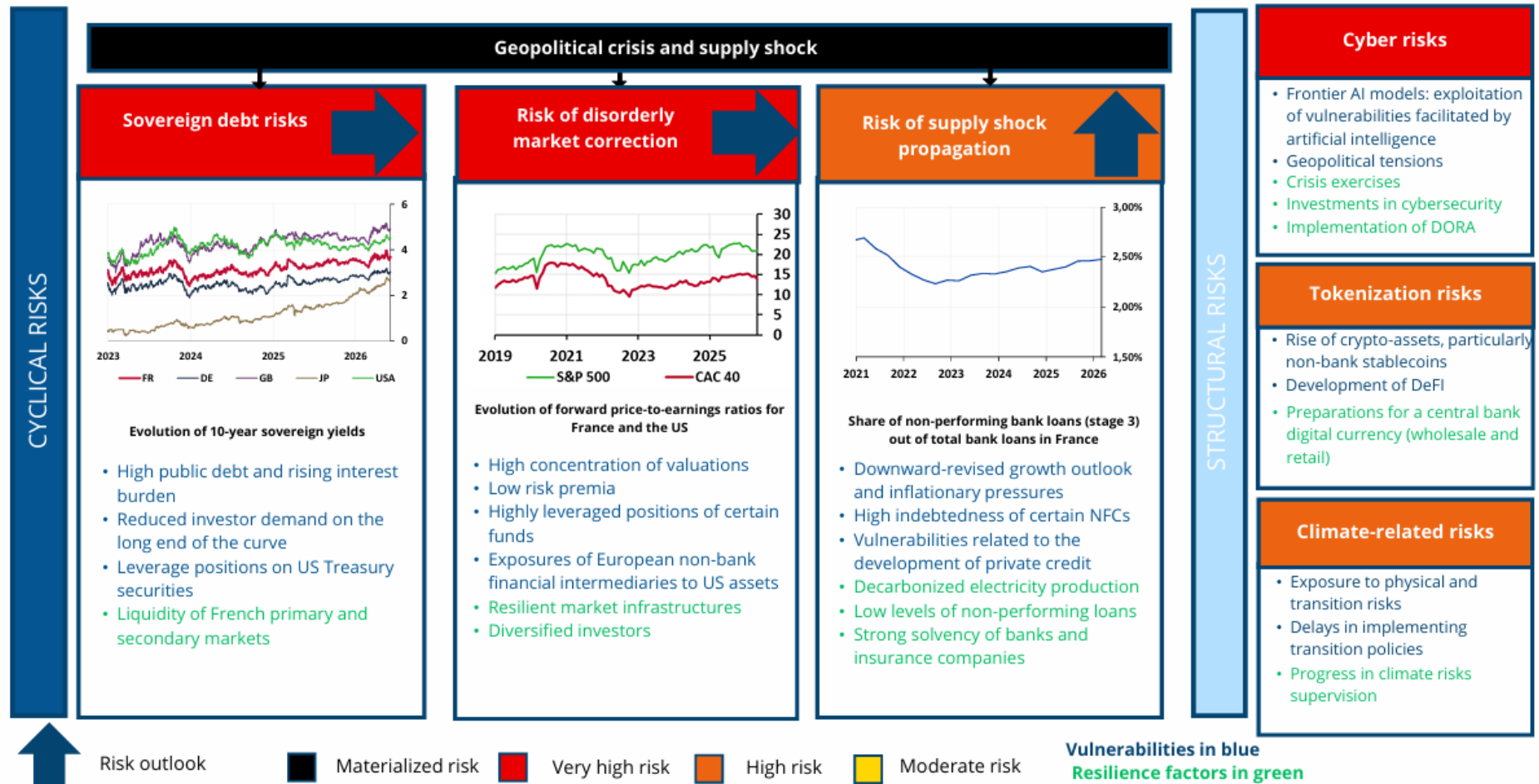
The materialisation of geopolitical risks is increasing structural risks, particularly cyber risk and energy dependency

Cyber risk is being intensified by the Middle East conflict and the growing threat of hybrid warfare.

The *Autorité de contrôle prudentiel et de résolution* (ACPR – Prudential Supervision and Resolution Authority) and the Banque de France have not observed an increase in the number of cyberattacks targeting the financial sector as a direct result of current geopolitical tensions. Nevertheless, the geopolitical component of cyber risk remains elevated, even though it has only materialised to a limited extent in France to date. The emergence of advanced AI models (or “frontier AI”), which are capable of quickly identifying critical vulnerabilities and can be used for malicious purposes, represents a structural shift that calls for adaptation by financial institutions.

Finally, the initial consequences of the war in Iran are a reminder that Europe's dependence on imported fossil fuels creates inflationary pressures and financial instability risks. Over the past decade, France has taken significant steps to decarbonise its economy; however, it remains reliant both on fossil fuels and on the countries that export them. These dependencies expose it to geopolitical uncertainties that can generate substantial economic and financial risks. To reduce these dependencies and limit the risks, France is pursuing efforts to diversify its energy supplies and decarbonise its economy.

ASSESSMENT OF THE FRENCH FINANCIAL SYSTEM RISKS | JUNE 2026



Measures taken by authorities

In line with its commitment to stabilise inflation at its 2% target over the medium term, the Eurosystem Governing Council decided on 11 June 2026 to raise the three key ECB interest rates by 25 basis points. With its 11 June decision, the Governing Council is well-positioned to address the uncertainty caused by the war. It will continue to closely monitor the situation and follow a data-dependent and meeting-by-meeting approach to determining the appropriate monetary policy stance.

In France, the *Haut Conseil de stabilité financière* (HCSF – High Council for Financial Stability) is continuing to pursue a macroprudential policy aimed at preserving the resilience of the financial system. At its meeting of 9 June 2026,¹ it highlighted the solidity of French financial institutions in global environment that remains fraught with uncertainties and vulnerabilities. In view of the economic and financial environment, and in the absence of signs of a tightening of credit supply, the countercyclical capital buffer (CCyB) rate was maintained at 1%. With regard to loans for house purchase, the standard governing the granting of loans² remained in force. Use of the flexibility margin available to banks under this measure stood at 17.5% in the first quarter of 2026, which was still below the 20% ceiling.

At the European level, the European Commission continued to implement its strategy for the Savings and Investments Union (SIU). In December 2025, the Commission proposed a set of legislative proposals to improve the integration and supervision of financial markets (the “Market Integration Package”).³ The package proposes transferring direct supervisory power to the European Securities and Markets Authority (ESMA) for significant market infrastructure entities and crypto-asset service providers. It also recommends converting directives into regulations to limit national discrepancies and further harmonise the regulatory framework. In April 2026, the ECB published an opinion⁴ supporting this initiative. The legislative proposals are currently being examined by the European Parliament and the Council of the European Union. From 11 February to 19 April 2026, the Commission also held a consultation on the competitiveness of the European Union (EU) banking sector,⁵ to gather input on the factors influencing EU banks’ ability to finance investment, innovation and economic growth. The Eurosystem,⁶ the European Systemic Risk Board (ESRB)⁷ and French authorities (the Treasury, the *Autorité de contrôle prudentiel et de résolution* (ACPR – Prudential Supervision and Resolution Authority) and the Banque de France) all submitted responses, and these will inform the Commission’s report on banking sector competitiveness, which is due to be published in mid-July 2026. On 18 March 2026, the Commission also presented its proposal for “EU Inc.”,⁸ a new single set of rules for European companies that is part of the EU’s 28th regime. The aim is to simplify and digitalise registration procedures to make it easier for businesses to set up and operate across the EU, while also making investment more attractive. Lastly, the European Single Access Point (ESAP), created under the EU regulation of 13 December 2023⁹ as part of the SIU, was transposed into French law by Order 2026-31 of 28 January 2026.¹⁰ ESAP is an EU-wide digital platform that will centralise all public information relating to financial services, capital markets, sustainability and diversity. It will be phased in gradually as of July 2026 and will be fully accessible by 10 July 2027.

The Eurosystem has developed a set of proposals to strengthen the macroprudential lens in the regulation and supervision of non-bank financial institutions (NBFI). It notably recommends expanding the macroprudential toolkit to include an instrument for the ex-ante mitigation of liquidity mismatch risk in open-ended funds. To enhance supervision, the Eurosystem recommends introducing system-wide stress testing in

¹ HCSF (2026) – [press release following the second-quarter meeting](#).

² This standard imposes a maximum debt-service-to-income ratio of 35% and a repayment period limited to 25 years (or 27 years in certain specific cases).

³ European Commission (2025), “[Market integration and supervision package](#)”, 4 December.

⁴ “[Opinion of the European Central Bank of 9 April 2026 on proposals as regards the further development of capital market integration and supervision within the Union](#)”, 28 May.

⁵ European Commission (2026), “[Targeted consultation on the competitiveness of the EU banking sector 2026 - Finance](#)”, 28 May.

⁶ ECB (2026), [Eurosystem response to the EU Commission’s targeted consultation on the competitiveness of the EU banking sector](#), April.

⁷ ESRB (2026), [ESRB Response to the European Commission consultation on competitiveness of the EU Banking](#), 17 April.

⁸ European Commission (2026), “[Commission presents proposal for EU Inc.](#)”, 18 March.

⁹ [Regulation \(EU\) 2023/2859](#).

¹⁰ [Order No. 2026-31 of 28 January 2026 on the European single access point providing centralised access to public information that is useful for financial services, capital markets and sustainability - Légifrance](#).

Europe, and improving data access and sharing across the region while also maintaining national data collection. Lastly, it proposes strengthening the macroprudential governance framework by introducing a reciprocity mechanism, and giving the European Securities and Markets Authority (ESMA) “top-up” powers, in close collaboration with the ESRB. The Banque de France, the ACPR and the *Autorité des marchés financiers* (AMF – Financial Markets Authority) are continuing to conduct the first French system-wide stress test.¹¹ An interim report on the exercise has been published.¹² Moreover, the objectives for the NBFIs sector are being addressed by the French Presidency of the G7.¹³ A report prepared by the Banque de France and the Bank of England on good practices in system-wide stress testing has been submitted to the G7.¹⁴

At the international level, the 2026 work programme of the Financial Stability Board (FSB)¹⁵ focuses on identifying systemic vulnerabilities and enhancing the financial system’s resilience. Since the start of the year,¹⁶ it has highlighted several vulnerabilities, including in short-term and repo financing, and in the expansion of private credit. In a letter to G20 finance ministers and central bank governors, published in April 2026, the FSB Chair stressed that the global financial environment was “uncertain and unpredictable”, notably as a result of geopolitical tensions. He also said that the rapid expansion of AI could pose new risks to financial stability and that the FSB intended to conduct work on this issue.

The overall banking sector remains resilient, supported by the prudential reforms introduced during the finalisation of the implementation of Basel III. At the end of September 2025, the vast majority of Basel Committee members published or enacted the final Basel III rules.¹⁷ The EU and other jurisdictions are committed to implementing Basel III, which remains the common standard. In the United States, the recent proposal, reissued on 19 March 2026, for the implementation of Basel III (see Box 1) aims to align more restrictive US requirements with international standards, and includes options for significant deviations to take account of the specificities of the US financial system and the way its economy is financed. These differences in approach mean close attention must be paid to the comparability of the prudential frameworks and the overall consistency of the system. In an environment fraught with risks, particularly geopolitical threats, the solidity of the banking sector is crucial to financial stability.

Regarding climate-related risks, the French G7 Presidency has launched work on the economic impact of extreme climate events and insurability against natural disasters.¹⁸ Building on the work of previous G7 and G20 presidencies, it will seek to (i) improve understanding of the economic and financial importance of risks linked to extreme weather phenomena and their channels of transmission;¹⁹ and (ii) find courses of action to level up insurability against natural disasters throughout the world, by pooling risks and developing private sector capabilities.

The Central Banks and Supervisors Network for Greening the Financial System (NGFS) provided significant input for these discussions, with the publication in May 2026 of a technical note on the impact of extreme weather events. This is based on 31 case studies of recent natural disasters, covering all continents and a wide range of climate events, including flooding, forest fires and heatwaves. In parallel, the NGFS continued to

¹¹ Banque de France (2025), [The Banque de France, the ACPR and the AMF launch a first system-wide stress test on interconnections within the financial system](#), 2 October.

¹² Banque de France and ACPR (2026) – [press release on the publication of a methodological report on the first system-wide stress test](#), 17 June.

¹³ G7 Finance Ministers' and Central Bank Governors' communiqué, 16 May 2026.

¹⁴ [Report to the G7 prepared by staff from Banque de France and the Bank of England, “System-wide stress testing: takeaways and good practices to date”](#), May 2026.

¹⁵ FSB (2026), [FSB Work Programme for 2026](#), 3 February.

¹⁶ [FSB publications](#).

¹⁷ Bank for International Settlements (2025), [“RCAP on timeliness: Basel III implementation dashboard”](#), 3 October.

¹⁸ [Summary of the G7 workshop on the economic impacts of extreme weather events and natural hazards](#).

¹⁹ The Basel Committee is preparing to launch similar work.

expand its work on monetary policy²⁰ and nature-related risks.²¹ Supervisors' requirements under the European prudential framework have become much stricter since January 2026, with the implementation of new operational rules for climate risk (publication of robust transition plans, need for financial institutions to incorporate climate change into their and governance).

Box 1 : The Basel III “endgame” in the United States

On 19 March 2026, US federal agencies issued a request for comments on a new proposal for implementing the final Basel III agreement (“Endgame”), which is due to come into force in 2028. The text, which replaces the draft presented in July 2023, marks a clear shift in approach and reflects the lessons learnt from the 2023 banking turmoil as well as a desire to preserve the US banking sector’s competitiveness.

The proposal includes a review of US rules that are more stringent than international standards, notably those relating to leverage ratios and the calculation of capital buffers for globally systemically important banks. It also introduces a set of national options that depart significantly from Basel standards. If adopted, these adjustments would significantly lower capital requirements for certain activities, particularly those generating non-interest income, such as trading. In addition, the proposed prudential treatment of certain asset classes – including equity financing, derivatives transactions with commercial companies, and certain securitisations, including intermediate tranches – could facilitate the expansion of these activities by US banks. The changes are intended to support corporate financing and the recovery in the US real estate market.

If adopted, the overall impact of the final Basel III reforms on US banks’ capital requirements would be limited to an average increase of just 1.4%. beyond the adjustments to Basel III itself, the proposal also contains significant adjustments to the national prudential framework, including a reduction in supervisors’ discretionary requirements through a lowering of the stress capital buffer. Taken together, these measures would reduce large US banks’ capital requirements by an estimated 6%.

The proposal also provides for additional reductions for medium-sized banks. The main more restrictive change concerns the recognition of unrealised capital losses. The proposed measure reflects the lessons of the collapse of Silicon Valley Bank (SVB) in 2023 and is intended to take better account of the effects of interest rate shocks on this segment of the banking sector.

²⁰ NGFS (2026), [Greening Monetary Policy Operations: Exploring Additional Options](#), January.

²¹ NGFS (2026), [NGFS 2026 Nature Package](#), April.

1. Cross-cutting analysis of vulnerabilities

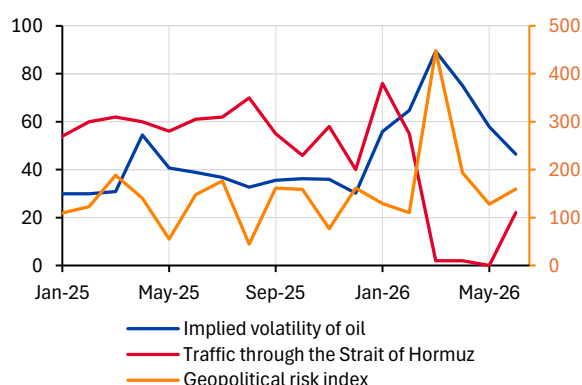
1.1 In an uncertain environment, fiscal trajectories, particularly in France, pose a risk to financing conditions

Commodity markets have been hard hit by the conflict in the Middle East

The joint operation by Israel and the United States in Iran, which began on 28 February 2026, triggered a negative supply shock in oil and other commodity markets. The primary cause of this shock is the blockade of the Strait of Hormuz, through which passed some 20 million barrels of oil a day before the conflict, equivalent to 20% of global consumption. Despite periodic announcements that the strait would reopen, the free movement of ships under acceptable safety conditions had yet to be restored by 5 June 2026, with only around 2 million barrels moving through the channel each day (see Chart 1.1). Alternative routes (Saudi East–West pipeline, port of Fujairah in the United Arab Emirates, Suez Canal, Kurdistan) have only partially compensated for the reduced traffic. As a result, the blockade has unleashed a supply shock equivalent to a fall of at least 10% in global oil production. Brent crude oil prices have become significantly more volatile (see Chart 1.1). At the end of March, the price per barrel peaked at USD 118 before retreating to USD 93 on 5 June.

Chart 1.1: Implied volatility of Brent prices, the Geopolitical Risk Acts Index (GPRA) and the number of cargo ships passing through the Strait of Hormuz every day

x: time/ y [lhs]: number of cargo ships, volatility; [rhs]: index



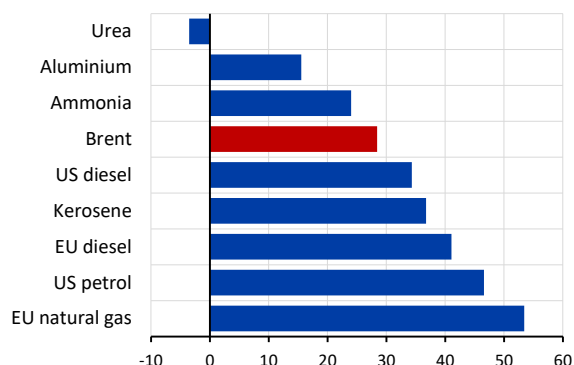
Note: The Geopolitical Risk Acts (GPRA) index is a sub-index of Caldara and Iacoviello's GPR index. Data are monthly.

Source: Bloomberg.

Most recent value: 5 June 2026.

Chart 1.2: Price changes for a sample of commodities between 27 February and 5 June

x: % change/ y: commodities



Source: Bloomberg.

Most recent value: 5 June 2026.

The conflict has caused a significant contraction in demand for oil, particularly from Asian countries. At the outbreak of hostilities, Middle East benchmarks such as Dubai Fateh reacted more strongly than Brent due to their direct exposure to the risks of disruptions to Gulf exports. This divergence was exacerbated by the fact that Europe and the United States entered 2026 with relatively comfortable inventories. Consequently, price pressures initially affected Asian countries, whose dependence on Gulf oil is greatest. Rising prices and higher transport costs quickly put refiners and consumers under pressure, leading to the first signs of a tail-off in demand as purchases slackened in response to increased costs. The shock then gradually spread to Europe. Shipments traditionally destined for Europe were increasingly redirected to Asia, where higher refining margins made these markets more attractive. This reallocation intensified competition between European and Asian refineries for access to shipments, putting added strain on the physical market. However, despite persistent supply-side pressures, Dated Brent fell from USD 144 on 7 April to USD 116 on 17 April, pointing to a softening of underlying demand conditions (see Chart 1.3).

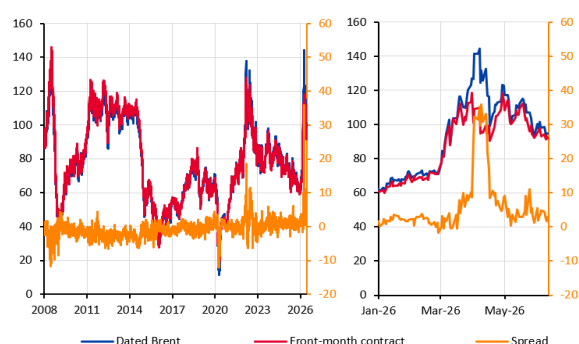
The strait's closure unleashed a similarly-sized shock on the gas market (20% of the world's supply of liquefied natural gas, or LNG, travels through the strait), pushing prices in Europe and Asia to their highest levels since the 2022–2023 energy crisis. TTF Gas, Europe's benchmark gas index, hit EUR 61 per megawatt-hour (MWh) on 19 March and was still at EUR 49 per MWh on 5 June, making it the commodity whose price has risen the most since the war began (see Chart 1.2). Furthermore, attacks on infrastructure and damage to LNG liquefaction plants, particularly in Qatar, have reduced available supply capacity and are expected to delay the next cycle of LNG expansion by at least two years.

However, the gas market's supply fundamentals are quite different from those of the crude market. In early March, the conflict led to the destruction of two Qatari LNG plants that represented around 15% of the country's LNG capacity. However, between October 2025 and February 2026, the global LNG market benefited from the start-up of new liquefaction facilities, particularly in North America, and increased production in exporting countries. Moreover, the additional capacity currently under construction worldwide and set to come onstream in 2027 (including four or five US units) may even exceed Qatar's total LNG capacity. In addition, the context of the conflict is very different from that of 2022: specifically, reserves were significantly higher in February 2026 than they were at the end of the Covid-19 pandemic.

There is also evidence of demand destruction and competition between importers in the gas market. Across Europe, natural gas consumption has declined by nearly 20% since 2022, driven in particular by rising renewable electricity generation. Furthermore, in France, the capacity of the country's nuclear power plants was significantly higher in early 2026 than it was in 2022. Conversely, gas consumption remained strong over the winter in East Asia's manufacturing and export economies, buoyed by lower prices and colder weather. However, the deepening Middle East crisis led to a rapid downturn in demand in that region as well. Asian markets initially absorbed the bulk of the supply adjustment. Regional buyers then turned more to the spot market and attracted LNG shipments at Europe's expense. This was particularly true for China, whose net LNG imports began climbing from March onwards, reaching levels in May that were close to the average observed between 2021 and 2025. This marked a recovery from the low recorded in March, when net imports stood at 103,000 metric tonnes, compared with an average of 172,000 metric tonnes over the last five years (see Chart 1.4).

Chart 1.3: Change in Dated Brent, front-month contract and spread

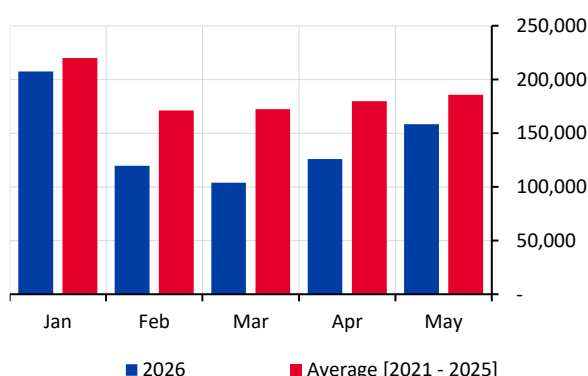
x: time/ y [lhs]: dollars/barrel; [rhs]: dollars/ barrel



Source: Bloomberg.
Most recent value: 5 June 2026.

Chart 1.4: China net LNG imports

x: time/ y (metric tonnes)



Note: Data are monthly averages.
Source: Bloomberg.
Most recent value: 30 May 2026.

The actual duration of the conflict will determine the scale of the energy shock, but reopening the Strait of Hormuz will not mean that everything gets back to normal immediately. Many uncertainties remain regarding trade flows, connected with the significant damage inflicted by Iran on facilities essential to

hydrocarbon production in several Gulf States, particularly Qatar,²² the time required to restart oil wells that are currently shut down (Iraq and Kuwait), the stance and pricing policies of insurance companies, the number of mines now deployed in the strait, and so on. Any normalisation process would also continue to face significant logistical constraints. Since the start of the conflict, the availability of oil tankers has plummeted due to delays, route changes and the use of floating storage. As a result, the bottleneck could shift to maritime transport capacity and tanker movement. Oil and gas prices are therefore not expected to return to normal for several months, with the downturn in inventories observed in recent months likely to leave markets facing structural shortages well into the second half of the year (see Box 1.1).

Box 1.1: Do futures curves offer a reliable guide to future hydrocarbon prices?

By Lucrezia IMPECIATI and Martin SAILLARD

The prices of futures contracts for hydrocarbons, particularly crude oil, are generally seen as the “market view” on the future prices of these commodities. Yet they do not always provide very reliable indications of future price movements, or even of market participants’ expectations. Following the outbreak of the conflict in Iran, oil futures curves entered a phase of strong *backwardation*, i.e. a situation in which the curve is steeply downward sloping and short-term contracts trade at significantly higher prices than longer-dated deliveries.²³ However, an inverted curve does not necessarily signal that the markets are anticipating crude to fall exactly in line with this backwardation, as futures prices also reflect hedging strategies and respond to risk management requirements. The curve on 5 June reflects severe short-term pressure linked to supply-side risks and tight physical markets (see Chart 1). Furthermore, long-term contracts tend to be less liquid and costlier to hold, which limits their value as a signal of expectations. In other words, they reflect market constraints as much as genuine price expectations. History also tells us that futures often do a poor job of anticipating major crises, such as the Covid-19 pandemic or the war in Ukraine.

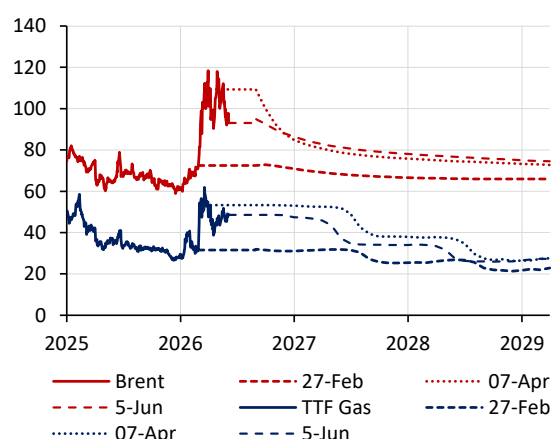
The Brent futures curve has, however, corrected significantly since the start of the conflict, with backwardation becoming much less pronounced on 5 June than it was on 7 April, suggesting that futures markets are increasingly factoring in the likelihood of a prolonged conflict (see Chart 1). This trend was briefly interrupted around 10 April, following the announcement of a ceasefire that temporarily narrowed market expectations, before the risk premium widened once again. It is worth noting that the TTF gas forward curve has flattened significantly faster than Brent, at least over 2026, reflecting a faster pricing-in of supply-side risks due, in particular, to the more dramatic and immediate damage inflicted on Qatari gas infrastructure.

²² The damage sustained by LNG infrastructure at the Ras Laffan and Mesaieed facilities in Qatar is expected to slow future growth in supply and set back the planned expansion of global LNG capacity by at least two years.

²³ Conversely, the market is said to be in contango when the curve is upward-sloping, i.e. when short-term contracts trade at lower prices than longer-dated deliveries.

Chart 1: Change in Brent, TTF Gas and their short-term curves

x: time/ y: dollars/barrel; euros/MWh

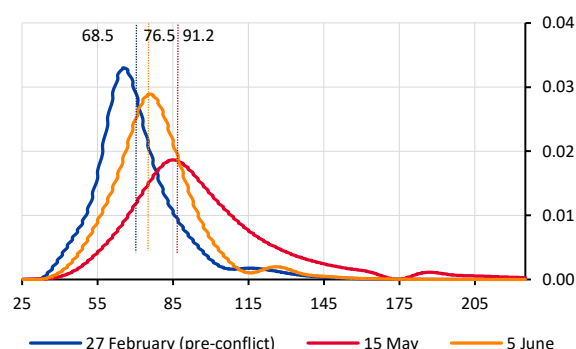


Source: Bloomberg.

Most recent value: 5 June 2026.

Chart 2: Implied distribution of Brent prices, 3-month constant maturity

x: strike price (dollars/barrel) / y: probability density



Note: Risk-neutral probability densities are derived from option prices using the [Malz method](#) (2014). These distributions reflect the price of uncertainty as valued by the market (rather than directional forecasts) and are sensitive to the estimation method. The vertical lines represent the median value of the distribution, i.e. the price associated with a 50% probability.

Source: Refinitiv, DSF/SRV calculations.

Most recent value: 5 June 2026.

Finally, futures curves do not provide any indication of the perception of risk surrounding the average price of futures contracts for a given maturity. It may therefore be helpful to supplement this source of information by examining distributions of options prices for the same indices. An analysis of the change in the distribution curve for three-month Brent options prices between the start of the conflict and 15 May thus reveals that the curve initially shifted significantly to the right, pointing to an upward revision in expectations for three-month prices, and that it also flattened considerably as its upper tail widened (see Chart 2). This latest movement attests to a marked increase in the probability assigned by market participants to “severe” scenarios for the price of a barrel of Brent (probability density strongly non-zero up to around USD 150). Subsequently, however, the curve shifted back to an intermediate position (median value of USD 83.2 on 5 June, compared with USD 91.2 on 15 May and USD 68.5 on 27 February), with thinning of its upper tail.

Pressure on commodity markets is not confined to oil and gas but also affects fertilisers, agriculture, aluminium and other commodities. Disruptions caused by the blockade of the Strait of Hormuz and operational constraints affecting Gulf smelters are expected to lead to the largest annual aluminium shortage since 2000, even though inventories were still up 46% on 2025 at the start of the year. Aluminium prices have risen 21% so far this year. The blockade is also beginning to impact food markets. Although food prices have so far remained relatively moderate, upstream pressures are mounting rapidly due to the cost of fertilisers. Since the start of the year, trade disruptions have significantly reduced the global supply of fertiliser. More than 2.5 million tonnes of global urea production were lost in the space of a month, with significant impacts in Qatar, India and Bangladesh. At the same time, prices of key fertilisers have risen since the start of the year, with urea up by around 15% and ammonia by approximately 32%. As fertilisers are an essential input for agricultural production, these price rises are likely to have a delayed impact on sowing decisions and crop yields. Europe and the United States have already secured most of the volumes required for the current sowing season and can pay premiums to cover any shortfall. However, these increases are likely to feed through

quickly to the food systems of many emerging and developing countries, disproportionately affecting low-income households and exacerbating existing food security risks.

Box 1.2: Margin calls on derivatives have remained contained

By Martin SAILLARD

Margin calls on derivatives following the upturn in hydrocarbon prices have remained contained and significantly lower than those seen when war broke out in Ukraine in 2022. As of 30 April, clearing houses had raised nearly EUR 30 billion in additional margin from their European clearing members since the start of the conflict, with no significant collection difficulties to report.

This moderation can be attributed, first and foremost, to the fact that the gas shock did not spill over into electricity prices. In 2022, the violent price transmission was linked to Europe's heavy reliance on Russian gas, which was supplied via pipeline, i.e. an inflexible supply source that is difficult to replace in the short term. Since then, the energy market has undergone a structural shift towards liquefied natural gas (LNG), which is transported by ship, making it easier to offset shortfalls in Middle Eastern imports with gas from the United States and Asia. Combined with the fact that France's nuclear capacity is higher than it was in 2022, this market shift helped prevent electricity prices from spiralling out of control.

Secondly, structural changes in the way market infrastructures manage risk played a cushioning role. Several clearing houses, such as ICE Europe and CME, have recently moved away from the old system for calculating initial margins (SPAN), which could lead to sudden and sharp margin increases in the event of a crisis, in favour of dynamic value-at-risk-based approaches that adjust margin calls more gradually and proportionately. This change is thought to have helped in mitigating the procyclicality of margin calls and preventing the sudden, massive increases that may have triggered liquidity shocks in 2022

Finally, better preparedness by energy companies themselves may have improved resilience to the shock. Having seemingly learnt their lesson in 2022, these firms strengthened their safety buffers. In particular, they moved part of their cash holdings to investments with shorter maturities to ensure that funds are immediately available.

The negative supply shock is bad news for the economy and for government finances

The geopolitical crisis has pushed up inflation forecasts globally, including in France. According to the baseline scenario in the Banque de France's June macroeconomic projections, inflation is expected to rise to 2.5% in 2026, compared with 0.9% in 2025 (an increase of 0.8 percentage points [pp] relative to the baseline scenario in the March interim projections), driven by energy prices. Assuming that energy prices ease, inflation should fall back to 1.7% in 2027 (up 0.3 pp on the March projections) and remain stable in 2028.

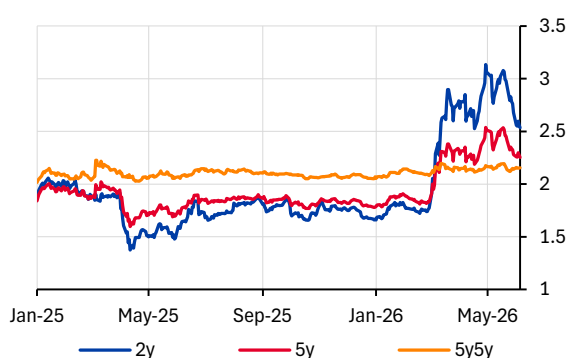
Uncertainty over the consequences of the conflict in the Middle East prompted the Banque de France to present alternative scenarios in its macroeconomic projections, based on the same assumptions as those used by the European Central Bank (ECB) for the euro area as a whole. An adverse and a severe scenario are presented, as well as a milder one. The adverse and severe scenarios use different assumptions from those of the baseline in terms of the initial magnitude and duration of the shock to energy and agricultural commodity prices, the level of uncertainty, and the impact of these shocks on international trade. In particular, oil and gas prices follow a trajectory derived from an implied price distribution based on options in the energy futures markets, corresponding to the 75th percentile in the adverse scenario and the 95th percentile in the severe

scenario. In the milder scenario, energy and agricultural commodity prices fall faster and more sharply than in the baseline: here, the price trajectory follows the 25th percentile of the option-implied price distribution. Under the adverse scenario, inflation stands at 2.7% and 2.0% in 2026 and 2027 respectively. Under the severe scenario, inflation climbs significantly, reaching 4.0% in 2026 and 3.9% in 2027.

In the markets, rising inflation expectations in the euro area are reflected in short-term inflation swaps. Two-year swaps reached 2.5% on 5 June 2026, up from 1.7% before the conflict began (see Chart 1.5). Looking at the medium term, five-year/five-year (5y5y) swaps remain close to the Eurosystem's 2% target. Against this backdrop, money markets are anticipating tighter Eurosystem monetary policy and on 5 June 2026 were pricing in between two and three 25-bps policy rate hikes in 2026 (see Chart 1.6). In the United States, as of 5 June, markets were anticipating a hike in 2027.

Chart 1.5: Inflation swaps (excluding tobacco), euro area

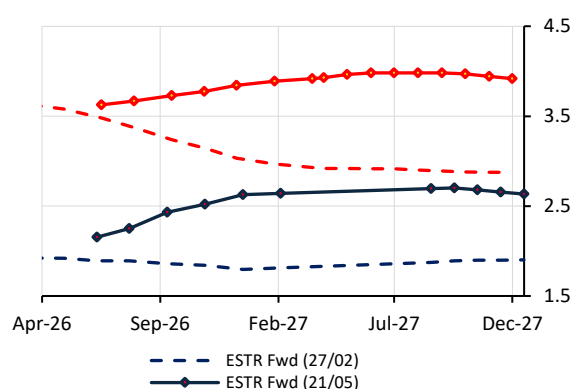
x: time/ y (%)



Note: inflation excluding tobacco.
Source: Bloomberg.
Most recent value: 5 June 2026.

Chart 1.6: Monetary policy expectations, euro area and United States

x: time/ y (%)



Source: Bloomberg.
Most recent value: 5 June 2026.

More expensive imported energy negatively impacts government finances overall, even if some tax revenues increase in the short term. Many expenditure items, such as pensions and child benefits, are linked to inflation. More directly, a portion of the debt burden is tied to inflation through inflation-linked bonds. Some revenue items may increase temporarily following a rise in prices (VAT, social security contributions paid in the event of a simultaneous rise in wages). But lower consumption volumes tend, overall, to shrink tax bases, both directly, as in the case of fuel duties, which depend on the quantities sold, and more generally through slower economic activity.

Financial supports for households and businesses are increasing expenditure in the short term, albeit very modestly so far. During the inflationary episode of 2022, the cost to the government of support measures was in the region of EUR 30 billion for 2022 alone and exceeded EUR 60 billion in total over 2021–2025.²⁴ Since the start of 2026, a number of supports have already been announced, but the amounts involved remain far lower than those of previous schemes (around EUR 1 billion at the end of May), and the measures are significantly more targeted than in 2022.

The inflationary environment, coupled with higher sovereign bond yields, is weighing on interest charges. One-tenth of France's debt is inflation-linked, which means that the interest paid automatically rises when inflation goes up. Interest charges also tend to rise over the long term due to the gradual rollover of the debt stock and higher rates on newly issued debt (see below). As the average maturity of the debt is around eight years, any rise in interest rates takes time to feed through to the debt burden. The annual progress report

²⁴ <https://www.tresor.economie.gouv.fr/Articles/2024/10/14/publication-du-rapport-economique-social-et-financier-plf-pour-2025>

published by the government in April 2026²⁵ forecasts a EUR 3.6 billion increase in debt interest payments in 2026 due to higher interest rates²⁶ and the inflationary shock. Overall, based on the data to April, the government estimates that the conflict in Iran will have a negative impact of EUR 6 billion on the 2026 budget balance, of which EUR 4.4 billion is attributable to the worsening macroeconomic environment. This estimate is subject to change.

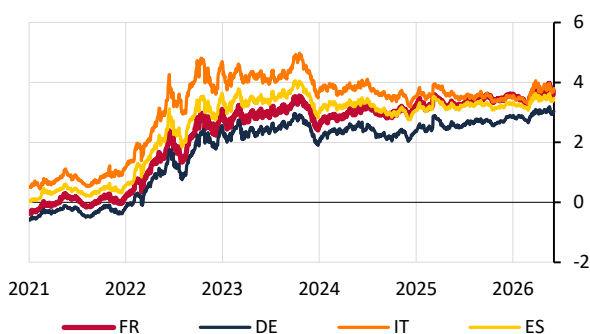
France has limited room for manoeuvre to deal with the consequences of the geopolitical crisis, at a time when OAT investors may be becoming more responsive to fiscal developments

France, like most other advanced economies, does not appear to have much fiscal space to respond to the geopolitical crisis. Globally, government debt is at its highest level since the Second World War, standing at 94% of gross domestic product (GDP) in 2025, and is expected to exceed 100% by 2029,²⁷ according to the International Monetary Fund (IMF). Against this backdrop, the markets are reacting more strongly to fiscal developments, while interest rates are tracking at much higher levels than at the start of 2026, due to the resurgence of inflationary pressures (see Chart 1.7). The substantial funding requirements needed to address geopolitical challenges, demographic trends and the necessary ecological and digital transitions are at odds with the modest growth outlook and the downside risks associated with it. In France, the government deficit stood at 5.1% of GDP in 2025, which is not low enough to stabilise the debt ratio. According to the Banque de France's June projections, following a significant improvement in 2025, the government deficit will widen slightly in 2026 in the absence of additional measures. Under the standard budgetary assumptions, it is estimated to decline only slightly by the end of the projection horizon. The government debt ratio is expected to continue rising to around 122% of GDP by the end of 2028 and to diverge from the euro area average. Markets are paying very close attention to whether a 3% deficit target is maintained for 2029.

The war in the Middle East has pushed sovereign yields significantly higher, without, however, increasing the French risk premium (see Chart 1.8). The yield on French ten-year government bonds stood at 3.67% on 5 June 2026, compared with 3.26% on 27 February before the outbreak of the conflict; the bulk of this rise was driven by expectations of key rate hikes, while the euro area term premium and France's specific credit risk remained stable. Financing conditions in euro area countries have diverged once again since the start of the conflict, with the ten-year spread between the French OAT and the German Bund widening slightly, by 8 basis points, over the period.

Chart 1.7: Yields on 10-year bonds issued by the main euro area sovereign issuers

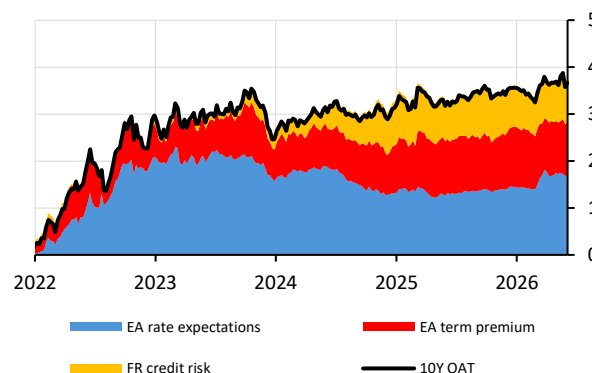
x: year / y: % yield



Source: LSEG Datastream.
Most recent value: 5 June 2026.

Chart 1.8: 10-year OAT yield decomposition

x: time/ y: percentage points



Note: "France credit risk" is proxied by the difference between 10-year OAT and OIS rates; the decomposition of the OIS rate into "interest rate expectations" and the "euro area term premium" is derived from an estimation model developed by the Banque de France.

²⁵ <https://www.tresor.economie.gouv.fr/Articles/2026/04/22/publication-du-rapport-d-avancement-annuel-2026>

²⁶ The assumed ten-year interest rate is 3.9% at the end of 2026.

²⁷ IMF (2026), *Fiscal Monitor*, April.

Source: Banque de France.
Most recent value: 5 June 2026.

The stability of the French risk premium is linked to continued high demand for French sovereign debt, both historically and relative to other European countries. However, this demand has weakened since 2025. French long-term sovereign debt has enjoyed strong demand in recent years in the primary market. But the OAT bid-to-cover ratio, although still comfortable, has deteriorated since 2025, falling from 3.2 to 2.5, whereas ratios for issues by other euro area countries have remained stable (see Chart 1.9). The bid-to-cover ratio for French Treasuries (BTFs) is also down, having dropped from 3.2 in January 2025 to 2.1 in March 2026, although a similar trend is in evidence for German short-term debt.

For the past decade, the stable maturity profile of French sovereign debt issuance has appeared to be a factor contributing to resilience and reduced exposure to interest rate risk. The OECD's Global Debt Report 2026, for example, highlights France's untypical position, contrasting with the majority of OECD sovereign issuers, which have stepped up their use of short-term instruments in recent years and seen the residual maturity of their outstanding debt decline. However, maturities have shortened markedly since the start of 2024 in a shift that appeared to accelerate in 2025, more in line with the trend already observed in most OECD countries.²⁸ The average maturity of France's sovereign issuances over a rolling one-year period thus stood at five years in June 2026, or approximately six months shorter than at the start of 2024 and three months shorter than at the end of 2025 (see Chart 1.10). In Germany, the average maturity of sovereign issuances has increased since 2023, a trend that gathered momentum in 2025 in connection with the implementation of a wide-ranging defence and infrastructure funding programme.

Chart 1.9: Bid-to-cover ratio, long-term sovereign debt issuances

x: time / y: ratio

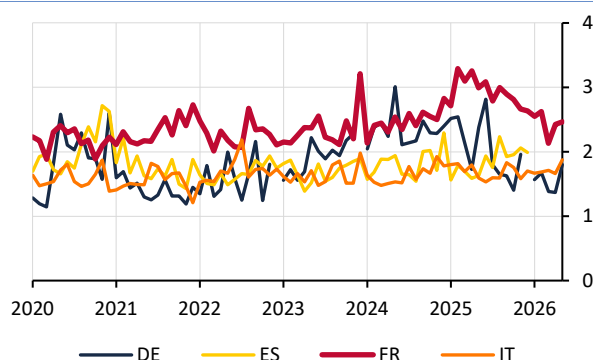
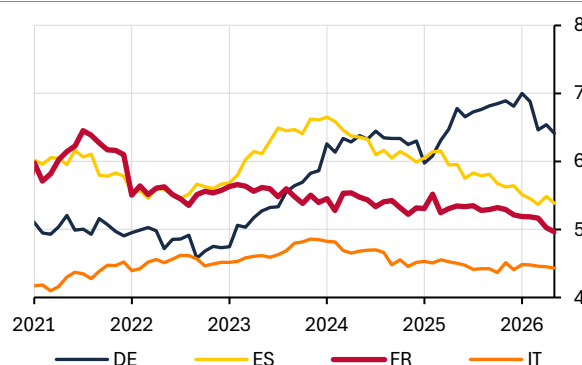


Chart 1.10: Maturities of sovereign debt issuances, main euro area issuers

x: year / y: years



Sources: AFT, Finanzagentur, Dipartimento del Tesoro, Tesoro Publico, Banque de France calculations.
Most recent value: May 2026.

Note: Weighted average maturity calculated over a rolling one-year period.
Source: AFT, Finanzagentur, Dipartimento del Tesoro, Tesoro Publico.
Most recent value: May 2026.

The investor base for French debt is shifting towards less stable holders. In recent years, the investor base for French sovereign debt has shifted towards investors pursuing shorter-term investment strategies, such as investment funds (see Box 1.3), particularly in the short-dated securities segment. These investors are more exposed to leverage or potential redemptions. Hedge funds, for which it remains difficult to obtain reliable

²⁸ OECD (2026).

data on holdings, appear to be increasingly active in the European sovereign debt market, including the French market.²⁹ Hedge fund trading volumes on the secondary market for European sovereign debt doubled between 2018 and 2023, rising from a quarter to more than half of all trading³⁰ – a record high level that has since stabilised. They also now represent more than 50% of the total requests received by dealer banks around public debt auctions in Germany, France, Italy and Spain.³¹ To maximise their returns, these funds use leverage by financing their positions on the repo market. The build-up of these positions increases the market's sensitivity to price or liquidity shocks. A forced unwinding of these positions in the event of sudden stress could disrupt the sovereign and repo markets. This growing vulnerability is the subject of the thematic chapter in this report.

Box 1.3: Changes in the investor base for French government debt

By Jonas Heipertz and Thibaut Piquard

This box uses SHS-S data on sector holdings to identify euro area investors' holdings of French government debt securities. Non-euro area investors' holdings are estimated using the difference between the total outstanding amount and the aggregate holdings of euro area investors. Where possible, non-euro area holdings are then broken out by sector (bank, non-bank and official) using data from Arslanalp and Tsuda (2016), updated to the fourth quarter of 2025.

Over the past five years, French government debt has increasingly been held by non-French euro area investors (see Chart 1). It was primarily these investors who offset the decline in the Eurosystem's share in the wake of monetary policy normalisation and quantitative tightening (5.6 pp between the second quarter of 2022 and the fourth quarter of 2025).

The share of non-euro area investors rose slightly until the third quarter of 2024, when it reached 26% – its highest level between 2021 and 2025 – before falling to 24.3% in the fourth quarter of 2025. The recent downturn in non-euro area holdings may reflect a wider US/euro area yield spread, which reduced the attractiveness of hedged returns on euro investments for non-euro area investors, as well as the same investors' heightened sensitivity to the political and fiscal uncertainties that emerged in France from mid-2024 onwards.

The geographical shift in the investor base came with a pronounced increase in the role of banks in absorbing French government debt (see Chart 2). This could reflect greater attractiveness of sovereign bonds to banks amid the Eurosystem's gradual withdrawal from the bond market, where liquidity and collateral management challenges are returning to the fore. Whereas French insurers and pension funds still held 16.8% of this debt in the first quarter of 2021, their share fell to 12.9% in the fourth quarter of 2025. Conversely, French banks³² saw their share rise from 7.9% to 9.8% over the same period. This trend is even more pronounced for non-French euro area banks, whose share more than doubled to reach 5.9% in the fourth quarter of 2025, while non-euro area banks also increased their presence, by 1.7 pp.

Holdings by maturity segment reveal distinct preferences among different investor categories (see Chart 3). Banks mainly hold medium-term maturities, while insurance corporations and pension funds (ICPF) continue to be positioned in long-dated securities.

²⁹ According to IMF data on investment portfolios, other financial intermediaries, including hedge funds, based in the Cayman Islands held an estimated USD 64 billion of debt issued by French issuers as at June 2025, up from USD 14 billion in June 2019.

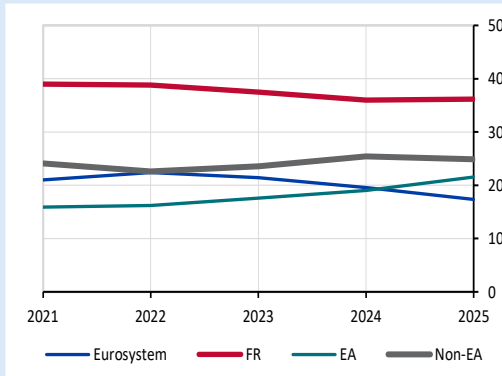
³⁰ See Hedge funds: good or bad for market functioning? (ECB, 2024).

³¹ According to an ECB survey of primary dealers (BMCG Hedge Fund Survey).

³² French banks comprise all credit institutions as defined in the national accounts (sector S_122) located in France (geographical basis). These figures include those of subsidiaries and branches of foreign banks established in France, but exclude those of subsidiaries and branches of French banks located abroad.

Chart 1: Change in the investor base for French government debt, by investor residence

x: time / y: % of the debt stock, par value

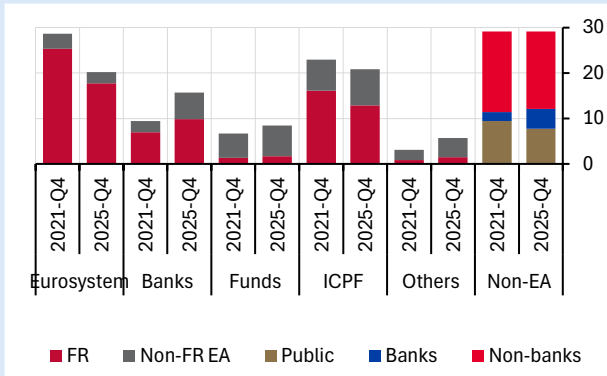


Sources: ECB SHS-S, CSEC.

Most recent value: final quarter of 2025.

Chart 2: Change in the investor base for French government debt, by investor type

x: time / y: % of the debt stock, par value



Notes: EA = euro area; ICPF = insurance corporations and pension funds; "Others" include the public sector, non-financial corporations, households, money market funds and other financial intermediaries.

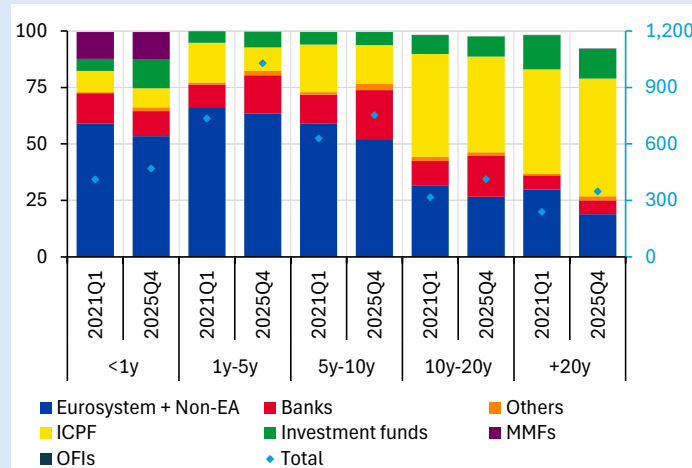
Sources: ECB SHS-S, CSEC, Arslanalp and Tsuda (2016).

Most recent value: final quarter of 2025.

The most significant change concerns euro area investment funds, whose presence in the very short-term paper and Treasury bill segments grew substantially: their share of nominal outstandings with a residual maturity of less than one year rose from 5.3% in the first quarter of 2021 to 12.7% in the fourth quarter of 2025. This reflected the pick-up in interest rates from 2022, which improved the appeal of short-term instruments, allowing them to combine significant returns with low sensitivity to interest rate risk. At the same time, insurers withdrew while banks moved into short-term (one to five years) and medium-term (five to ten years) maturities especially.

Chart 3: Holdings of French government debt, by euro area investor sector and residual maturity

x: residual maturity in years and quarters / y [lhs]: percentage; [rhs]: total issued by residual maturity bucket in EUR billions



Notes: EA = euro area; "Others" include the euro area public sector, non-financial corporations and households; ICPF = euro area insurance corporations and pension funds; OFI: euro area other financial intermediaries.

Sources: ECB SHS-S, CSEC.

1.2 The conflict in the Middle East is increasing the risk of a disorderly market correction

Demand for US Treasuries is evolving in ways that appear to belie their status as a safe-haven asset

The war in Iran has come at a time when the market for US Treasuries (USTs) is experiencing developments that appear to raise some questions about the long-term viability of USTs' safe-haven status. Traditionally, as the quintessential safe-haven assets of the international financial system, long-term USTs have exhibited a positive correlation with similar asset classes, such as bonds issued by other highly rated sovereigns (e.g. German Bunds) or gold. However, these correlations have weakened since the Covid-19 crisis, possibly due to rising US public debt, but undoubtedly even more so because of the paradigm shift in international relations initiated by the United States from April 2025 onwards. The blockade of the Strait of Hormuz exacerbated this trend, with UST yields moving in the opposite direction to oil prices, despite briefly resuming their safe-haven role during the first few days of the conflict.

The materiality and scale of UST sales by foreign official sectors remain difficult to assess. However, the UST holdings of foreign central banks and official institutions held with the Federal Reserve Bank of New York have been shrinking since mid-2023 (see Chart 1.11). Against the backdrop of tensions surrounding Iran and the Strait of Hormuz, this trend has picked up speed since late February 2026, with a decrease of USD 88 billion taking these holdings to their lowest level since 2012. This trend certainly reflects foreign exchange interventions aimed at supporting certain currencies against the stronger dollar at a time of rising oil prices, along with a gradual diversification away from US assets, particularly towards gold. However, the decline in holdings at the Fed could also reflect a reallocation of US securities to other international depositories rather than a liquidation of official UST portfolios.

Chart 1.11: Non-US official sector Treasury holdings with the Federal Reserve Bank of New York

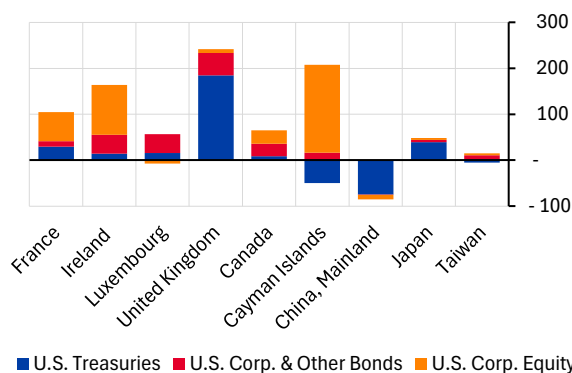
x: time / y: USD billions



Source: Board of Governors of the US Federal Reserve System.
Most recent value: 13 May 2026.

Chart 1.12: Purchases and sales of US securities by foreign investors, April 2025 to February 2026

x: holding country / y: USD billions



Note: Cumulative change in holdings of US Treasuries (maturity > one year), corporate bonds (maturity > one year) and equities by foreign investors between April 2025 and February 2026.

Source: TIC data.
Most recent value: February 2026

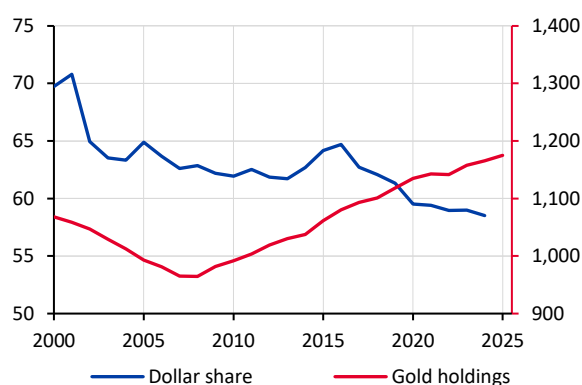
Even so, foreign investors' appetite for US assets remains strong (see Chart 1.12). Measured cumulatively since "Liberation Day", net transactions in US Treasuries, corporate bonds and equities remain positive for the main holder countries, with the exception of China and the Cayman Islands. In the latter case, flows may reflect basis-trade strategies employed by hedge funds. Meanwhile, the decrease in Chinese holdings could be partially due to the scope used, which may exclude some central depositories.

In 2025, however, the UST market saw a marked rise in the term premium for US ten-year government bonds. Whilst this can be partly attributed to renewed inflationary risks and reduced investor appetite for long-term debt (e.g. structural reforms affecting Dutch pension funds), the effect of doubts surrounding the status of USTs as risk-free assets cannot be discounted. If the upward trend in US long-term interest rates were to continue or intensify, it could cause European financial conditions to tighten and exert downward pressure on economic activity (see Box 1.4).

Gold has not played its safe-haven role to the full and has stayed under pressure since the outbreak of the conflict. This trend can be traced back to market intermediaries' liquidity needs in an environment of heightened volatility and rising margin calls, which prompted profit-taking following the rally of recent months, particularly by central banks in emerging markets and retail investors. At the same time, rising inflation expectations and bond yields have increased the opportunity cost of holding gold relative to fixed-income products, as gold is an asset that generates no return and therefore automatically becomes less attractive when bond yields go up. However, this short-term shift does not call into question gold's safe-haven status, as gold tends to surrender value at the start of a crisis before gaining it over time, except during periods of sharply rising interest rates as in 2022 (see Chart 1.14).

Chart 1.13: Share of US dollar and gold holdings in central bank reserves

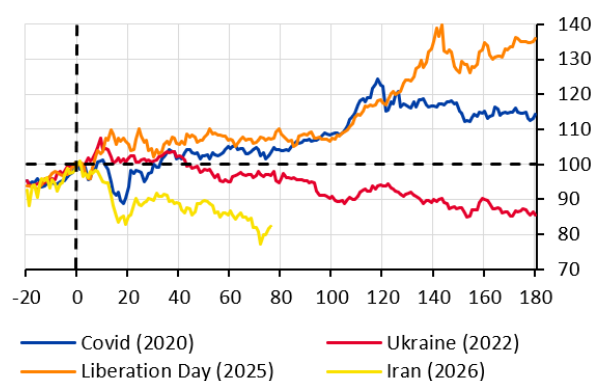
x: time / y [lhs]: dollar share (% of reserves); [rhs]: gold holdings (millions of troy ounces).



Source: IMF financial statistics.
Most recent value: 2025.

Chart 1.14: Gold price movements around four major events

x: days (t) around the event / y: gold index (t 0 = 100)



Source: Bloomberg, Morgan Stanley, Banque de France calculations.
Most recent value: 5 June 2026.

Box 1.4: What could rising US long-term interest rates mean for the euro area?

By Nuno Coimbra, Aurélien Espic and Tristan Jourde

Significant real and financial interdependencies link the United States and the euro area. Transmission channels include global financial conditions, international capital flows, asset prices, and the effects of external demand via international trade. We use a semi-structural model, ECB-Global 2.0, to analyse these spillovers, as it allows us to quantify macroeconomic and financial interactions between the United States and the euro area in a consistent manner.

The first step is to calibrate the shock observed in the United States in 2025. The data show that the term premium on US 10-year government bonds rose by approximately 50 bps compared with the average over 2023–2024. At the same time, the convenience yield on 10-year Treasuries fell by around 10 bps, suggesting a relative deterioration in their status as safe-haven assets (see Chart 1). Based on these observations, we calibrate two distinct shocks:

- a +10 bps shock to the US sovereign bond spread, reflecting the fall in the convenience yield;

- a +40 bps shock to the US term premium, corresponding to the bulk of the observed rise in long-term rates.

We assume that these shocks will last for three years, which corresponds to a scenario in which the drivers that originally caused the increase in long-term interest rates are persistent.

The second stage examines the transmission of these shocks to the euro area through financial channels.

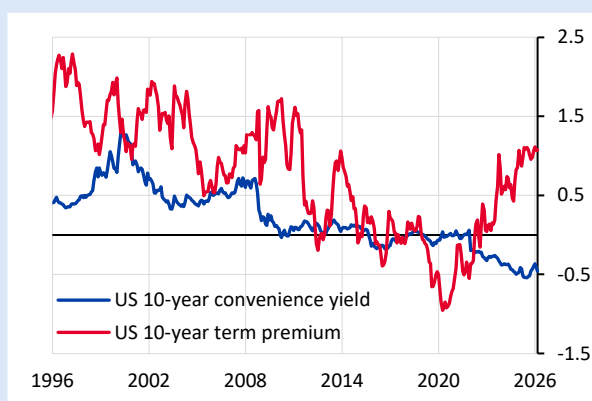
The degree of pass-through between US and European interest rates is not constant over time. Following a decade characterised by relatively weak transmission of US term premiums to the euro area, recent estimates suggest a return to more normal levels, with a sensitivity coefficient (beta) of approximately 0.4 (see Chart 2).

Consequently, in addition to the US shocks described above, we calibrate:

- a +4 bps shock to the euro area sovereign bond spread;
- a +16 bps shock to the euro area term premium, resulting from partial pass-through of higher US premiums.

Chart 1: US 10-year term premium and convenience yield

x: time/ y (%)



Note: The convenience yield is calculated as the difference between a 10-year swap referencing the benchmark money market rate (LIBOR until 2021, SOFR from 2022) and the yield on US 10-year government bonds.

Sources: the 10-year term premium averages three estimates published by the Fed, the New York Fed and Léo Krippner.

Most recent value: March 2026.

Chart 2: Estimated spillover from the US term premium to the euro area term premium

x: time/ y: beta sensitivity



Note: DCC-GARCH model using first-difference monthly data for the euro area 10-year term premium, explained by the US 10-year term premium, the price of gold, the price of oil and a geopolitical risk index.

Sources: Léo Krippner, Banque de France calculations.

In response to the US interest rate shock, the model's results point to tighter financial conditions in Europe, downward pressure on economic activity and, in the short term, moderate disinflationary effects.

From year one, equity markets experience a sharp correction, losing 1.4% in the euro area and 1.3% in the United States. This downturn is accompanied by a 0.2% fall in GDP and a 0.1 pp decrease in inflation in the euro area, compared with 0.3% and 0.2 pp declines respectively in the United States. Financial contagion plays a significant role in the euro area: if the European economy were not exposed to these spillover effects, GDP and inflation would fall by just 0.1%.

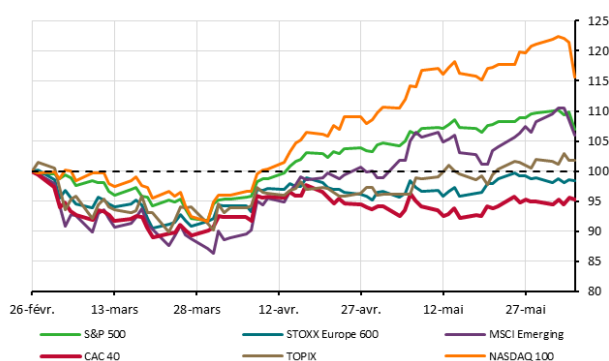
These results highlight the euro area's vulnerability to long-term interest rate shocks originating in the US, particularly in an environment of significant international financial integration. However, they assume that term premiums in the United States and the euro area are positively correlated. While this has historically been true, the relationship could change if the dollar's influence within the international financial system were to wane.

Equity markets, especially US indices, remain vulnerable to a sudden shift in investor sentiment

The war in Iran has prompted only a moderate equity market correction. Between 26 February and 27 March 2026, the main indices fell significantly (see Chart 1.15), with declines ranging from 9% for the NASDAQ to 14% for emerging markets (MSCI Emerging). But despite the geopolitical deadlock, share prices began to rebound sharply in April, with US markets actually climbing above their pre-crisis levels. This sequence exacerbated cross-sector differences (see Chart 1.16). Whereas companies in the commodities sector, particularly those involved in the extraction of precious metals, consumer staples and healthcare firms, struggled, energy outperformed significantly. Furthermore, the April recovery was largely powered by tech stocks.

Chart 1.15: Cumulative equity performances, by region

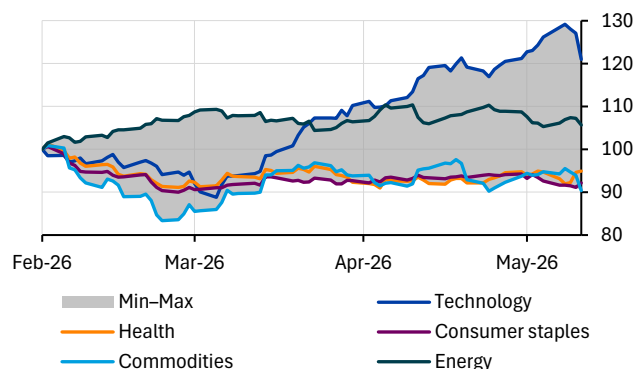
x: time / y: index, 26 February 2026 = 100



Source: LSEG Datastream, Banque de France calculations.
Most recent value: 5 June 2026.

Chart 1.16: Cumulative equity performances, by sector

x: time / y: index, 26 February 2026 = 100



Note: Cumulative performance of global sector indices since the start of the conflict in the Middle East.

Source: LSEG Datastream, Banque de France calculations.
Most recent value: 5 June 2026.

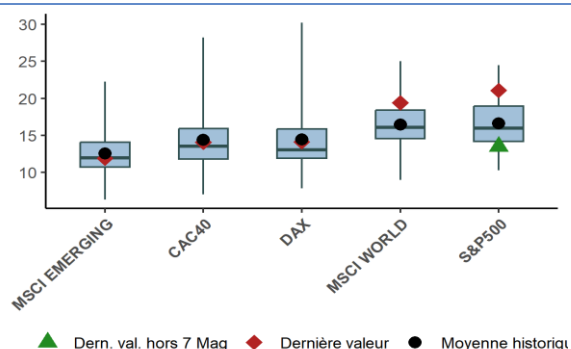
Equity markets, particularly US indices, continue to trade at historically high valuation ratios, leaving them vulnerable to a sudden reversal in investor sentiment. Illustrating this point, the S&P 500's 12-month forward price-earnings ratio (PER) stands at 21, compared with just 14 for the CAC 40 (see Chart 1.17). The discrepancy is mainly due to the S&P 500's heavy tech concentration: the "Magnificent Seven" stocks alone account for 32% of the US index's total weight. After adjusting for these seven capitalisations, the S&P 500's PER falls to 13.5, i.e. in line with European indices.

Volatility remains low (see Chart 1.18) despite growing underlying risks. Implied volatility indicators for European and US share indices (VSTOXX and VIX, which are generally highly correlated) quickly returned to normal levels after briefly spiking at the start of the conflict (the VIX hit 35.3 on 9 March 2026) and are now tracking slightly below their historical average (the VIX stood at 19 on 5 June 2026, compared with an average of 19.5 between 1990 and 2026). Multiple factors contribute to this low-volatility regime. On the one hand, weak correlation between stocks, linked to sector divergences brought about by the energy crisis and the emergence of artificial intelligence (AI). On the other, the rise in options trading (particularly very short-term options) along with systematic strategies and leveraged exchange-traded funds (ETFs) tend to artificially suppress volatility.³³ However, these factors are procyclical: in the event of a shock, the unwinding of positions could trigger a sharp upswing in volatility, as illustrated by the spikes in February 2018 and August 2024. These episodes featured rapid surges in volatility driven by a chain of adjustments to positions that had been built on the assumption of a lasting low-volatility environment, which exacerbated the disorderly nature of market movements.

³³ IMF (2026), GFSR, Chapter 1, "Global financial markets confront the war in the Middle East and amplification risks", April.

Chart 1.17: Equity market valuation

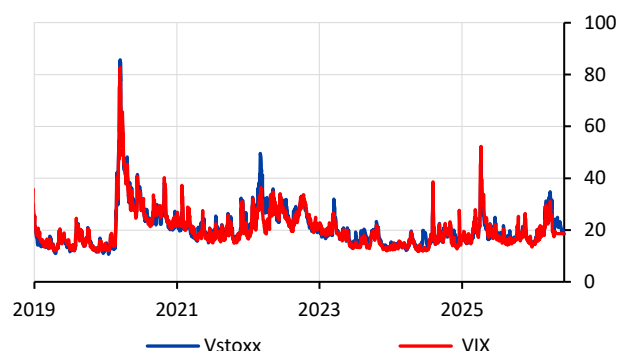
x: equity indices / y: 12-month forward PER



Note: The horizontal line in the box shows the median, the ends of the box represent the first and third quartiles, and the extension lines indicate the minimum and maximum values. The 12-month forward PER is calculated as the ratio of the share price to expected earnings per share one year ahead. Index PERs are analysed over 1990–2026. *Source:* LSEG Datastream, Banque de France calculations. *Most recent value:* 5 June 2026.

Chart 1.18: Equity market volatility

x: time / y: indices



Note: Daily data for the VIX and VSTOXX. *Source:* LSEG Workspace. *Most recent value:* 5 June 2026.

Box 1.5: Equity reactions to recent earnings announcements

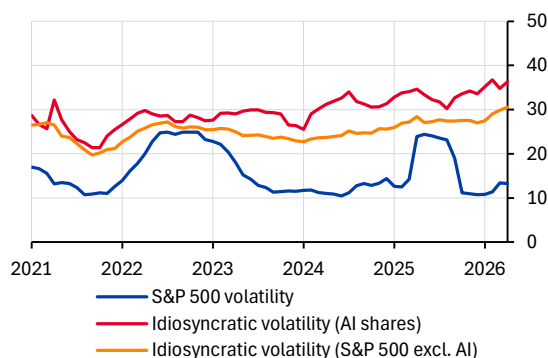
By Maxime Barthe and Tristan Jourde

Weak volatility at the macroeconomic level masks growing volatility in the share prices of AI-related companies. Investors are reacting increasingly sharply to news about these companies' fundamentals. This is particularly evident in idiosyncratic volatility, i.e. the risk specific to each AI-related firm (see Chart 1). Until now, these companies have reported more upbeat results than non-AI-related firms (14% average increase between reported and expected earnings, compared with 12% for other companies; see Chart 2). Furthermore, reports by AI-related companies surprise positively more often (91% of publications, compared with 79%). This trend has increased slightly since ChatGPT, a chatbot, was launched in late November 2022. However, earnings reports are also accompanied by stronger market reactions for AI-related companies, especially if results disappoint.

The stock market performances of AI-related companies are particularly sensitive to downbeat reports. Sharply negative surprises, i.e. when reported earnings fall more than 8% short of market expectations (which corresponds to the top 50% of the most disappointing results), affect returns on AI-related shares twice as much as those of other companies (see Chart 3). Three days after publication, shares in AI-related companies are down by more than 5%, compared with a fall of around 2.5% for other firms. Heightened sensitivity to downbeat earnings suggests that expectations for AI-related companies are highly bullish, particularly given the risks of overinvestment and growing interdependencies within the AI ecosystem. There is also greater sensitivity to positive surprises, but to a lesser extent (additional positive impact of around 20%). In both cases, these impacts do not appear to be temporary and last for several days, suggesting a more permanent reassessment of investors' expectations.

Chart 1: Index and idiosyncratic volatility

x: time/ y: cumulative logarithmic return (%)

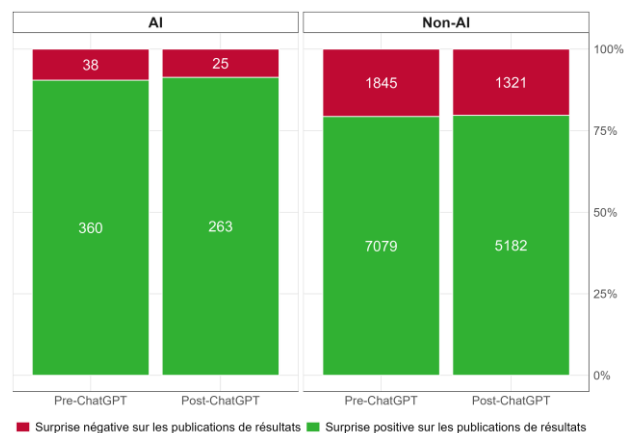


Note: Index volatility is calculated from the daily returns of the S&P 500 over a rolling six-month period. Idiosyncratic volatility is calculated using the residuals from a regression of the daily returns on individual shares against the Fama-French (2015) factors. The S&P 500 companies operating in the AI sector and considered here are Nvidia, Apple, Microsoft, Meta Platforms, Amazon, Broadcom, Tesla, Alphabet, Oracle, Palantir, Micron Technology, Arista Networks, Adobe, Palo Alto, AMD, Intel, Salesforce, Servicenow, IBM, Qualcomm and Cisco.

Sources: LSEG Workspace, Banque de France calculations.
Most recent value: 30 April 2026.

Chart 2: Distribution of earnings surprises

x: AI/non-AI and pre/post-ChatGPT period / y (%)



Note: This chart shows the number and proportion of positive and negative surprises in the earnings reports of AI-related (left) and non-AI-related (right) S&P 500 companies, for the pre-ChatGPT (left) and post-ChatGPT (right) periods. A surprise is described as positive or negative depending on whether the reported results are higher or lower than what financial analysts were expecting. The S&P 500 companies operating in the AI sector and considered here are Nvidia, Apple, Microsoft, Meta Platforms, Amazon, Broadcom, Tesla, Alphabet, Oracle, Palantir, Micron Technology, Arista Networks, Adobe, Palo Alto, AMD, Intel, Salesforce, Servicenow, IBM, Qualcomm and Cisco.

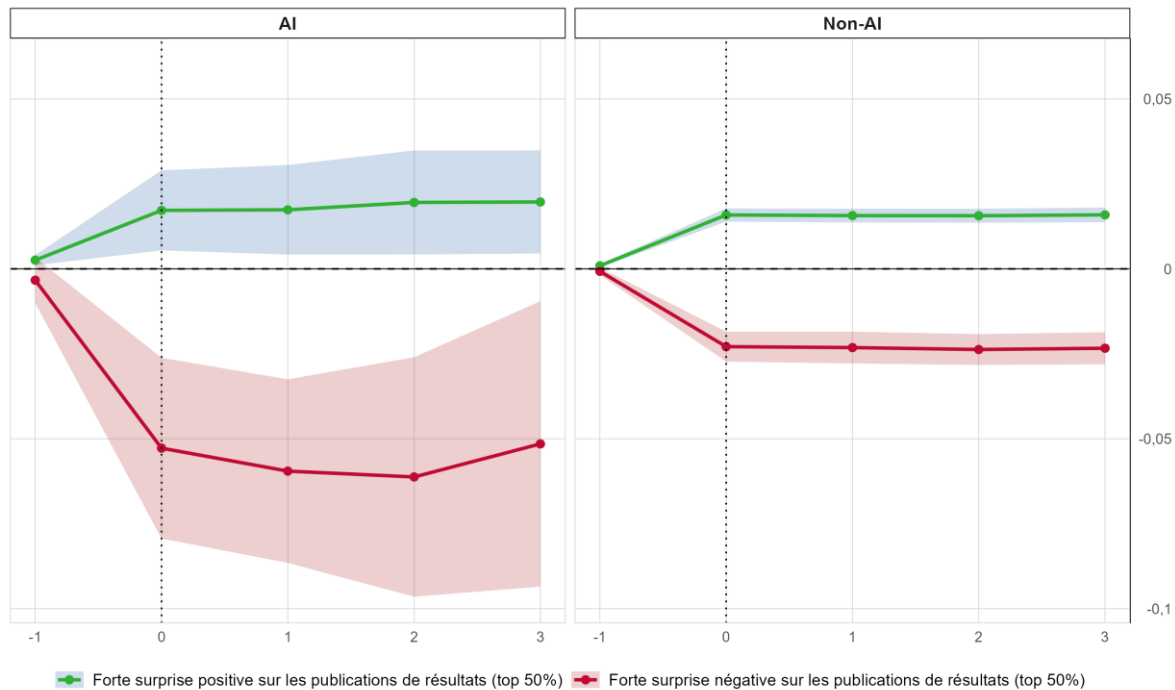
Sources: LSEG WIB, Banque de France calculations.

This heightened sensitivity is a factor of vulnerability for equity markets. Earnings surprises for AI-related companies could gradually align with those seen for other companies, or even become less favourable in the event of disappointments over their ability to monetise AI services by charging end customers. In a scenario of widespread disappointment with the results of AI-related companies (reported earnings falling short of expectations by around 30% on average), the aggregate impact on the S&P 500 could reach approximately 2% due to the significant weight of these companies in the index,³⁴ not including any potential knock-on effects on other sectors. A sudden reversal in US share prices could spread to stock markets worldwide, particularly if investors' upbeat outlook regarding the actual prospects for AI were to be thrown into doubt.

³⁴ AI-related companies are considered to make up approximately 40% of the S&P 500.

Chart 3: Impact of earnings reports on share performances

x: days (t) around the event / y: return on equities

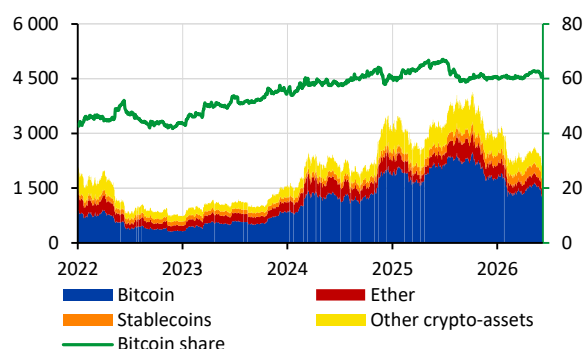


Note: This chart shows the impact of earnings announcements (at $t=0$) on the cumulative returns of S&P 500 companies involved in AI (left) and those not involved in AI (right). The S&P 500 companies operating in the AI sector and considered here are Nvidia, Apple, Microsoft, Meta Platforms, Amazon, Broadcom, Tesla, Alphabet, Oracle, Palantir, Micron Technology, Arista Networks, Adobe, Palo Alto, AMD, Intel, Salesforce, Servicenow, IBM, Qualcomm and Cisco. A positive (negative) surprise linked to earnings reports indicates that reported results are higher (lower) than what was expected by financial analysts prior to publication. The abnormal daily returns of each firm are estimated using time-series regressions against Fama-French factors (SMB, HML, etc.) to isolate their idiosyncratic component. These abnormal returns are then used as the dependent variable in a panel data regression to assess the market's reaction to surprises linked to earnings announcements. The area associated with each curve corresponds to the confidence interval (95%) around the impact. Sources: LSEG WIB, K. French, Banque de France calculations.

The conflict in Iran has heightened uncertainty in crypto markets. Compounding the war-related pressures, crypto-asset markets have already been experiencing a “crypto-winter”, i.e. a period of high volatility, since autumn 2025. Despite rebounding briefly in March-April 2026, total market capitalisation fell by 57% from the USD 4.2 trillion peak hit in October 2025 to reach USD 1.8 trillion in June 2026 (see Chart 1.19). Bitcoin and Ether sustained significant corrections, surrendering 50% and 70% respectively from their 2025 highs. A flash crash in October 2025 highlighted critical vulnerabilities linked to leverage, triggering a wave of automated liquidations of derivatives positions totalling USD 19 billion. Following a period of calm in spring 2026, the volatility of the major crypto-assets has risen again amid renewed risk aversion, persistent geopolitical tensions and significant outflows from crypto-backed index funds. The 30-day historical volatilities of Bitcoin and Ether nevertheless remain well below the extreme levels seen during the winter of 2025–2026. By way of comparison, Brent volatility, which was badly affected by geopolitical tensions in the Middle East, peaked at over 100% before falling back to around 70% over the same period (see Chart 1.20). Despite the correction, several financial institutions are pushing on with initiatives involving crypto-assets and associated investment products, reflecting the growing integration of this asset class within the traditional financial system. However, crypto-assets appear to offer limited benefits in terms of portfolio diversification. Despite a recent decline in correlations between Bitcoin and the main US share indices, crypto-assets remain generally sensitive to macrofinancial conditions and shifts in risk appetite in the financial markets.

Chart 1.19: Crypto-asset market valuation

x: time / y [lhs]: amount in USD billions; [rhs]: %



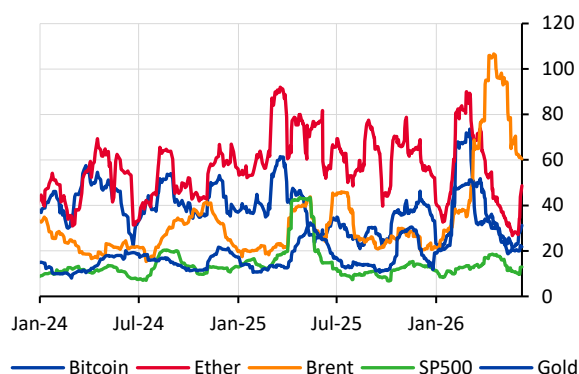
Note: "Other crypto-assets" comprise other crypto-assets, each of which accounts for less than 5% of the total, with the exception of Ripple (XRP), which accounted for 8% at the end of the period.

Source: LSEG Workspace.

Most recent value: 5 June 2026.

Chart 1.20: 30-day historical volatility of crypto-assets compared with other assets

x: time/ y: %



Source: Bloomberg.

Most recent value: 5 June 2026.

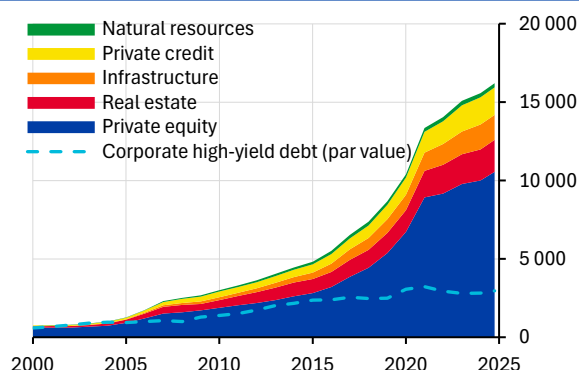
Warning signs point to vulnerabilities in the private credit market

The private credit market, which has experienced strong growth over the past decade³⁵ (see Chart 1.21), went through a period of heightened investor concern in early 2026, highlighting certain vulnerabilities within this asset class. A string of insolvencies in the United States in the autumn of 2025, which involved private credit firms and highlighted the exposures of banks and insurers to this asset class, heightened the perception of the credit risk borne by private credit funds (see Chart 1.22). Compounding this, rapid AI advances have raised concerns about some companies in the software sector, to which private credit funds appear to be heavily exposed. These concerns materialised in the first quarter of 2026 in the form of massive redemption requests from retail clients invested in semi-liquid funds managed by several major US asset managers. These requests were partially met, as managers activated redemption gates to limit the liquidity mismatch risk associated with semi-open-ended funds holding illiquid underlying assets.

³⁵ For a more detailed overview of private credit, see Banque de France (2025), *Financial Stability Report*, December.

Chart 1.21: Assets under management in private credit and other strategies

x: time / y: (USD billions)

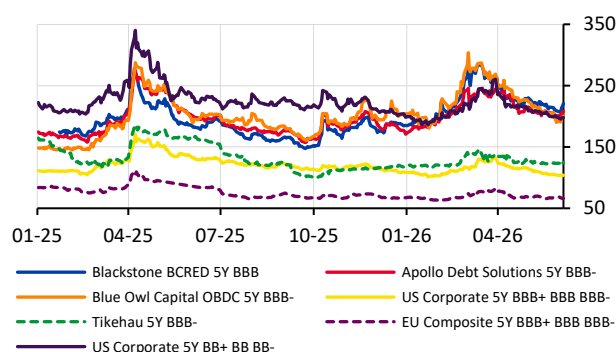


Source: Preqin.

Most recent value: September 2025.

Chart 1.22: Bond spreads of the leading asset managers active in private credit and a comparison with corporate bond spread indices

x: time / y: (bps)



Source: Bloomberg.

Most recent value: 5 June 2026.

European and French financial institutions have limited exposure to private credit, but the precise contours of their exposure remain complex, and these entities could be affected by contagion to other asset classes in the event of a shock. Exposures could occur through bank loans – most commonly financing secured by the funds’ assets – as well as through direct exposure as investors in the case of insurers. In the euro area, these exposures do not appear to exceed 0.2% of banks’ total assets and 2.3% of insurers’ total assets, when using a narrow definition of private credit.³⁶ However, a shock to the private credit market, e.g. a rise in loan defaults, could spread to other asset classes, such as high-yield bonds or syndicated bank loans. Private credit also has numerous cross-border interconnections, as a large proportion of European investment in private credit is carried out abroad, while the majority of private loans received by companies in the euro area come from non-resident lenders.³⁷ Should the availability of private loans to euro area non-financial corporations (NFCs) decline, these firms could struggle to access other sources of funding, given their risk profile. Consequently, a private credit shock could lead to additional corporate defaults.

In the context of the conflict in Iran, private credit is vulnerable due to the profile of borrowers, which are medium- to large-sized heavily indebted companies whose debt-servicing capacity could be reduced by increased input and funding costs, as private loans are taken out at variable rates. Another aspect is the growing exposure of private credit to the AI sector,³⁸ which makes this asset class vulnerable to a downward revision to revenue forecasts for that sector.

³⁶ ECB, *Financial Stability Review*, May 2026.

³⁷ Financial Stability Board, *Report on Vulnerabilities in Private Credit*, May 2026.

³⁸ *Financing the AI boom: from cash flows to debt*, BIS, January 2026.

Box 1.6: Insurers' exposures to private credit

By Raphaël Gorrard

There is no fully established definition for the concept of private credit. However, international bodies, including the European Insurance and Occupational Pensions Authority and the International Association of Insurance Supervisors, have adopted convergent approaches that make it possible to identify several recurring components of private credit within insurers' portfolios.

These exposures can be grouped into four categories, listed below according to the extent to which they are connected to the specific challenges of private credit.

Scope 1: Private debt funds

Exposures to funds specialising in private debt. These exposures are a key focus for international organisations, particularly in the light of developments in the United States. They are regarded as being entirely part of private credit.

Scope 2: Securitised exposures

Exposures to securitised instruments, such as collateralised loan obligations (CLOs) and other structured credit products, through which insurers bear credit risk without necessarily going through bank intermediation. However, these instruments do not consist exclusively of private credit assets: structured products, in particular, may contain debt issued by rated counterparties.

Scope 3: Direct investments in unlisted debt

Direct investments in the form of loans or unlisted debt (excluding the financial sector and intra-group transactions). While these exposures might theoretically fall within the scope of private credit, in the case of French insurers, a large proportion of the residual exposures relate to loans to affiliated real estate companies owned by the insurers. The associated challenges therefore largely overlap with those already covered in the analysis of the commercial real estate sector.

Scope 4: Indirect exposure via generalist funds

Exposures to loans held in generalist funds (including bond funds), where loans are incorporated into portfolios that are generally more liquid, as well as corporate debt exposures held by illiquid funds (infrastructure, private equity, alternative investment). However, these may consist of listed securities from the financial or non-financial sector.

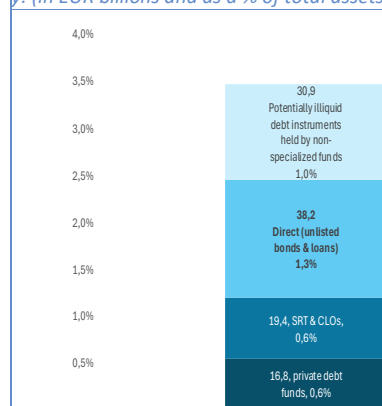
Presence in French insurers' portfolios

Depending on the scope adopted, ranging from a narrow definition limited solely to private debt funds to a broader approach, French insurers' exposures to private credit account for between 0.6% and 3.4% of their total assets. Combined exposures from scopes 1 to 3, which strictly include selected investments, amount to approximately 2.5% of total assets. Within scope 4, EUR 18 billion of exposures are held in funds that primarily hold exposures in the form of loans, according to data reported by insurers.

The majority (over 90%) of these exposures are included in insurers' general account assets. They therefore serve as diversification assets, and their low liquidity is not necessarily a problem as long as they account for a small proportion of the portfolio and are held alongside more liquid assets.

Chart 1: Overview of French insurers' private credit exposures at 31 December 2025

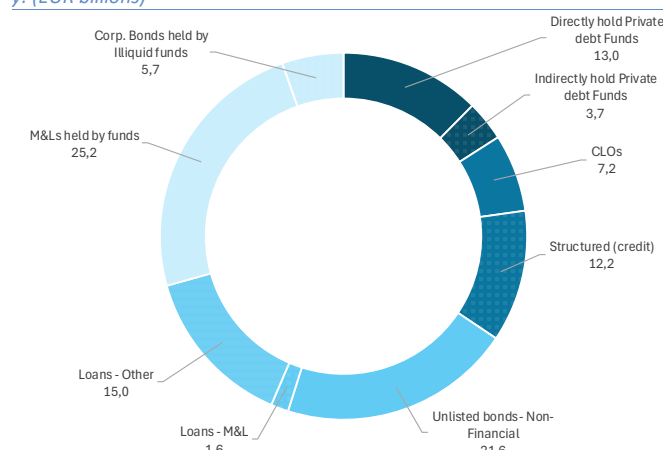
y: (in EUR billions and as a % of total assets)



Source(s): ACPR based on solo regulatory reporting, Morningstar.
Date: Q4 2025.

Chart 2: Breakdown of French insurers' private credit exposures at 31 December 2025

y: (EUR billions)



Source(s): ACPR based on solo regulatory reporting, Morningstar database.
Date: Q4 2025.

The stablecoin market is stabilising, while the tokenised money market fund sector continues to flourish

After growing vigorously at the start of 2025, the stablecoin market stabilised in early 2026 and reached USD 298 billion as of 5 June 2026, apparently little affected by the conflict in Iran. Circle and Tether remain the main players in a market that is dominated by the US dollar. In Europe, a consortium of 37 European banks plans to issue a euro-backed stablecoin by the end of 2026: the initiative would therefore be led directly by actors from the banking sector, unlike in the United States. One of the main risks to financial stability today lies in the interconnections between stablecoins, crypto markets and traditional markets. Current uses of stablecoins appear to be concentrated on transactions within the crypto sphere: loss of confidence in one or more stablecoins could therefore quickly spread to crypto markets. Issuers of dollar-denominated stablecoins, meanwhile, are major investors in the US sovereign bond market, with exposure on a par with that of the largest US money market funds.³⁹ In the euro area, the effects on sovereign bonds are smaller given the size of the market and will depend not only on the reserve assets held by stablecoin issuers, but also on whether their use is geared towards retail or wholesale clients.⁴⁰

The first half of 2026 was characterised by strong growth in the total value locked (TVL)⁴¹ of tokenised dollar-denominated money market funds, which nevertheless remained relatively low at USD 16.1 billion⁴² on 5 June 2026 (compared with USD 9 billion on 2 January), continuing the trend seen in 2025. This expansion phase can be attributed, among other things, to the development of secondary markets for tokenised fund units, and to their growing use as collateral on decentralised finance platforms, as illustrated by the partnership between Spiko and Société Générale, which allows users to borrow EURCV or USDCV (stablecoins issued by Société Générale) using Spiko's money market fund units as collateral, via Morpho lending protocols.⁴³

³⁹ ECB (2025), "Stablecoins on the rise: still small in the euro area, but spillover risks loom", *Financial Stability Review*, November.

⁴⁰ ECB (2026), "Euro stablecoins and their potential effect on sovereign bond markets", *Macroeconomic Bulletin*, No. 33, April.

⁴¹ TVL is the equivalent of assets under management for traditional funds.

⁴² The outstanding amount corresponds to all tokenised money market funds recorded by rwa.xyz, a platform that aggregates data on tokenised assets. A narrower approach is to include only funds that invest in assets comparable to those of a traditional money market fund, excluding, in particular, tokenised funds that invest exclusively in other funds. Using this definition, the TVL of tokenised money market funds is estimated at USD 7 billion in January 2026, compared with USD 9 billion on the same date under the broad approach, according to the ECB (link).

⁴³ The tie-up between SG Forge and Spiko was announced in September 2025 (link).

Box 1.7: Tokenised money market funds: a market that is still relatively small, but that is being closely monitored

By Alice Schwenninger

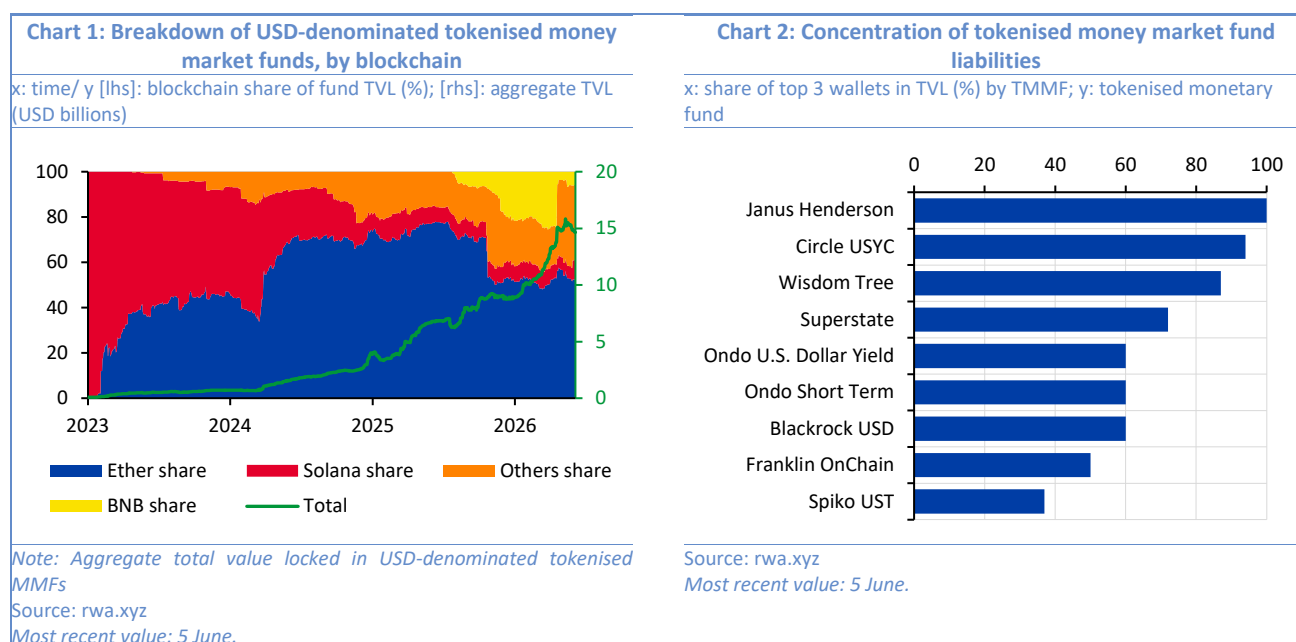
The market for tokenised money market funds remains dominated by US dollar-denominated funds, which accounted for 90% of aggregate TVL as of 5 June 2026. However, structural differences between jurisdictions are apparent. In the United States, the market encompasses traditional asset managers such as BlackRock, stablecoin issuers such as Circle, and a few fintechs. In the euro area, the market was initially based more on partnerships between fintechs, such as Spiko, and entities operating in the **traditional asset management sector**. **Established asset managers** have recently moved into this segment, where they are focusing on issuing new tokenised units within existing funds to broaden their investor base.

The growth of tokenised money market funds raises several financial stability concerns. An asymmetry persists in the degree to which liabilities and assets are tokenised. While fund units may be partially or fully tokenised, underlying assets remain predominantly composed of traditional financial instruments, in particular reverse repos and sovereign bonds, creating links to traditional financial markets. As such, initiatives that help to advance the tokenisation of certain markets – such as the Pythagore project launched in Europe by the Banque de France and Euroclear to tokenise the NEU CP market – may indirectly benefit tokenised funds.

Furthermore, money market funds are generally available on several blockchains in order to reach a diverse investor base (see Chart 1). This multi-chain distribution approach helps to segment investors according to the specific characteristics of different blockchains: some, such as Ethereum, are used more by institutional investors, whereas others, such as Stellar, are geared more towards retail investors. Echoing the approach taken by traditional funds, some money market funds apply different minimum investment thresholds to different blockchains for the same fund, ranging from USD 20 for Stellar to USD 5 million for Ethereum. An analysis of the top ten tokenised money market funds denominated in US dollars reveals a high concentration of tokenised money market fund wallets (see Chart 2): the share of the top three wallets in a fund's total value locked often exceeds 50%.

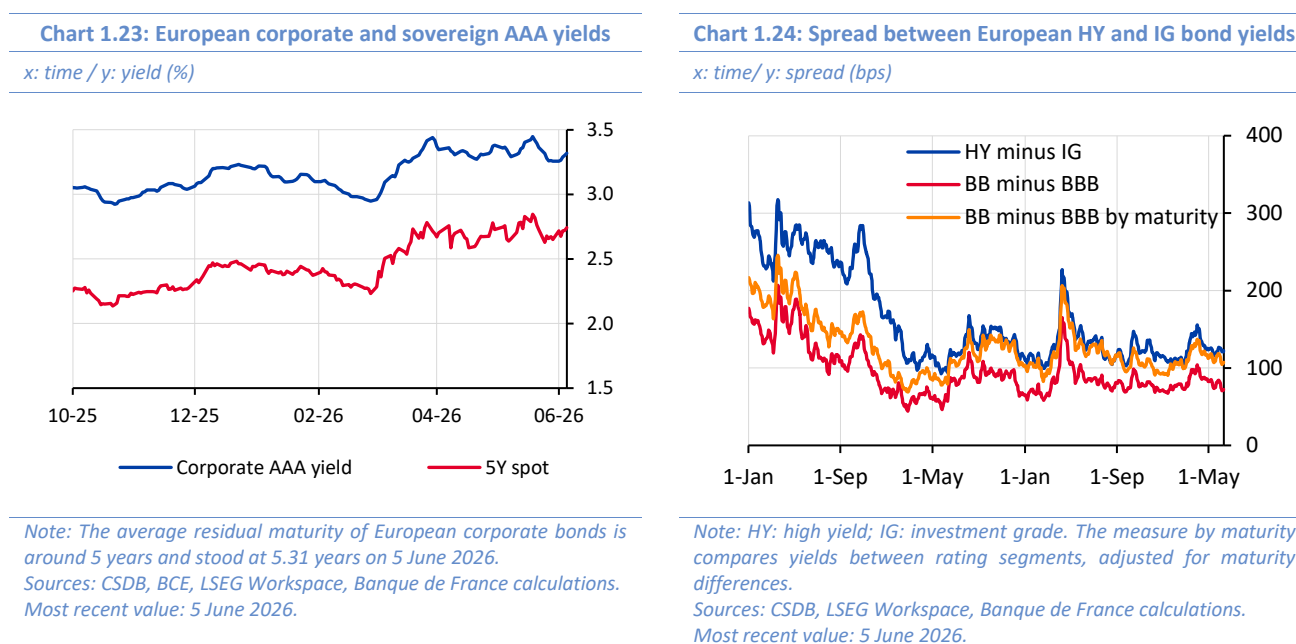
Finally, tokenised money market funds remain vulnerable to the fragmentation of blockchain infrastructure.⁴⁴ Weak interoperability has resulted in fragmented liquidity, which could affect the orderly functioning of the market in times of stress. Initiatives are currently underway to improve interoperability between blockchains, focusing on several aspects: settlement assets (in the context of central bank digital currency projects, such as Pontes), technical solutions such as bridges (Kairos and Nexus projects) or the standardisation of programmable compliance (GL1 project).

⁴⁴ In (H. S.) (2026), “Tokenomics and blockchain fragmentation”, BIS Working Papers No. 1335, 10 March.



Despite geopolitical tensions and high issuance volumes, corporate bond spreads remain thin

Investor appetite for European corporate debt remains very strong, helping to keep spreads at historically narrow levels despite geopolitical and energy risks. Sustained demand persisted despite the small correction in AI-related securities in January and February, as well as a surge in corporate yields linked to the increase in risk-free rates (see Chart 1.23). Against this backdrop, spreads remained broadly contained, including in the transport and industrial sectors, despite these being more exposed to energy shocks (see Chart 1.24). The trend observed in spreads is also evident in the short-term NEU CP market. Besides the possibility that investors may be underestimating the risk, this stability may also reflect a shift by the riskiest issuers from the bond market to private credit, although that segment is itself under pressure.



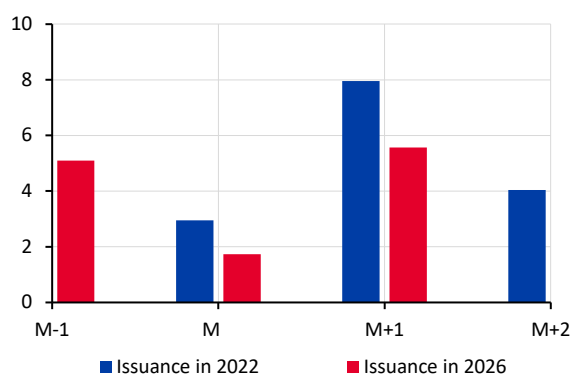
However, tight spreads do not preclude the possibility of a differentiation trend beginning to emerge among IG issuers. Some information technology firms are seeing their spreads widen, reflecting waning confidence

in the sustainability of their business models at a time of fast-accelerating AI-related capabilities. Conversely, the best-rated issuers, particularly hyperscalers (AAA for Microsoft, AA+/AA for Amazon, Alphabet and Meta), continue to benefit from exceptionally favourable financing conditions. Supported by strong, targeted demand, this situation is encouraging the emergence of issues with exceptionally long maturities, as well as a significant easing of covenants on some new securities. However, sustained issuance volumes and continuing spread compression are implicitly based on the assumption of strong revenue growth for the hyperscalers' main clients, notably OpenAI and Anthropic, by 2030 – a trajectory whose economic drivers remain uncertain at this stage.

Turmoil linked to the war in Iran does not appear to have affected the short-term financing of non-financial corporations (NFCs). The negotiable European commercial paper (NEU CP) market, which had a total outstanding value of EUR 65.3 billion at the end of April 2026, was not hit by an issuance freeze as it was during the Covid-19 shock. Money market funds are absorbing a significant share of issuance, across all residual maturities. Signs of resilience continue to be evident, including among the six energy sector companies (or energy trading firms) active in the NEU CP market. Compared with the shock of March 2022, which also affected this sector, the short-term financing needs of the companies in the sample have driven an upward trend in issuance volumes since March 2026. However, whereas both episodes of stress resulted in a shortening of maturities at issuance, that trend continued into April 2026 (average maturity of 24 days, compared with 71 days in January 2026), but had quickly subsided by April 2022 (see Chart 1.25).

Chart 1.25: Issuance by energy firms on the NEU CP market

x: time (M: month in which the conflict broke out) / y: issuance (EUR billions)



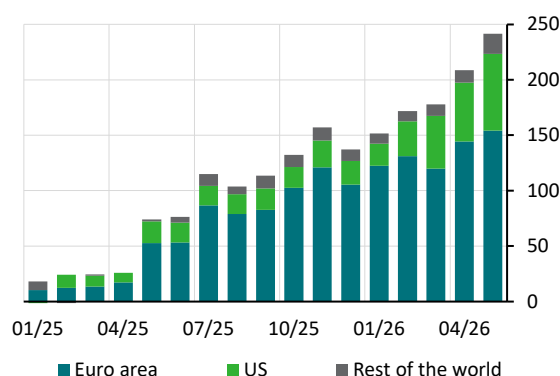
Note: the sample comprises six NFCs. The chart compares the amounts issued at the outbreak of the war in Ukraine in 2022 and during the conflict in the Middle East in 2026, looking at the months around the shock (M-1 corresponds to the month preceding the conflict).

Source: Banque de France.

Most recent value: April 2026

Chart 1.26: Cumulative net issuance in EUR, by issuer's domiciliation region

x: time / y: cumulative net issuance (EUR billions)



Sources: CSDB, Banque de France calculations.

Most recent value: 31 May 2026.

NFCs' outstanding bond debt continued to rise in 2026 at a more moderate pace than in the second half of 2025, despite a sharp increase in bond issues linked to AI investments. In France, outstandings stabilised following a sharp rise, reaching EUR 748 billion as of 31 May 2026. The growth was driven mainly by IG issues, particularly in the BBB segment, while HY outstandings remained broadly unchanged. While European issuance flows have slackened, issuance by US big techs has accelerated strongly, fuelled by massive needs linked to investments in AI and data centre infrastructure. European bond markets have therefore absorbed a wave of very large-scale issues, notably by Amazon, Alphabet and Oracle. The rise of US issuers is reflected in their growing share of EUR-denominated issues: between October 2025 and March 2026, companies

domiciled in the United States accounted for nearly two-thirds of net corporate euro-denominated issuance (see Chart 1.26). This trend could intensify further if bond financing takes over from private credit, which may find itself more constrained in providing AI financing given the tensions observed in this segment at the start of the year.

1.3 NFCs have limited room for manoeuvre against a backdrop of persistent vulnerabilities and macroeconomic risk

The worsening international environment could put pressure on non-financial corporations

Growth in France is being held back by the negative supply shock caused by the geopolitical crisis and by the upward revision to interest rate expectations. Originally forecast at 1% for 2026, growth was estimated at 0.5% in the baseline scenario of the Banque de France's June 2026 projections, after being revised downwards by 0.4 pp compared with March, partly due to upward adjustments to oil price assumptions, but above all to economic activity proving less resilient than expected in the first quarter of 2026. Growth is expected to rebound to 0.9% in 2027 and then to 1.2% in 2028, underpinned by a recovery in private domestic demand, particularly household consumption and business investment. Following a sharp downward surprise for household investment in the first quarter of 2026, private investment is expected to recover at a slower pace due to higher interest rates. Further out, interest rates on household loans are likely to go up faster than previously anticipated, which could depress home loan production. In the adverse scenario, France avoids a recession for 2026 overall, recording weak growth (0.3%). Under the severe scenario, GDP growth comes to zero in 2026 and is mildly negative in 2027 (-0.1%).

In a geopolitical context characterised by considerable uncertainty and heightened macroeconomic risk, NFCs have little room for manoeuvre

Large companies are unevenly exposed to the geopolitical shock. First-quarter 2026 earnings results for 39 CAC 40 companies reveal broadly stable revenues compared with March 2025, albeit with significant differences between sectors. Wholesale and retail trade, energy and distribution performed less well overall than in the first quarter of 2025, while finance and insurance did better. Although manufacturing showed a year-on-year increase in revenues on average, there was significant variation within the sector.

Small and medium-sized enterprises (SMEs) and mid-tier firms, which weathered the shock of 2022 well, are facing this new shock under favourable conditions, judging by 2024 balance sheets. Despite increasing slightly, their energy exposure⁴⁵ remains generally low, with little variation by company size.

However, French banks' exposure to the non-performing loans (NPLs) of French NFCs rose, from 3.3% in the third quarter of 2022 to 4.57% in the first quarter of 2026, compared with a pre-Covid average of 4% in 2019. Compared with the first quarter of 2025, the increase in NPLs as a share of the total portfolio⁴⁶ was driven by the real estate, trade and communications sectors. In terms of company size, the trend was mainly fuelled by mid-tier firms and large companies. In the domestic market, three sectors accounted for half of the outstanding NPLs in the first quarter of 2026: the real estate sector⁴⁷ (23%), the trade sector (16%) and manufacturing (11%). The NPL ratio of these sectors has risen in the domestic market compared with the average recorded in 2019 (average of 2.6% in 2019 compared with 2.9% in the first quarter of 2026 for real estate, 6% in 2019 and 7.4% in the first quarter of 2026 for trade, and 5.7% in 2019 compared with 7.3% in the

⁴⁵ Measured as the ratio of energy expenditure to revenues. Conseil d'analyse économique (2024), *Focus, No. 104, February*.

⁴⁶ For the main six French banking groups: BNP Paribas, Groupe Crédit Agricole, Groupe BPCE, Société Générale, Groupe Crédit Mutuel and Banque Postale

⁴⁷ Real estate activities are defined as those falling within Section L of the NAF Rev. 2 classification, which does not include property development activities. These are included in Division 41 (Building Construction), which comes under Section F (Construction).

first quarter of 2026 for manufacturing). In Germany, ratios rose sharply between 2019 and the first quarter of 2026, reaching levels similar to those in France (real estate: 0.4% in 2019 compared with 3% in the first quarter of 2026; trade: 2.9% in 2019 compared with 5.7% in the third quarter of 2025; manufacturing: 3.8% in 2019 compared with 5.8% in the first quarter of 2026).⁴⁸ The trends observed in France appear to primarily reflect an increase in the risk level of existing outstanding loans. However, since early 2025, flows of new higher-risk loans have outpaced flows of new lower-risk loans (see Box 1.8).

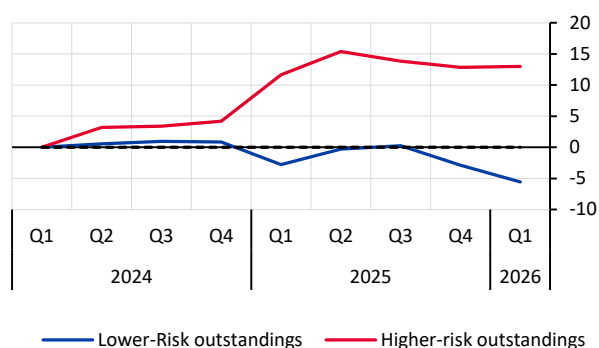
Box 1.8: Change in NFC outstanding loans, by level of credit risk

By Paul Vertier

After rising sharply in the first half of 2025, outstanding high-risk loans of French NFCs stabilised (see Chart 1). This box is based on an analysis of outstanding loans to French NFCs in the AnaCredit database, covering the period from January 2023 to March 2026. Outstanding risky loans are defined as those with a probability of default greater than 2.4%, which corresponds to the third quartile of the unweighted distribution of outstandings between January 2023 and March 2026. Between the first quarter of 2024 and the second quarter of 2025, outstanding risky loans rose by 15.4%, with an increase of more than 10 pp over the first half of 2025. Outstanding lower-risk loans were broadly stable over the same period, decreasing by 0.3%. Since the second half of 2025, however, outstanding amounts of higher-risk loans have stabilised at a level approximately 13% higher than that observed in the first quarter of 2024. Outstanding lower-risk loans, meanwhile, fell slightly to approximately 5% below where they were in the first quarter of 2024.

Chart 1: Growth rate of outstanding loans relative to their level in the first quarter of 2024, by risk category

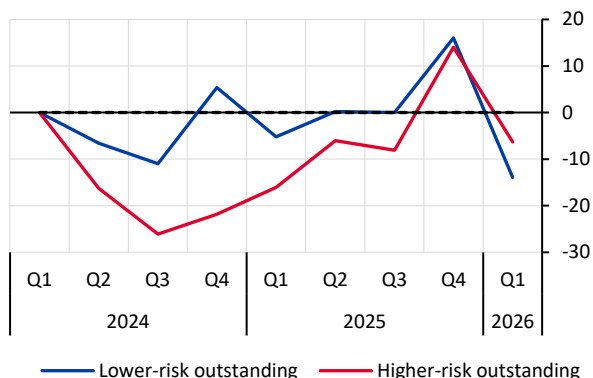
x: time / y: (%)



Note: The third quartile (unweighted distribution of outstandings) of default probabilities between January 2023 and March 2026 in France (2.4%) is used to separate companies' risk profiles; higher- and lower-risk outstandings are associated with a default probability greater or less than this threshold, respectively. The chart excludes loans with a probability of default of 0 or 1.
Source: AnaCredit.

Chart 2: Growth rate of new loans relative to their level in the first quarter of 2024, by risk category

x: time / y: (%)



Note: The third quartile (unweighted distribution of outstandings) of default probabilities between January 2023 and March 2026 in France (2.4%) is used to separate companies' risk profiles; higher- and lower-risk outstandings are associated with a default probability greater or less than this threshold, respectively. The chart excludes new loans with a probability of default of 0 or 1.
Source: AnaCredit.

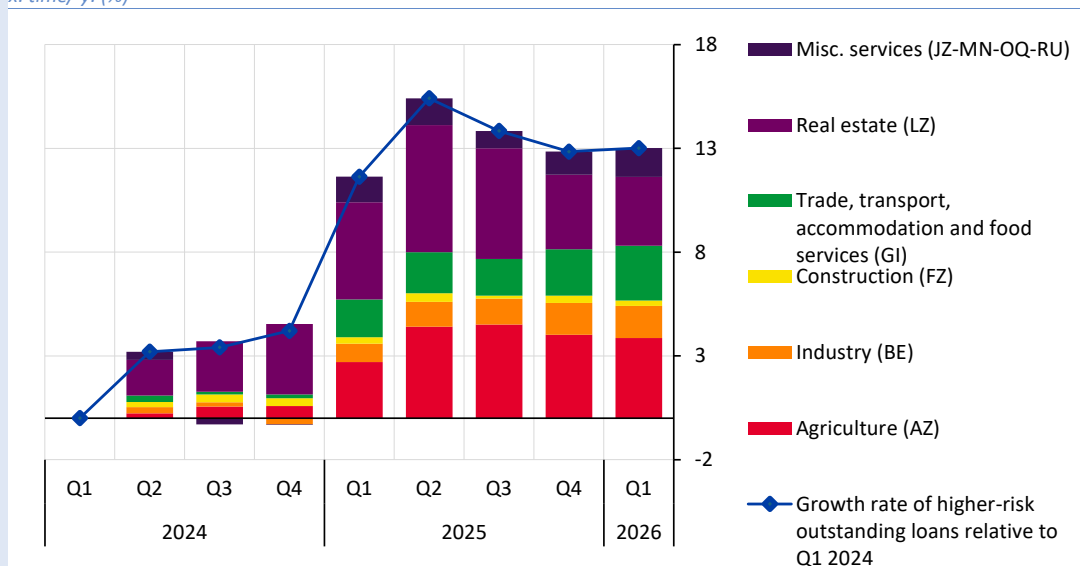
The increase in riskier outstandings between early 2024 and early 2025 mainly reflects a rise in the level of risk associated with existing loans, rather than an increased allocation of new loans to riskier firms. Over the period, new lending flows to higher-risk firms grew at a slower pace than lending to lower-risk firms (see Chart 2). However, since early 2025, flows of new higher-risk loans have outpaced flows of new lower-risk loans.

⁴⁸ Source: FINREP Regulation.

The rise in riskier outstanding amounts since 2024 is observed across most sectors. However, the increase was driven more specifically by real estate and agriculture, as well as, to a lesser extent, by the trade, transport, accommodation, food services and manufacturing sectors (see Chart 3). Since mid-2025, the contributions from real estate and agriculture have fallen, while those of industry, trade, transport, accommodation and food services have risen.⁴⁹

Chart 3: Decomposition of the growth rate of higher-risk outstanding loans relative to their level in the first quarter of 2024, by sector

x: time/ y: (%)



Source: AnaCredit.

Manufacturing is vulnerable to new shocks

By the end of 2025, manufacturing value added was still around 8% off its pre-Covid trend (2015–2019).⁵⁰

Since 2020, the automotive sector has been hit by softer demand, while aerospace continues to face supply chain pressures. The agri-food sector is still suffering from the fall in consumption caused by the inflationary shock of 2022–2023. Other industrial sectors have also been impacted, particularly by negative spillover effects from neighbouring sectors. Manufacturing remains depressed in most advanced economies, with the exception of Spain, which is benefiting from its robust electrical and IT sectors. Sluggish manufacturing in most advanced economies stands in contrast to China's expansion. Chinese industry bounced back quickly from Covid and has continued to grow in recent times, driven by exports, particularly in automotive, electronics and green technology. A quarter of French exports are reportedly under threat from intensifying Chinese competition.⁵¹ In Europe, Germany is the most affected country, with one-third of its exports and two-thirds of its domestic production exposed.

Overall, French NFCs are more vulnerable to an income shock if they have a high level of debt and weak repayment capacity. French NFCs have shown resilience against a series of shocks since 2020, including Covid,

⁴⁹ Although agriculture accounts for a small share of outstanding bank loans (around EUR 70 billion in March 2026, compared with around EUR 600 billion for the real estate sector and EUR 1.4 trillion across all sectors combined), there was a marked increase in higher-risk outstanding loans in this sector in 2025.

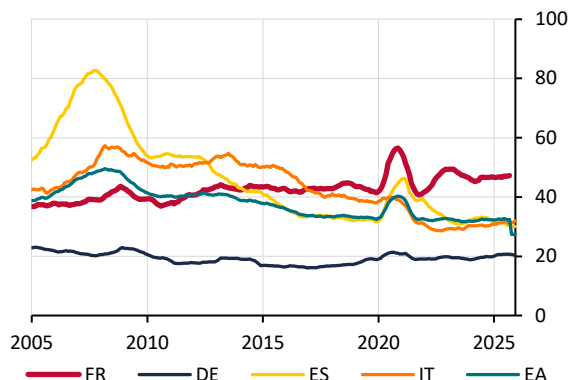
⁵⁰ Coueffé (M.) (2026), "Pourquoi le secteur manufacturier européen et français n'a-t-il pas retrouvé sa tendance pré-Covid?", *Banque de France Bulletin*, 23 April.

⁵¹ Haut-Commissariat à la stratégie et au plan (2026), *L'industrie européenne face au rouleau compresseur chinois*, February. According to the methodology of the Conseil d'Analyse Économique (CAE – Economic Analysis Committee), a sector is considered to be exposed if at least two of the following four indicators exceed a warning threshold: China's gain in market share, loss of market share by competing European exporters, the multiplier effect of Chinese market shares, and the acceleration in China's market share growth. For each indicator, the values observed in China are compared, year by year, with the historical distribution calculated over a moving window; a 0.5-standard-deviation overshoot constitutes the warning threshold.

the 2022 energy crisis and the US trade war. However, they emerged with a debt service ratio (DSR)⁵² that trended upwards in 2025 (47%, rising to 48% in the final quarter) and exceeded those of other major euro area countries (see Chart 1.27). The difference can be explained mainly by the ratio of NFC consolidated debt to GDP, which stood at 75.5% in France, compared with 45.6% in Germany, 52% in Italy and 50.7% in Spain in the fourth quarter of 2025.⁵³

Chart 1.27: NFC debt service ratio

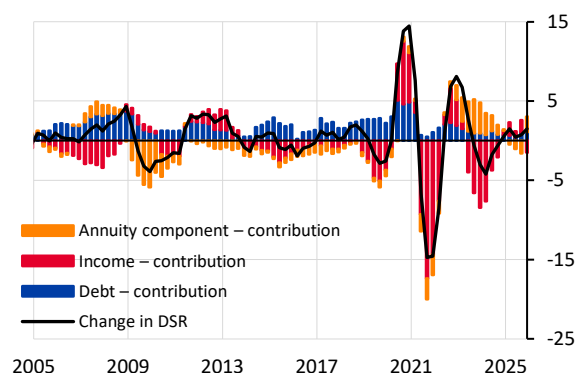
x: time / y: (%)



Source: Webstat (BSI1), QSA
Most recent value: December 2025

Chart 1.28: DSR decomposition

x: time / y: average annual % growth rate



Source: Webstat (BSI1).
Most recent value: December 2025

Business failures have continued to rise since early 2025 and can no longer be explained solely by a post-Covid catch-up effect. Other factors may also be at play, such as rising energy prices, shifting consumer behaviour patterns, longer payment terms and the trade war. By the end of April 2026, the 12-month cumulative number of failures had risen slightly to 70,228, up from 69,978 in March. The increase comes at a time of buoyant business creation: nearly 1.22 million new companies were set up between April 2025 and 2026. However, the upturn in failures is being driven by mid-tier firms and SMEs, whereas start-ups are concentrated among small businesses and especially microentrepreneurs (see Chart 1.30). Since early 2026, failures among medium-tier firms and large companies have been concentrated in the trade, industry and business services sectors. In 2025, the number of microentrepreneur registrations grew to 758,600, an all-time high, primarily in sectors connected with non-store trade and business and individual services: 10% of new businesses were in the postal and delivery sector, 8% in mail-order or door-to-door sales, and 7% in the cleaning sector.⁵⁴

⁵² The debt service ratio (DSR) is defined as interest payments plus amortisation divided by income. The initial formula used to calculate the DSR comes from the BIS (2017).

$$DSR_t = \frac{i_t}{1 - (1 + i_t)^{-s_t}} * \frac{Dt}{Y_t}$$

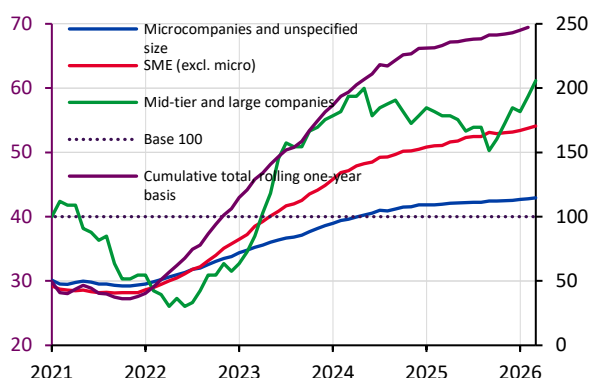
In this equation, Dt is the consolidated debt of companies at date t ; Y_t is the gross quarterly income of companies; i_t is the average annual interest rate on their outstanding debt; and s_t is the average maturity of that debt expressed in years.

⁵³ Banque de France (2026), "Debt ratios by institutional sectors - international comparisons - 2025-Q4", 21 May.

⁵⁴ Lejas (J.) (2026), "Les créations d'entreprises en 2025", *Insee Première*, No. 2092, 28 January.

Chart 1.29: Cumulative failures, by company size

x: time / y: [rhs] change compared with the 2010–2019 average (= 100); [lhs] cumulative number of failures over a rolling one-year period, in thousands



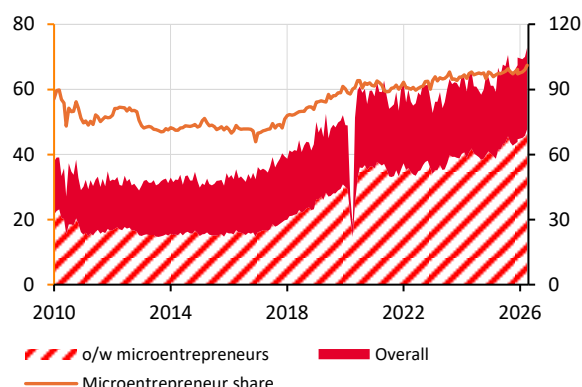
Note: A total of 64 medium-tier firms and large companies failed in February 2026, meaning that the annual cumulative number of failures had almost doubled compared with the 2000–2019 average of around 33.

Source: Webstat (DIREN).

Most recent value: April 2026

Chart 1.30: Business creations and share of microcompanies

x: time / y: [rhs] number of seasonally adjusted business creations, in thousands; [lhs] percentage of creations



Source: INSEE.

Most recent value: April 2026

After slowing sharply due to higher rates, NFC lending growth has been moderate but steady since March 2024, reaching 3.4% in April 2026.⁵⁵ In the first quarter of 2026, outstanding bank loans to NFCs rose by an average of 2.6% year-on-year. Growth in outstanding bank loans is being driven by investment loans, particularly the real estate component, which in March 2026 reached its highest level (5.6%) since January 2022.⁵⁶ Outstanding amounts of other loans also showed a marked increase, driven by non-performing loans and provisions on transactions with doubtful customers.⁵⁷ However, their share of total outstanding loans remains relatively small (approximately 5%). The decline in outstanding cash loans, which has been observed since mid-2023, is accelerating, notably owing to discontinuation of the State-Guaranteed Loans (PGE) scheme (see Chart 1.31). In terms of borrowing sectors,⁵⁸ real estate companies contribute significantly to the annual change in outstanding loans due to the large share of their outstanding loans and their high level of leverage, which is amplified by loans to real estate investment companies (SCIs).

⁵⁵ Banque de France, “Loans granted to domestic non-financial corporations, annual growth rate”.

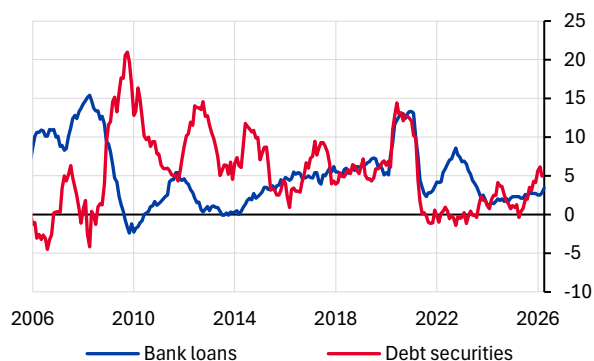
⁵⁶ All borrowing sectors combined.

⁵⁷ Banque de France (2017) “Crédit aux sociétés non financières”, *Méthode*, 26 July.

⁵⁸ Although the business consulting sector is growing faster.

Chart 1.31: NFC financing growth rate

x: time / y: yoy % growth

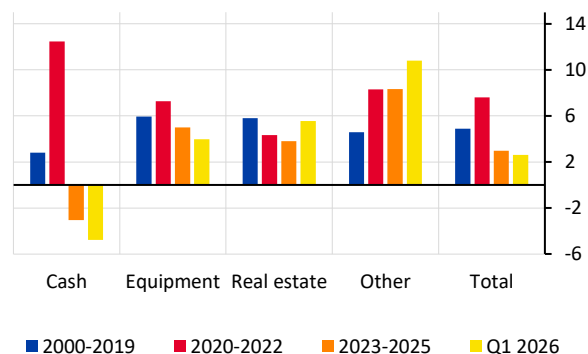


Sources: Webstat (BSI1, SC1).

Most recent value: March 2026 (debt securities) and April 2026 (bank loans).

Chart 1.32: Average annual growth of outstanding loans, by purpose

x: purpose / y: average annual % growth rate



Source: Webstat (BSI1).

Most recent value: March 2026.

Financing via debt securities⁵⁹ picked up in the first quarter of 2026 (see Chart 1.31), mainly because of large companies, which simultaneously scaled back their use of bank loans. In early 2026, robust activity in the primary market was driven by the rapid roll-out of corporate financing programmes, which is typical at the start of the year. This trend was underpinned by persistently favourable issuance conditions, with strong demand for corporate debt keeping spreads at historically tight levels (see above), by the fact that financing costs were slightly below those of new loans, and by the refinancing of several major acquisitions, including Orange's acquisition of MásOrange, Veolia's acquisition of Clean Earth in the United States and L'Oréal's increased stake in Galderma.

The cost of bank financing has risen slightly since the year began. Findings from the *Bank Lending Survey* (BLS) and *SAFE* point to further tightening of bank lending conditions in early 2026. Gradual tightening of credit conditions is also reflected in the average interest rate on outstanding NFC loans, which remains high compared with previous years (see Chart 1.33). According to banks, more stringent conditions are mainly attributable to a rise in perceived risks and increased risk aversion. According to businesses (SAFE),⁶⁰ finance has become dearer and slightly less available, while financing requirements remain unchanged from the last quarter. Despite tougher conditions, approval rates for investment loans continue to be elevated.⁶¹ Most companies cite rising production costs and shortages of skilled labour as the main drags on their business. They report that these costs rose significantly in the first quarter of 2026.⁶² They also expressed concerns about competition and difficulties in finding customers.

⁵⁹ Banque de France, "Debt securities issued by non-financial corporations, Nominal value".

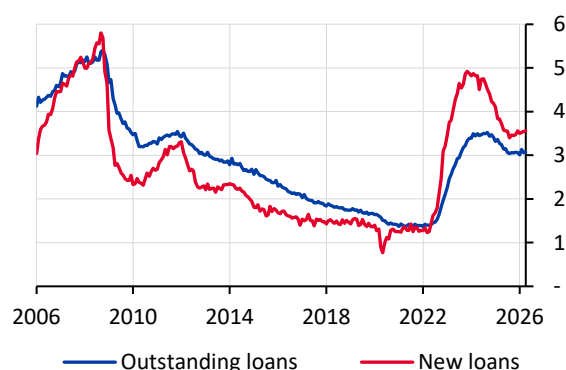
⁶⁰ ECB, "Survey on the access to finance of enterprises".

⁶¹ Banque de France, "Access to bank financing for companies - 2026-Q1".

⁶² ECB, "Survey on the access to finance of enterprises in the euro area - first quarter of 2026".

Chart 1.33: Interest rates on loans to French NFCs

x: time / y: % rate



Source: ECB (MIR).

Most recent value: April 2026

Box 1.9: Although French NFCs have shown resilience to a string of past shocks, their vulnerabilities have increased

By Emilie Da Silva, Lisa Kerdelhué and Edith Stojanovic

This box analyses the increase in the vulnerability of French companies within the context of their worsening repayment capacity, based on their consolidated financial statements. In 2026, against a backdrop of continued uncertainty, some already fragile businesses could experience increased challenges. Since 2021, NFCs have shown resilience in the face of successive shocks, including the surge in inflation, the war in Ukraine and renewed geopolitical tensions, particularly with Iran, which put pressure on their costs, financing conditions and business prospects, contributing to a gradual erosion of their financial position. Unlike in 2022, the energy crisis linked to the conflict in the Middle East is not occurring within the pre-existing inflationary environment caused by the lifting of Covid lockdown measures. At a time of muted demand, however, companies may struggle to pass on higher production costs to selling prices.

However, the resilience of the NFC sector should not obscure the presence of pockets of growing vulnerability. In a sample of 3,156 non-financial groups,⁶³ the proportion of vulnerable firms rose gradually from 3% in 2021 to 12% in 2024. A vulnerable company is defined as a non-financial group whose interest coverage ratio⁶⁴ is strictly less than 3, whose total debt-to-EBITDA (earnings before interest, tax, depreciation and amortisation) ratio is strictly greater than 4 or negative, and whose cash buffer,⁶⁵ expressed in days of revenue, is strictly less than 30. The automotive trade and repair sector is the main driver of the increase in the proportion of vulnerable businesses. In this sector, the share of vulnerable businesses increased sevenfold between 2021 and 2024, while the total number of vulnerable businesses quadrupled. The manufacturing and construction sectors also account for a large number of vulnerable firms, mainly owing to their significant weight within the overall sample.⁶⁶

In 2023 and again in 2024, the interest coverage ratio appears to be the main factor explaining why companies identified as fragile⁶⁷ shifted into the vulnerable category. Past interest rate increases

⁶³ The analysis presented in this box covers 3,156 non-financial groups from the Fiben Groupes database, of which around 70% are mid-tier firms, 20% are SMEs and 10% are large companies. The sample is balanced for the years 2021 to 2024.

⁶⁴ EBITDA/interest expense.

⁶⁵ Cash comprises cash only. Cash equivalents are excluded.

⁶⁶ In 2024, the manufacturing and construction sectors accounted for 29% and 8% respectively of our sample, compared with 27% and 5% of vulnerable businesses.

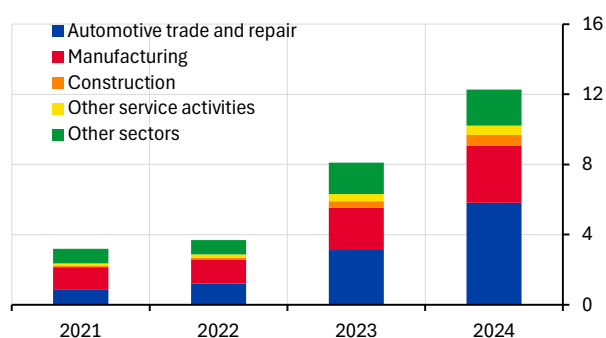
⁶⁷ A fragile company is one that has two poor ratios out of three.

continue to affect the interest burden, although to a lesser extent: 55% of companies that were newly identified as vulnerable in 2023 moved into this category solely due to the ICR factor, compared with 45% in 2024 (these are therefore groups that already had high debt ratios and weak cash positions). This trend took place amid a sharp rise in the cost of debt for French NFCs in 2023 (the interest rate on outstanding debt rose from 2.27% in January to 3.39% at the end of the year),⁶⁸ followed by a milder increase in 2024. At the same time, the proportion of businesses becoming vulnerable due to a decline in their cash position increased from 17% in 2023 to 24% in 2024. This suggests that businesses gradually drew down their cash reserves to cope with the successive shocks that occurred from 2021 onwards (see Chart 2). The leverage ratio contributes little to companies being identified as vulnerable, insofar as most of the firms in the sample (between 57% and 60%, depending on the year) have a ratio of below 4. The level of debt is therefore a factor of long-term vulnerability, without being the main cause of companies moving into the vulnerable zone. Between 2023 and 2024, the proportion of non-financial groups with a cash buffer of less than 30 days rose from 48% to 51%. Cash positions did not worsen in all sectors, and the impact appears to have been felt mainly by construction groups, which accounted for 18% of companies whose liquidity dropped below 30 days, compared with 8% of the total sample.

In most cases, the shift into the vulnerable category is the result of a gradual deterioration (series of shocks) rather than a sudden change. To monitor groups that could quickly become vulnerable, a non-financial group is considered fragile if two of the three ratios examined fall below their thresholds in 2024; these companies therefore have limited room to manoeuvre in the event of a further shock. In 2024, this category made up 22% of the sample, or 708 groups. Of these, approximately one-quarter have an interest coverage ratio of more than 3 but less than 4.

Chart 1: Proportion of vulnerable groups

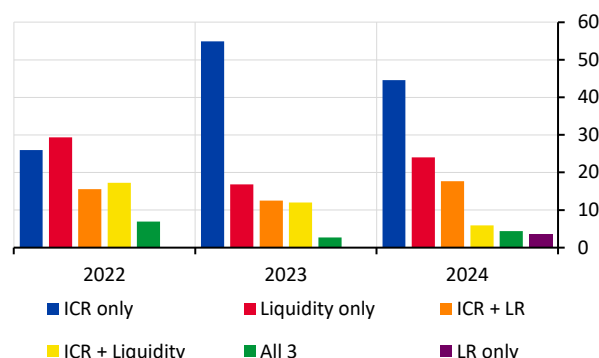
x: time/ y: (%)



Scope: 3,156 groups headquartered in France.
Source: FIBEN Groupes.

Chart 2: Proportion of companies, by vulnerability category

x: time/ y: (%)



Note: LR refers to the ratio of total debt to EBITDA, Liquidity refers to the cash buffer, and ICR is the interest coverage ratio.
Guide: In 2024, 45% of companies that became vulnerable entered this category because their ICR fell below 3. Their cash buffer and leverage ratio were already impaired in 2023.
Source(s): FIBEN Groupes.

After initially stabilising, commercial real estate is experiencing a slight downturn

Although the market showed signs of stabilising in 2025, commercial real estate began dipping again in early 2026. The sector is highly sensitive to financing conditions, which influence participants' investment capacity, and to economic activity, which dictates rental demand. The war in Iran threatens to impact both of these variables, even as the French market, unlike other European markets, experienced a cooling trend in the first quarter of 2026. While the fourth quarter of 2025 saw the highest investment volumes since the downturn

⁶⁸ MIR.M.FR.B.A20.A.R.A.2240.EUR.O | ECB Data Portal

began in late 2022, numbers for the first quarter of 2026 were almost half those of the first quarter of 2025 (EUR 2.5 billion compared with EUR 3.9 billion). The slowdown is evident across all commercial real estate asset classes, but is particularly pronounced in the office segment. Over the same period, transaction prices, which had been stabilising over recent quarters, recorded their steepest fall since the third quarter of 2023 (see Chart 1.34). Besides rising long-term interest rates and increasing geopolitical uncertainty, this trend also stems from oversupply in the rental market. Whereas the amount of office space available (immediate supply) on the Île de France market continues to rise, take-up, i.e. the total number of square metres let or sold to occupiers, continues to fall. Furthermore, average support measures⁶⁹ in this segment have reached an all-time high of 30.5% (see Chart 1.35).

Credit risk associated with commercial real estate remains contained despite a number of risk factors. Real estate companies are highly vulnerable to a rise in interest rates, particularly due to their structurally high levels of debt and significant refinancing requirements, with 48% of outstanding debt having a residual maturity of less than two years as at the end of 2025.⁷⁰ Furthermore, 29% of outstanding loans to real estate professionals are to companies with an EBITDA-to-interest-expense ratio of less than 1.5 and are therefore highly vulnerable to a further deterioration in asset profitability, for example in the event of a higher vacancy rate. Despite risks to the financial health of companies in the sector, the default rate remains low, standing at 4.2% at the end of 2025, compared with 3.7% at the end of 2024. Finally, the five largest French banks' exposure to real estate professionals and affordable housing providers accounted for just 3.1% of the banks' total assets at the end of 2025. The remainder of their exposure to commercial real estate accounts for 3.4% of their assets and mainly comprises operational real estate, i.e. loans to non-real estate companies secured by, or intended for the purchase of, real estate assets. Exposures to assets located outside France, where credit standards are less stringent than those applied to the rest of the outstanding loans, account for 25% of the total (up 0.7% on end-2024). Real estate professionals saw their share of lending fall by 0.8 pp, while operational real estate's share increased by 0.7 pp.

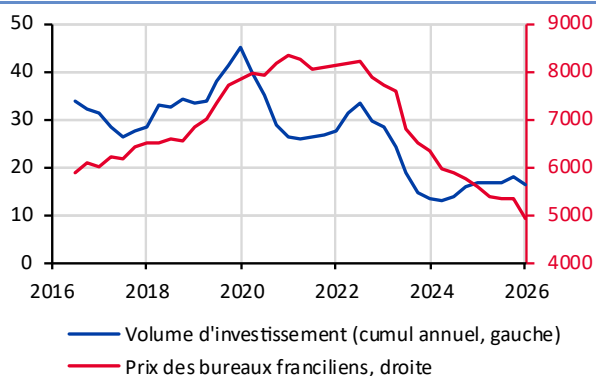
Liquidity pressures on real estate funds appear to be easing. Open-ended retail funds are finalising several real estate disposals and are beginning to deactivate liquidity management tools in order to honour redemption requests. This situation partly explains the automatic increase in outflows observed for real estate collective investment schemes (OPCIs) and real estate investment companies (SCIs) marketed through unit-linked life insurance policies at the end of 2025 (EUR 887 million in the fourth quarter of 2025, up from EUR 309 million in the third quarter).

⁶⁹ Support measures include all customer concessions granted by the landlord to the tenant, such as rent waivers, landlord contributions to renovation work, graduated rent payments over a specified period, or early handover of premises. These measures serve to artificially maintain the level of nominal rents but reduce the actual rent received.

⁷⁰ Source: Le financement de l'immobilier commercial par les banques françaises en 2025 (ACPR). The ACPR will publish the document during the third quarter of 2026. The analysis covers real estate companies, excluding affordable housing providers, which make up the most at-risk segment.

Chart 1.34: Prices and investment volumes

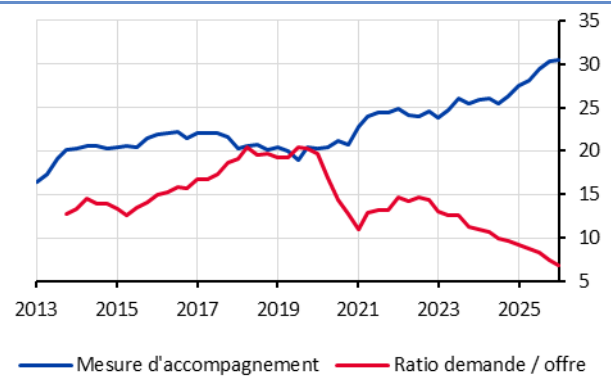
x: time / y [lhs]: (EUR billions); [rhs]: (EUR)



Sources: BNP Paribas, Immostat.
Most recent value: Q1 2026

Chart 1.35: Support rates and demand/supply ratio

x: time / y: (%)



Note: Take-up in quarter t of immediate supply available in t-1.
Source: Immostat.
Most recent value: Q1 2026

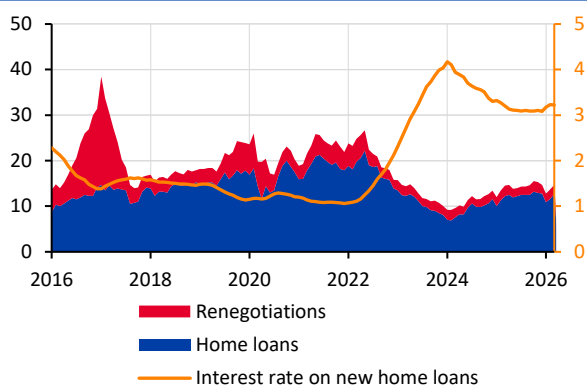
Growing uncertainty is holding back the residential real estate recovery

French households are dealing with a worsening macrofinancial environment. The unemployment rate has been rising steadily since 2023 and reached 8.1% in the first quarter of 2026. Although the rate remains below pre-pandemic levels (average of 9.4% over 2015–2019), this is its highest level since the first quarter of 2021. At the same time, real gross disposable income stalled in 2025, rising by 0.6% compared with 2.5% in 2024. The inflationary increase following the conflict in the Middle East, coupled with an uptick in lending rates in the first quarter of 2026, has placed further strain on households.

Against this backdrop, the residential real estate market remains in wait-and-see mode. Residential real estate in France is recovering more slowly than in the rest of the euro area, and the upturn is more pronounced in the existing homes segment than among new builds. In the existing homes market, 12-month cumulative transactions flattened out in the first quarter of 2026, after rising by 12.5% in 2025 compared with 2024. Similarly, the price index was broadly stable year-on-year in the first quarter of 2026, following growth in 2025 (1.1% in metropolitan France in 2025, 1.4% in Paris and 0.7% in Île de France). In the new-build segment (around 7% of total transactions in 2025), the supply side is showing signs of improvement, while demand remains sluggish. 12-month cumulative housing starts rose in early 2026 but, in March, were still 29% below the average recorded over 2017–2021. On the demand side, 12-month cumulative reservations remain at a record low, down 45% on 2009–2022. The market is recovering more slowly in France than elsewhere in the euro area. In real terms, i.e. adjusted for inflation, real estate prices rose by 3% year-on-year in the euro area in the fourth quarter of 2025, but remained virtually unchanged in France (see Chart 1.37). The slower pace is partly due to France's fixed-rate home financing model and is consistent with the delayed fall in prices during the period of rising interest rates that began in 2022. According to the Banque de France's June 2026 projections, the rise in lending rates, which began in January, is poised to affect the trend in real estate prices over the coming quarters.

Chart 1.36: Monthly home loan production and interest rates

x: time/ y [lhs] (EUR billions); [rhs] interest rate (%)



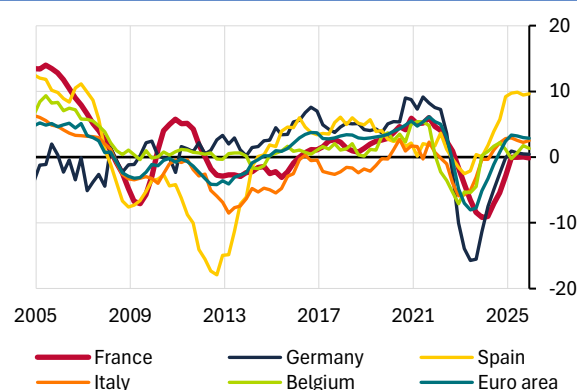
Note: Rates calculated over four rolling quarters.

Source: Banque de France.

Most recent value: March 2026.

Chart 1.37: Real housing prices – European comparison

x: time / y: yoy (%)



Note: Real price indices (2015 = 100) are calculated by deflating nominal prices using the household consumption deflator. Seasonally adjusted data.

Source: OECD, Banque de France calculations.

Most recent value: end-December 2025

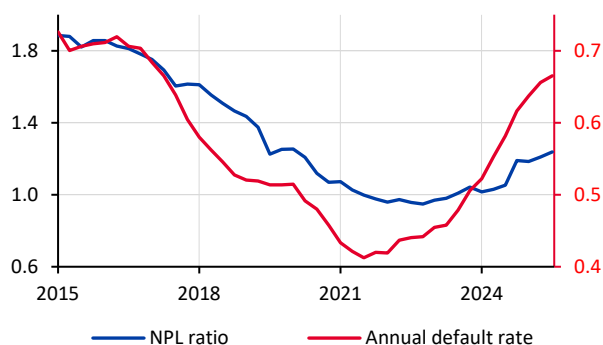
The home loan market is stabilising, having been weakened by rising uncertainty and a downturn in the labour market. Excluding renegotiations, seasonally adjusted home loan production edged up in the first quarter of 2026 relative to the first quarter of 2025 (+4.6%) but was down on the fourth quarter of 2025. According to ECB survey data,⁷¹ French banks expect softer demand in the second quarter of 2026 after a flat first quarter, which could be partly attributable to tighter financial conditions. Specifically, after holding steady for eight months, the interest rate on new loans (excluding renegotiations) rose slightly at the start of 2026, reaching 3.22% in March (see Chart 1.36). Although it is still 10 bps short of its level at the start of 2025, its momentum is being driven by the rise in long-term interest rates. In terms of the makeup of borrowers, first-time buyers remain the largest group in new loan production, accounting for 43.4% of new loans in March 2026. **Delinquency rates on home loans have been increasing at a moderate pace since the fourth quarter of 2021, in line with the rise in the unemployment rate:** the default rate climbed from 0.36% to 0.61% in the first quarter of 2026, on a par with levels in late 2017 (see Chart 1.38). This increase is progressively passing through to the non-performing loan ratio, which rose to 1.25% in the first quarter of 2026 from 0.95% in the first quarter of 2023. It is now back at its pre-Covid level, although it remains below the euro area average and well below its 2015 level. An analysis of the determinants of default rates highlights the predominant role played by the unemployment rate and credit standards (see Chart 1.39),⁷² which have accounted for 60% and 15%, respectively, of the change in the default rate since 2007.

⁷¹ Euro area bank lending survey

⁷²The determinants of the default rate are identified using a probit model estimated on granular loan data, supplemented with the *département*-level unemployment rate. The one-year probability of default, $\Pr(y_{i,t} = 1)$ is calculated for each outstanding loan i in quarter t between the first quarter of 2007 and the first quarter of 2025. $\Pr(y_{i,t} = 1) = \Phi(\beta_0 + \beta_1 \cdot \text{Borrower characteristics} + \beta_2 \cdot \text{Underwriting criteria} + \beta_3 \cdot \text{Time since origination} + \beta_4 \cdot \text{Macrofinancial conditions})$ where Φ is the cumulative normal distribution function.

Chart 1.38: NPL ratio and annual default rate, home loans

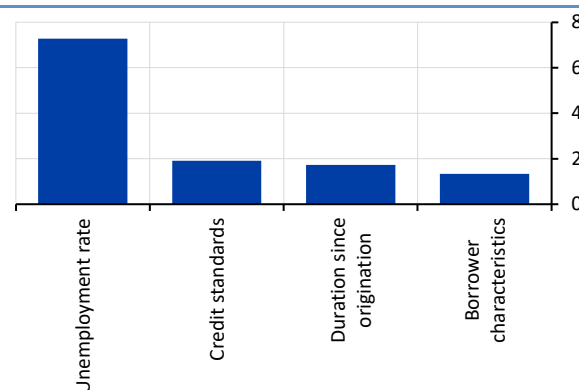
x: time/ y [lhs]: outstanding NPLs (%); y [rhs]: default rate (%)



Note: Default rates calculated over four rolling quarters. Source: Corep. Most recent value: first quarter of 2026.

Chart 1.39: Standardised effect of the main determinants on the annual default rate for home loans

y (bps)

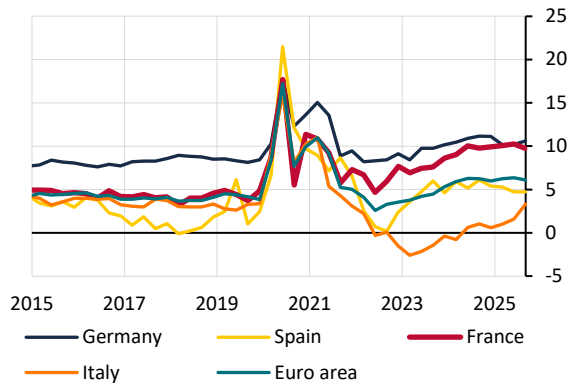


Note: Contributions derived from a probit model estimated on granular loan data, supplemented with the département-level unemployment rate. The impact of a one-standard deviation change is first estimated for each variable. The individual effects are then aggregated, taking covariance of the coefficients into account. Source: Crédit Logement, Banque de France calculations.

The increase in delinquency following recent macrofinancial shocks is offset by households' improved financial position. With regard to debt, the analysis described above of the determinants of home loan defaults indicates the absence of any identifiable impact from the debt-service-to-income ratio since 2020, suggesting that the borrowing standard introduced by the HCSF has played an important role in reducing the risks to financial stability. Use of the flexibility allowed under the standard is increasing, while remaining below the regulatory ceiling, set at 20% of quarterly home loan production: it stood at 17.5% in the first quarter of 2026 across all banks, compared with 15.7% in the first quarter of 2025 and 15.3% in the first quarter of 2024. At the same time, the household debt ratio has fallen significantly from the peak reached in 2022 (90% of gross disposable income in the fourth quarter of 2025, compared with 102% in the second quarter of 2022), which has also helped to limit vulnerabilities. On the asset side, the financial savings rate, although down slightly since the second quarter of 2025, remains elevated (9.1% in the fourth quarter of 2025, roughly double its average over 2012–2019; see Chart 1.40). These dynamics have led to a decline in the proportion of households with a financial buffer of less than one month's income, particularly among the most vulnerable households (see Chart 1.41). These elements are complemented by structural factors that support resilience, notably the robustness of the French home lending model, characterised by mainly fixed-rate loans, assessments based on borrower solvency rather than asset price, and extensive use of guarantees rather than mortgages.

Chart 1.40: French financial savings rate

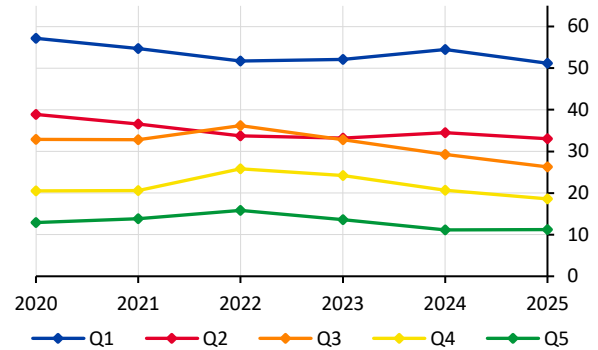
x: time/ y (% of disposable income)



Note: Rates calculated over four rolling quarters.
Source: Banque de France.
Most recent value: fourth quarter of 2025.

Chart 1.41: The proportion of households without a basic financial buffer is trending downwards

x: time/ y (%)



Note: Proportion of households reporting that they would be unable to cope with an unexpected expense equivalent to one month's income. Q1 to Q5: household income distribution quintiles. Annual averages based on monthly data.
Source: Consumer Expectations Survey (ECB).
Most recent value: 2025.

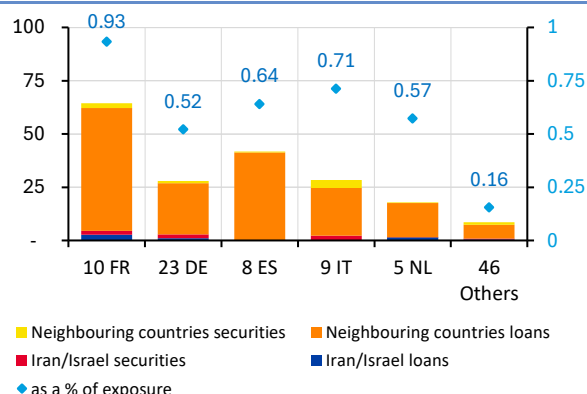
1.4 Banks and insurers remain resilient in an uncertain environment of the year and remain in a sound prudential position.

French banks' exposure to counterparties in countries linked to the conflict in Iran was minimal in the first quarter of 2026. Exposure to Israeli and Iranian counterparties came to EUR 4.5 billion, or 0.07% of total exposure (see Chart 1.42). When neighbouring countries are included, total exposure amounts to EUR 59.9 billion, or 0.87% of total exposure, primarily involving the United Arab Emirates (EUR 26.3 billion), Saudi Arabia (EUR 11.6 billion) and Qatar (EUR 11.3 billion). In terms of financial instruments and counterparties, the vast majority of exposure stems from loans (94%) and is concentrated with credit institutions (30%), general government (28%) and NFCs (26%).

The loan portfolios of French banks remain diversified, limiting their exposure to sectors with the greatest sensitivity to oil and gas prices, which account for 15.1% of French banks' NFC loan portfolios (based on NACE Level 2 classification). Non-performing loan (NPL) ratios for these loans are higher than those in sectors with lower levels of consumption (see Chart 1.43). The construction sector has the highest NPL ratio (8.9%). However, this sector makes up only a small proportion of the overall NFC loan portfolio (4%).

Chart 1.42: European banks' exposures to Middle Eastern countries, first quarter of 2026

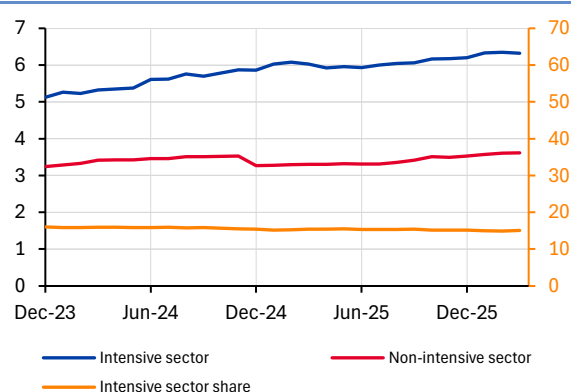
x: European banks by country / y [lhs]: amount in EUR billions; y [rhs]: share of total exposures



Source: FINREP reporting, ACPR calculations.

Chart 1.43: Share of IFRS 9 stage 3 loans with energy exposure

x: year / y: ([lhs]: amount in EUR billions, [rhs]: share of total exposures)

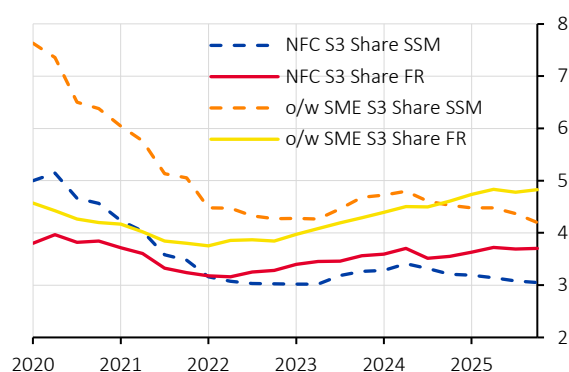


Source: AnaCredit euro area data, ACPR calculations.

For European banks, particularly those in France, the risks associated with the war in Iran mainly concern indirect macroeconomic effects that could increase credit risk. The credit risk of businesses (including SMEs) has risen due to the worsening macroeconomic situation in the euro area and the increase in business failures, which are up by 17% compared with their pre-Covid average (2010–2019). Outstanding NFC loans climbed by 4.5% between the first quarter of 2025 and the first quarter of 2026, but the quality of these loans deteriorated as the share of credit-impaired loans (IFRS 9 stage 3) rose by 15 bps year-on-year to reach 3.70%. In the SME segment, the share was up 22 bps to 4.83%. The construction sector has the highest NPL ratio, although its share of the overall NFC portfolio remains small, at 4.3% (see Chart 1.47).

Chart 1.44: Share of stage 3 loans in the NFC portfolio

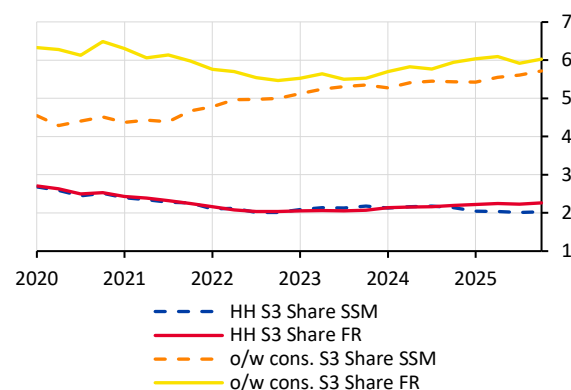
x: year / y: stage 3 share (%)



Source: FINREP reporting, ACPR calculations.

Chart 1.45: Share of stage 3 loans in the household portfolios of French and European banks

x: year / y: stage 3 share (%)



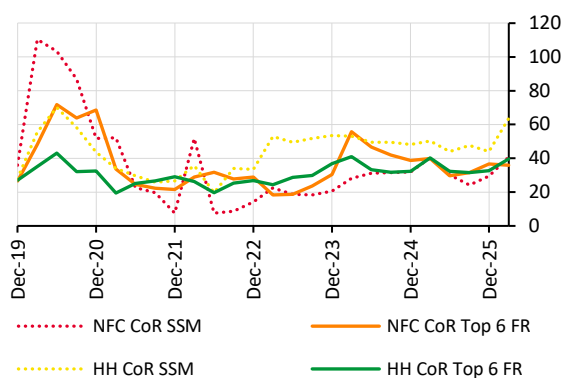
Source: FINREP reporting, ACPR calculations.

The quality of household loans also deteriorated, but to a limited extent. Loans to households grew moderately between the first quarter of 2025 and the first quarter of 2026, rising by 0.93%, but the share of stage 3 loans increased by just 6 bps (see Chart 1.45). Despite a challenging economic climate, the consumer

loan portfolio also remains under control, with the share of stage 3 loans showing contained growth (8 bps).⁷³ At the same time, while European banks recorded a decline in credit risk across their household portfolios over the same period (the share of stage 3 loans fell by 10 bps), they reported a more significant increase than French banks in credit risk on consumer loans, which climbed by 29 bps. The annualised cost of risk on the household portfolio was more or less the same as in the first quarter of 2025, but nevertheless stands at 40 basis points of outstandings, or the highest level since the Covid-19 crisis (see Chart 1.46).

Chart 1.46: Cumulative annualised cost of risk

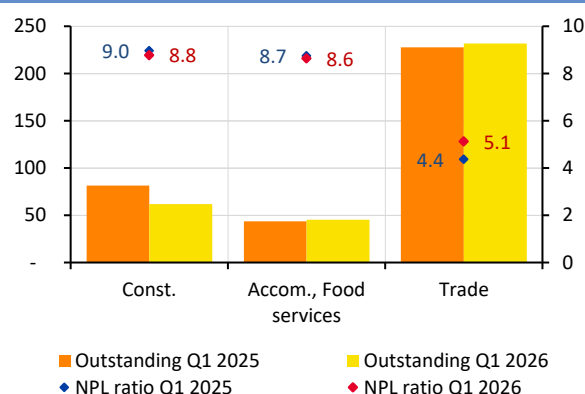
x: year / y: cumulative annualised cost of risk as a share of outstandings (%)



Source: FINREP reporting, ACPR calculations.

Chart 1.47: Sectors recording the highest NPL ratios

x: year / y: stage 3 share (%)



Source: FINREP reporting, ACPR calculations.

French banks' exposure to the private credit sector grew significantly in 2024 (by 24%), but remains very limited in volume terms, standing at EUR 28 billion. Exposure is mainly through secured and preferred financing provided to funds, which are both competitors and partners of the banks. While the amounts remain contained, non-transparent exposures, significant leverage and high concentration levels (the top ten funds account for 52% of the total outstanding amount, and fund investments are heavily concentrated in the US tech sector) all call for enhanced monitoring.

The bank-sovereign nexus is growing, but French banks' exposure to the French sovereign remains relatively limited when compared against total assets and the exposure of other European banks to their domestic sovereigns. In March 2026, the exposure of the six leading French banks (loans and debt securities) to general government rose once again, growing by 9.5% year-on-year to reach EUR 978.4 billion, or 10.6% of total assets.⁷⁴ This trend was mainly driven by growth in the outstanding amount of government debt securities, which rose by 12.2% over the year (EUR 772.9 billion), and forms part of a broader uptrend in sovereign debt holdings across all geographical regions. The same trend can be seen at other European banks, reflecting efforts to optimise liquidity reserves. As regards the French sovereign-bank nexus, French government debt securities rose by 11.1% to make up 24.2% of the government debt securities portfolio. However, a rise in the term premium on French bonds would have limited consequences, as more than one-third of French government securities are recognised at amortised cost, rendering the profit and loss account insensitive to changes in market conditions. Furthermore, French banks' exposure to French sovereign debt accounted for

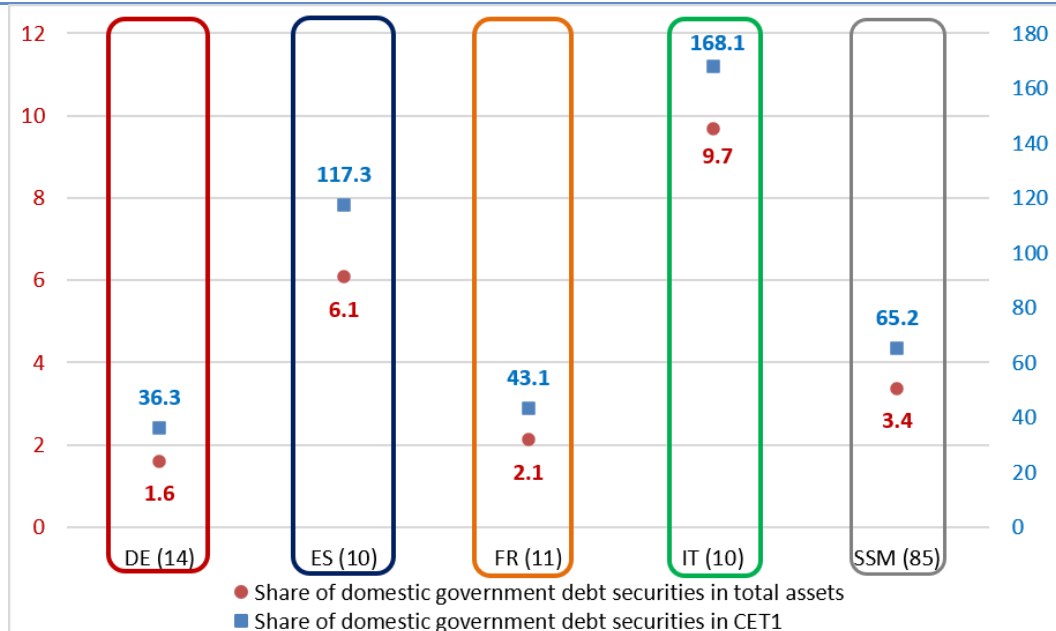
⁷³ Consumer loans are the main source of debt for the least well-off households, which have a higher proportion of non-discretionary expenses in their budgets and are more vulnerable to recent shocks. The change in the number of applications for household debt resolution, 73% of which involve consumer loans, also points to a modest increase in credit risk (9.8% increase in 2025, but still 30% below the 2015 level).

⁷⁴ Unlike in Box 1, the bank-sovereign nexus is measured here at the level of French banking groups (rather than on a geographical basis) and includes loans to general government (in addition to debt securities).

just 2.1% of their total assets in the first quarter of 2026, compared with an average of 3.4% across the euro area (6.1% in Spain and 9.7% in Italy; see Chart 1.48).

Chart 1.48: Share of domestic government debt securities as a % of total assets and as a % of total CET1 – first quarter of 2026

y: [lhs]: % share of total assets; [rhs]: % share of CET1.



Notes: The number in brackets shows the number of credit institutions in each sample

Source: FINREP reporting, ACPR calculations.

As in previous years, the most adverse interest rate scenario in terms of a decline in the economic value of equity (EVE) would be one featuring an increase in interest rates. The impact of such a scenario (200 bps increase in rates) has, however, gradually increased, reaching -8.9% of French banks' Tier 1 capital at end-March 2026, compared with -6.6% in 2024. This sensitivity stems from the fact that higher rates impact liabilities earlier, affecting funding costs, whereas the predominance of fixed-rate loans on the asset side prevents banks from benefiting from the increase in rates. Higher interest rates also have an adverse impact on the portfolio of bonds held at fair value. Changes to banks' interest rate risk management strategies are therefore a focus of attention for supervisors, given that the conflict in the Middle East has altered expectations about the future path of interest rates.

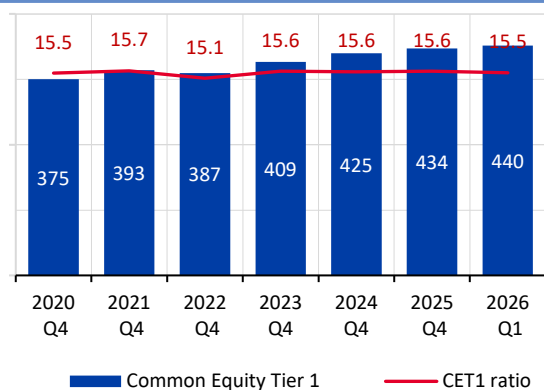
Despite these uncertainties, banks continued to report markedly improved results, both for full-year 2025 and the first quarter of 2026, and enjoy a sound regulatory position, enabling them to look ahead to the coming quarters with relative confidence. After growing strongly in 2024 and 2025, by 8% and 5.6% respectively, net banking income (NBI) continued to rise in the first quarter of 2026, increasing 6.5% year-on-year, driven by net interest margin (up 11.4%) and commission income (up 5.4%). The moderate rise in operating expenses (2.7%) created a positive scissor effect and improved operational efficiency (cost-to-income ratio of 65.9%). The cost of risk increased in real terms (by 13.8%), in line with banks' forecasts. Net income rose by 7.5%, and although profitability indicators have improved over the past year, they remain below those of euro area and US/UK banks.

The Common Equity Tier 1 (CET1) solvency ratio of the six main French banking groups stood at 15.51% in the first quarter of 2026, virtually unchanged year-on-year (-8 bps) (see Chart 1.49 and Chart 1.50). The increase in CET1, by 3.4% year-on-year to EUR 439.6 billion, was offset by the rise in risk-weighted assets

(RWA) in the denominator, which was up 3.9% to EUR 2,833.7 billion. CRR3 came into application in 2025, which resulted in a 39.1% increase in RWA for operational risk and a 1.7% decrease in RWA for credit risk, driven by an 8% fall in RWA for corporate exposures, partially offset by a 2% rise in RWA for retail exposures. Implementation of the output floor, which has been temporarily set at 50%, has had no impact so far.

Chart 1.49: CET1 ratio

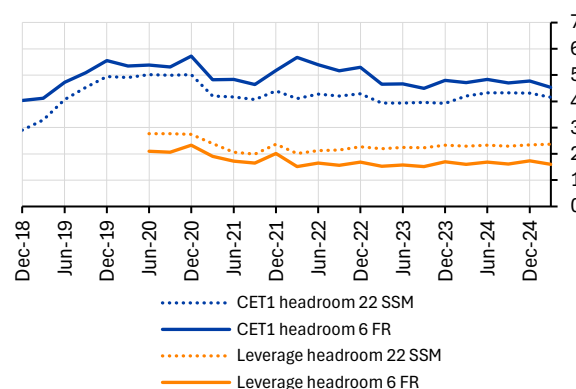
x: year / y: CET1 (EUR billions) and ratio (%)



Source: COREP reporting, ACPR calculations.

Chart 1.50: CET1 and leverage headroom

x: quarters / y: capital and leverage headroom (%)



Source: COREP reporting, ACPR calculations.

The liquidity coverage ratio (LCR) and net stable funding ratio (NSFR) of the six main French banking groups remain well above regulatory thresholds, at 142.7%⁷⁵ and 114.3% respectively in March 2026. The crisis in the Middle East has not derailed funding plans for 2026. The medium- and long-term debt issuance targets set out in the plans are slightly lower than those of 2025. French banks had already conducted between 25% and 50% of these issues by late 2025/early 2026, lessening their exposure to market volatility and giving them greater flexibility in their issuance schedules.

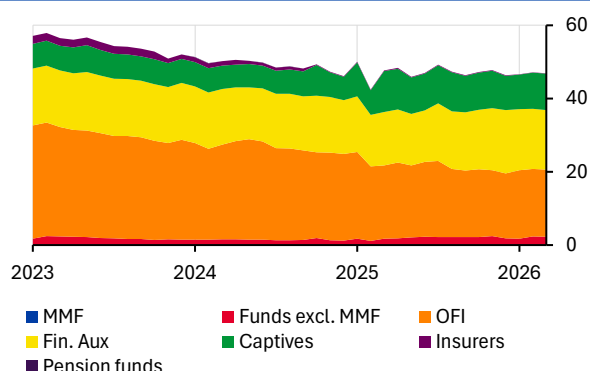
Banks' credit exposure to NBFIs remains limited, but undrawn credit facilities are on the rise

Interconnections between banks and non-bank financial intermediaries (NBFIs) revolve around the funding that banks receive from NBFIs, banks' credit exposures to NBFIs, and derivative exposures. At the end of March 2026, French banks' credit exposures to European non-banks stood at EUR 92 billion across all instrument types (repos, term loans, deposits, credit facilities and revolving credit). Of these, drawn credit lines accounted for 50% of exposure. Financial auxiliaries receive 35% of these credit facilities, compared with 39% for other financial intermediaries and 21% for financial captives.

⁷⁵ Average LCR over a rolling 12-month period.

Chart 1.51: Drawn credit lines made available by French banks to euro area NBFIs

x: time / y: amount in EUR billions

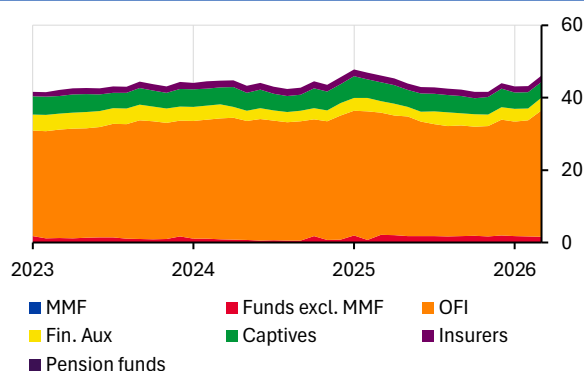


Most recent value: March 2026.

Source: AnaCrédit.

Chart 1.52: Undrawn credit lines made available by French banks to euro area NBFIs

x: time / y: amount in EUR billions



Most recent value: March 2026.

Source: AnaCrédit.

These instruments are likely to augment the procyclicality of banks' credit exposures: credit lines are generally made available during quiet periods but drawn down in times of stress, at which point they appear on bank balance sheets. Since 2023, granular data have shown a downward trend in outstanding amounts, but an increase in credit facilities made available but not yet drawn down (see Chart 1.52), which are now on a par with drawn-down lines (EUR 46 billion at the end of March 2026). Other financial intermediaries accounted for 75% of these off-balance-sheet exposures in late March 2026.

There are tools to measure exposures between banks, insurers and NBFIs, including the SCEP-BDF system-wide stress test model, which can be used to apply shocks to asset prices and to analyse the resulting amplification effects between financial institutions.

Box 1.10: The Banque de France's SCEP-BDF system-wide stress test model

By Thibaut Piquard, Emilie Da Silva, David Gauthier, Jonas Heipertz, Aymeric Schneider, Edith Stojanovic and Floris Van Dijk

System-wide stress test models aim to quantify the spread of financial shocks through the interconnections between institutions and markets, and to measure the vulnerabilities of financial intermediaries to a given shock. Standard models are based on price impact functions calibrated on market data. Although these approaches are appropriate for small-scale liquidations, they tend to overestimate the price impact when sales become significant, as happens during periods of system-wide stress.

The system-wide contagion with endogenous portfolios (SCEP-BDF) model proposes an approach based on a structural portfolio selection model. It is derived from the ECB's Interconnected System-wide Stress Test Analytics (ISA) model and incorporates investors' portfolio reallocation behaviour and a repo market to model feedback loops between asset prices and refinancing capacity. Investors outside the euro area financial system, including the rest of the world, are included to ensure the model's accounting consistency.

The model's dynamics follow two main rounds: application of an exogenous shock in the first round and endogenous amplification in the second. Initially, an exogenous market shock is applied to the institutions' balance sheets, leading to impairment losses. Next, agents adjust their portfolios to restore their liquidity ratios and respond to changes in asset prices. Unlike in approaches based on exogenous price impact functions, asset prices are an equilibrium outcome, which makes it possible to capture substitution effects between asset classes as well as the heterogeneity of investors' behaviours and constraints.

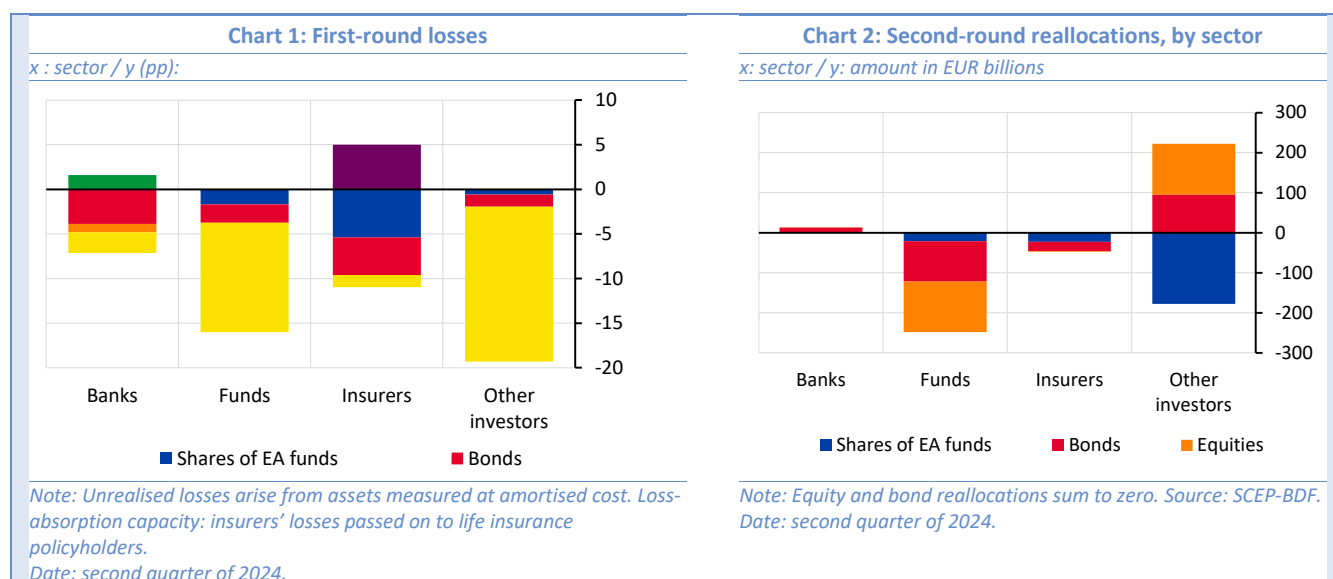
The market shock resulting from the 2025 EBA stress test scenario, supplemented by insurance surrenders, leads to significant initial losses (see Chart 1). The shock has a greater impact on equities (falls of between 40% and 70%) than on bonds (the prices of 20% of bonds fall by more than 20%). These losses mainly affect investment funds, which hold a larger proportion of shares. Measurement of assets at amortised cost and unit-linked life insurance mitigate the losses for banks and insurers.

These initial losses trigger redemptions of fund units, which, together with life insurance surrenders, increase liquidity requirements and lead to second-round asset sales. The average second-round price impact remains very moderate, with an additional fall of approximately 0.2% for equities and 0.05% for bonds. Three factors account for this mitigating effect. Firstly, the amounts sold are small relative to total holdings, representing 0.23% of total equity holdings and 0.11% of bond holdings. Second, demand elasticities estimated from portfolio data are higher than those implicitly used in traditional price impact functions. However, they are of the same order of magnitude as the elasticities observed during previous fire sales, such as during the 2022 LDI crisis. Third, portfolio reallocations and substitution effects help to partially smooth out price falls across all assets. Most asset sales are absorbed by non-euro area investors, who play a stabilising role in times of stress (see Chart 2). Imposing a redemption gate on these investors leads to a significantly greater price impact: -0.4% for bonds and -1.7% for equities.

Although the average price effect is small, the model highlights significant heterogeneity in price impacts across the assets sold. Securities held by a concentrated investor base and those held by liquidity-constrained investors experience a larger second-round impact. In particular, price impacts are more pronounced for corporate bonds (financial and non-financial) than for sovereign bonds, and for securities sold by insurers rather than by funds.

Integration of the repo market leads to an increase in second-round losses for institutions using this market (36 bps of CET1 for banks and 12 bps of TNA for funds). Integration of the repo market plays an ambiguous role in spreading shocks. On the one hand, it provides a source of funding that may limit asset sales. On the other, falling asset prices reduce the value of collateral and trigger margin calls, thereby increasing borrowers' liquidity requirements. Furthermore, the inclusion of this market transforms solvency pressures into liquidity pressures, as it increases the proportion of institutions' current liabilities covered by the model.

These results suggest that the role of forced sales in financial contagion may be more limited than suggested by the literature based on traditional price impact functions. Vulnerabilities remain, particularly in market segments where investors are highly specialised or especially constrained. This research highlights the importance of integrating leverage and liquidity constraints arising from repo and derivatives markets more effectively.



Insurers maintained a high level of solvency and a healthy balance sheet structure

The insurance sector remains strong, with solvency well above regulatory requirements. In the life insurance sector, revaluation rates remained attractive thanks to higher returns on assets and the use of profit-sharing reserves, resulting in very high net inflows in 2025. In non-life insurance, higher rates supported improved underwriting profitability, which was back around the level recorded prior to the inflation peak of 2022. Asset allocations were diversified and exposure to the US dollar limited.

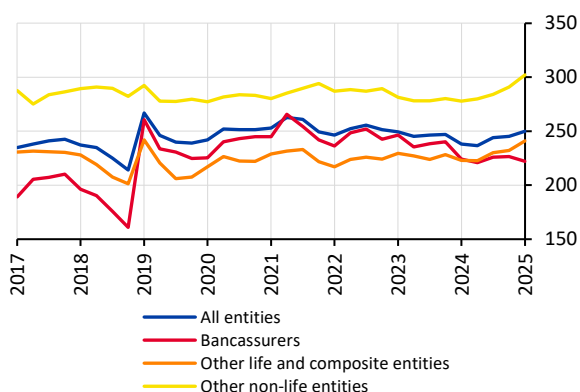
On average, insurers' solvency rose in the second half of 2025. Insurers hold significant surplus capital to cover capital requirements.⁷⁶ At end-2025, the average solvency capital requirement (SCR) coverage ratio⁷⁷ stood at 250%, compared with 244% at end-June 2025 (see Chart 1.53). Trends vary depending on the type of institution. Significant reversals of provisions for profit sharing at year-end to fund non-unit-linked life insurance contracts placed a strain on the solvency of bancassurers. Other institutions showed an increase. For all insurers, own funds levels exceeded the regulatory minimum: 75% of them had a ratio of more than 180%, while 25% had a ratio above 310 % (see Chart 1.54). Other non-life insurers showed significant disparities, but their average ratio was close to 300%, whereas bancassurers, which nevertheless need to be analysed in the context of the conglomerate structure of their group, displayed an average ratio of 222%.

⁷⁶ For reference, capital requirements were around EUR 200 billion at the end of December 2025.

⁷⁷ The solvency capital requirement (SCR) is the level of own funds 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 and must be at least 100%.

Chart 1.53: Solvency capital requirement coverage ratio

x: time / y: ratio (%)



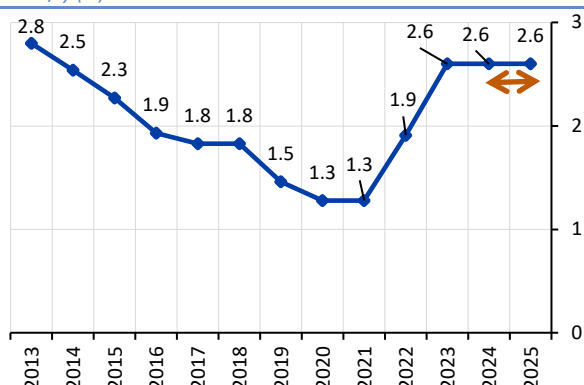
Source: ACPR – quarterly scope.

Most recent value: fourth quarter of 2025.

After increases in 2022 and 2023, the revaluation of individual life insurance contracts stabilised at 2.6% in 2024 and 2025 (see Chart 1.55). This level of remuneration was made possible thanks to the use of part of the profit-sharing provision set aside during the period of low interest rates in order to be able to adjust to changes in rates. This reserve therefore fell to 4.0% of technical provisions at the end of 2025, compared with 4.3% at the end of 2024 and 4.9% at the end of 2023 (Chart 1.56).

Chart 1.55: Revaluation rate, euro-denominated life insurance products

x: time / y (%)



Source: ACPR.

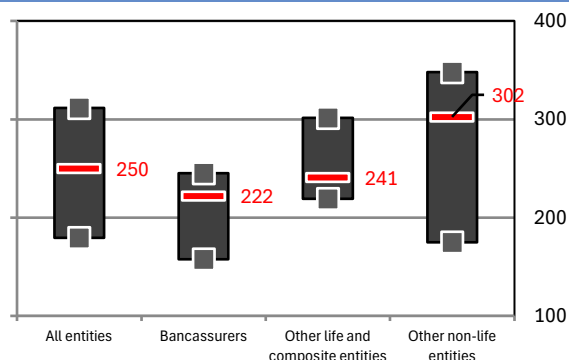
Most recent value: fourth quarter of 2025.

This remuneration was primarily made possible by improved investment portfolio returns, while unrealised fixed income losses worsened slightly. The low interest rate environment that dominated until 2022 put major constraints on the financial income of insurers, particularly bond coupons, which matters because bonds account for more than 55% of insurers' investments,⁷⁸ ahead of equity holdings (21%). Today's higher interest rate levels are resulting in improved portfolio returns for insurers, which can reinvest maturing bonds in higher-yielding securities. These gradual improvements are translating into an increase in the average return on assets of life insurers, which stood at 2.8% in 2025 compared with 2.5% in 2024 and 2.2% in 2023 (see Chart 1.57), ending the virtually uninterrupted decline recorded during the low interest rate period.

Bonds were still showing an unrealised capital loss at the end of 2025, equivalent to 4% of the total investment portfolio, i.e. slightly worse than at the end of 2024. However, unrealised capital gains were still recognised

Chart 1.54: Distribution of the SCR coverage ratio, end-December 2025

x: type of organisation / y: first quartile, average and third quartile (%)

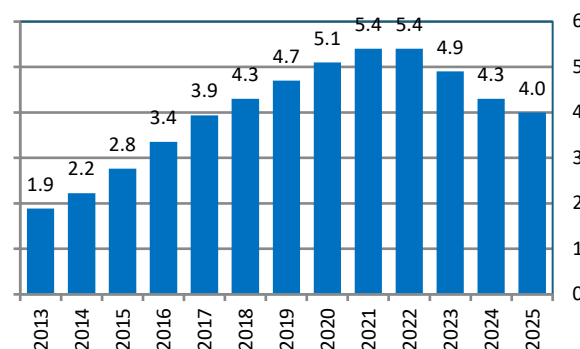


Source: ACPR.

Most recent value: fourth quarter of 2025.

Chart 1.56: Ratio of allocations to profit-sharing reserves

x: time / y (%)



Source: ACPR.

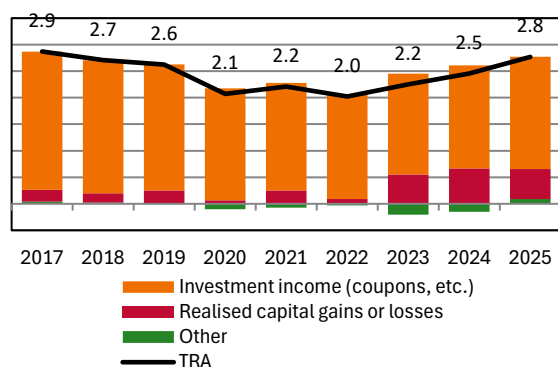
Most recent value: fourth quarter of 2025.

⁷⁸ After applying the look-through approach to the assets of CIUs.

on equities, CIUs and real estate, resulting in an overall unrealised capital gain of 2%, or roughly the same as at the end of 2024 (see Chart 1.58).

Chart 1.57: RoA, life insurers

x: time/ y (%)

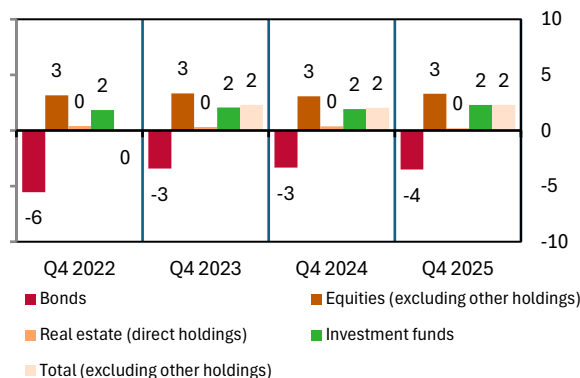


Source: ACPR.

Most recent value: fourth quarter of 2025.

Chart 1.58: Unrealised capital gain/loss ratio, as a % of the acquisition value of total investments

x: time/ y (%)



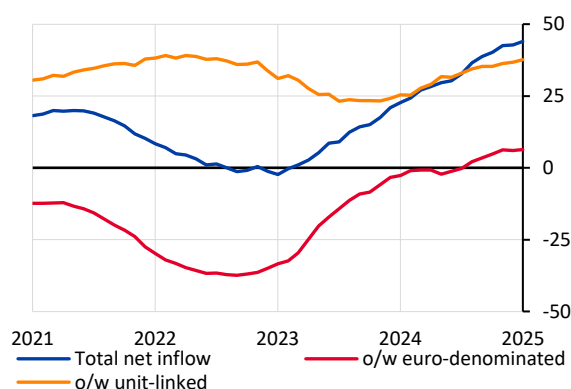
Source: ACPR.

Most recent value: fourth quarter of 2025.

Thanks to these competitive levels of remuneration, net inflows into life insurance hit all-time highs, reaching EUR 44 billion in 2025 (cf. Chart 1.59), reflecting the combined effect of gross inflows and reduced surrenders (see Chart 1.60). Lower returns on bank savings products increased the appeal of non-unit linked products, which recorded net inflows again in 2025, following five years of net outflows. Unit-linked products, which were preferred during the low interest rate period, nevertheless accounted for the lion's share of net inflows. In 2025, savings flows into life insurance accounted for 63% of households' main financial investments, a significantly higher proportion than before the Covid-19 pandemic (average of 38% over 2015–2019).⁷⁹ Growth was recorded by non-unit linked products, which made up 36% of total financial savings flows in 2025, compared with a pre-pandemic average of 24%, and also by unit-linked products, whose share reached 26% in 2025, compared with 14% before the pandemic.

Chart 1.59: Net flows into/out of life insurance (12-month cumulative)

x: time in months/y: (EUR billions)

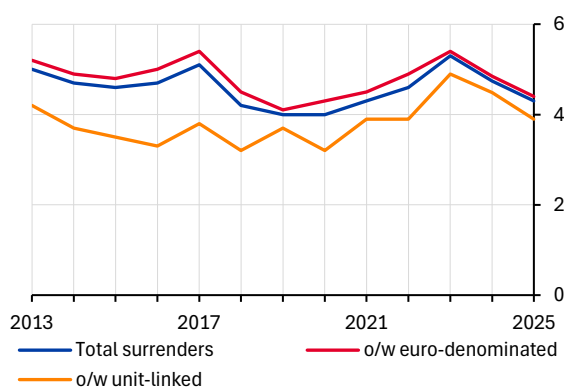


Source: ACPR.

Most recent value: fourth quarter of 2025.

Chart 1.60: Life insurance surrender ratio

x: time / y: ratio (%)



Source: ACPR.

Most recent value: fourth quarter of 2025.

The underwriting profitability of non-life insurers improved. After deteriorating sharply in 2022, the combined ratio for all non-life business lines has improved since 2023, regaining pre-2022 levels and reaching

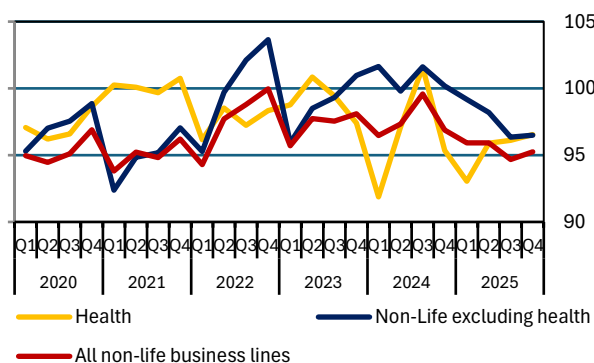
⁷⁹ Epargne des ménages - 2025-Q4 | Banque de France

95% at the end of 2025 (see Chart 1.61). These changes mainly concern non-life activities excluding healthcare, which were severely affected in 2022 and early 2023 by cost increases for automotive spare parts, home repair services and reinsurance. Price increases for insurance services for individuals, particularly motor insurance, were thus well below general inflation in 2022 and 2023, but have risen at a much faster pace since 2024.

Natural disasters represent one of the main risks facing the non-life insurance sector. After rising sharply in 2023, the loss ratio for natural catastrophes fell in 2024 and stabilised in 2025. The increase in the additional premium for natural catastrophes that came into effect on 1 January 2025⁸⁰ saw the combined ratio improve to 80% in 2025, down from 114% in 2024 and 193% in 2023. As a significant share of claims is absorbed by reinsurers, the increase in premiums was not fully passed through to insurers' combined ratios. In France, reinsurance for natural catastrophes does not operate like other categories of insurance through standard market coverage, but rather as a public-private partnership, due to the harmonisation of the conditions of this coverage and the role of the *Caisse Centrale de Réassurance* (CCR – French central reinsurance fund), which reinsures almost the entire market for the risks covered by this regime. After being clearly positive in 2023 and 2024, the reinsurance balance (claims paid by reinsurers less ceded premiums) fell in 2024 and then turned negative in 2025 due to the combined effect of a fall in claims and a rise in the cost of reinsurance (see Chart 1.62).

Chart 1.61: Combined ratios

x: time / y: ratio (%)



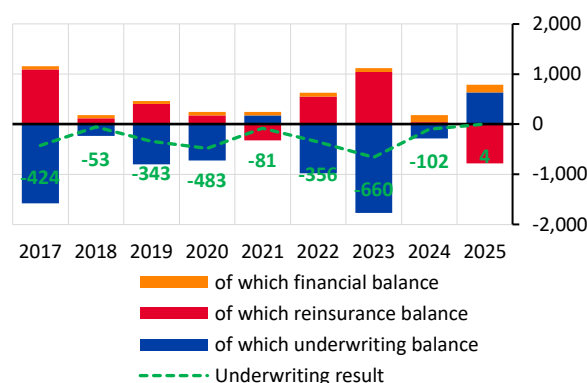
Note: The combined ratio is the ratio of total costs (claims and expenses) to premiums, net of reinsurance. It assesses an activity's underwriting profitability and does not take financial results into account. The ratio is below 1 if the activity is profitable and above if it is not.

Source: ACPR.

Most recent value: fourth quarter of 2025.

Chart 1.62: Underwriting result components, natural catastrophe segment

x: time / y: (EUR millions)



Note: The natural catastrophe segment is typically loss-making because claims and expenses exceed premium income (negative underwriting balance). The reinsurance balance (claims paid by reinsurers less ceded premiums) is used to limit the losses. Financial income is low. The entities in question also operate in more profitable segments.

Source: ACPR.

Most recent value: 2025.

Insurers' asset allocations are diversified, with holdings mainly consisting of financial-sector bonds (27%), sovereign bonds (19%) and bonds issued by NFCs (10%). French sovereign bonds have accounted for between 19% and 11% of insurers' investments since 2016 (see Chart 1.63), and the value of insurers' investment portfolios remains highly sensitive to interest rate fluctuations such as those seen since 2022. Between the end of 2024 and the end of 2025, long-term rates rose, but the yield spread between France and Germany stabilised. Private credit exposures are limited and serve as a diversification asset (see Box 1.6).

As regards currency risk, a small share of French insurers' assets is invested in currencies other than the euro (9% at end-2025, see Chart 1.64). Around two-thirds of this foreign currency exposure (EUR 152 billion) corresponds to dollar-denominated investments. A large share of these investments is in the form of

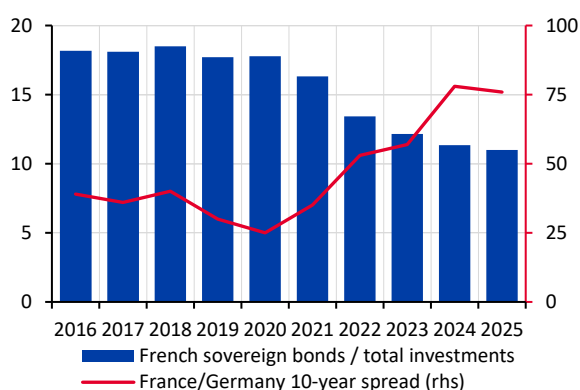
⁸⁰ The share of property insurance premiums earmarked to fund the natural catastrophe insurance regime increased on 1 January 2025: the additional premium rate applied to home and business property insurance policies rose from 12% to 20%, while for auto policies it went up from 6% to 9%.

investments in affiliated companies (EUR 30 billion) or investments held as unit-linked assets (EUR 62 billion), which provide a natural match between assets and liabilities, with the currency risk borne by the contract holders.

Insurers may be exposed to currency risk on some exposures not hedged by derivatives. However, for life and composite insurers, which account for most of these exposures (EUR 50 billion), partial matching between assets and liabilities is ensured by profit-sharing mechanisms that link the value of liabilities and therefore technical provisions to the performance of investments. The insurer's residual risk is covered by Solvency II capital requirements, which stipulate that insurers must have sufficient funds to cover any loss they may experience from either a 25% increase or decrease in the value of a foreign currency against the local currency. Before diversification (and including entities using internal models), life and composite institutions had thus set aside EUR 5.6 billion of capital against currency risk on exposures of EUR 50 billion, while non-life insurers had set aside EUR 2.2 billion on exposure of EUR 7 billion. By way of comparison, the total capital requirement for life, composite and non-life institutions amounted to EUR 147 billion. The lower amounts of capital set aside by life insurance companies to cover their foreign currency exposure reflect the partial matching of assets and liabilities inherent in profit-sharing mechanisms. These capital requirements for currency risk reflect the role of foreign currency investments as diversification assets in the asset management strategies of insurers, which can thus retain part of this risk without necessarily having to resort to hedging strategies to protect themselves against it.

Chart 1.63: Share of French sovereign bonds in insurers' investments

x: time / y: [lhs] share (%); [rhs]: spread (bps)

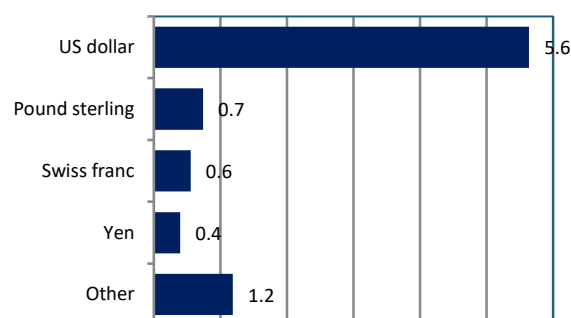


Source: ACPR.

Most recent value: fourth quarter of 2025.

Chart 1.64: Share of insurers' foreign currency investments in Q4 2025

x: share (%) / y: foreign currencies



Source: ACPR.

Date: fourth quarter of 2025.

1.5 The sharp deterioration in the geopolitical environment is likely to exacerbate structural risks through increased cyber risk and by exposing Europe's energy dependence

Rising geopolitical tensions and the emergence of frontier AI models are reshaping cyber risk

Based on major incident reports submitted under DORA, the ACPR and the Banque de France have not identified an increase in the number of cyberattacks targeting the French financial sector as a result of the current geopolitical tensions. Over the two months (March–April 2026) following the escalation of tensions in Iran, which began on 28 February, the average number of cyberincidents of malicious origin reported to the ACPR was four per month, compared with an average of three over the previous period (January–February

2026). No specific claim of responsibility, accusation or indication suggests that the cyberattacks reported since 28 February are materially linked to the conflict. Nevertheless, despite the fact that such incidents have so far been limited within France, the documented increase in cyberattacks by actors linked to Iran, as well as by pro-Russian actors, means that the geopolitical dimension of the threat remains high, warranting heightened vigilance on the part of financial institutions. In February 2026, an operation believed to be linked to Russian interests compromised a European financial institution following a successful email phishing attack, during which remote access software was installed. The ultimate objective of this attack is unknown based on open-source information, but the threat actors behind it have in the past carried out attacks for financial gain or espionage purposes.⁸¹

The threat from cybercrime also remains elevated, as noted by ANSSI in its 2025 cyberthreat overview.⁸² In the report, ANSSI reports a small decrease in the number of ransomware attacks, but a much higher number of data exfiltration incidents than in 2024. Incidents involving ransomware and/or data exfiltration accounted for 56% of major cyberincidents of malicious origin reported to the ACPR and the Banque de France in 2025. Furthermore, 53% were the result of a service provider being compromised, which is in line with the findings set out in the December 2025 Financial Stability Report.⁸³ In total, the ACPR and the Banque de France were notified of around 40 major cyberincidents believed to be attributable to cybercriminals, making up one-fifth of all major ICT and payment-related incidents reported to them under DORA in 2025.

An analysis of registers of information submitted to the ACPR reveals a heavy reliance on services provided by external ICT service providers to deliver the critical or important functions of financial institutions. This dependence, coupled with a significant concentration around a handful of service providers, constitutes a factor of systemic vulnerability, as an incident affecting a shared service provider could spread simultaneously to several financial sector entities. For this reason, the ACPR has focused its supervisory priorities for 2026 on improving incident management processes, assessing ICT risk management frameworks and reviewing contracts with ICT service providers to ensure that they are DORA-compliant. The supervisory framework for critical third-party providers (CTPPs), i.e. the most widely used ICT service providers in the European Union's financial sector, also aims to strengthen collective resilience to third-party risk. The ACPR and the Banque de France help to operate this framework.

AI involvement in cyberattacks is a growing trend worth highlighting, even if it does not yet feature in the major incident reports received by the ACPR and the Banque de France under the DORA framework. The use of generative AI models by threat actors was highlighted in January 2025 by Google, which reported that it had identified groups of attackers linked to around 20 countries, including Iran, China, North Korea and Russia, that had already used its Gemini AI assistant to carry out cyberattacks, primarily for tasks such as research, content generation, translation and code development support.⁸⁴ In September 2025, US-based AI firm Anthropic uncovered a spying campaign by threat actors believed to be linked to China, who are alleged to have used the company's agentic coding tool, Claude Code, to target, in an almost entirely automated manner, various types of organisations, including financial institutions.⁸⁵ In addition to AI being employed to facilitate the different stages of an infection chain, ANSSI reports that organisations' own AI systems constitute an additional attack surface that may be exploited by attackers to corrupt the data they process or compromise the information systems to which they are connected.⁸⁶

AI can also be used for cyberdefence purposes, but with mixed implications for risk. Some advanced models are now capable of analysing very large volumes of code and quickly identifying critical vulnerabilities. But these same capabilities can also be misused for offensive purposes, in particular by significantly reducing the

⁸¹ CERT-UA

⁸² ANSSI (2026), *Panorama de la cybermenace 2025*, March.

⁸³ Banque de France (2026), *Financial Stability Report*, December 2025.

⁸⁴ Google Cloud Blog (2025), "Adversarial Misuse of Generative AI", January.

⁸⁵ Anthropic (2025), "Disrupting the first reported AI-orchestrated cyber espionage campaign", 13 November.

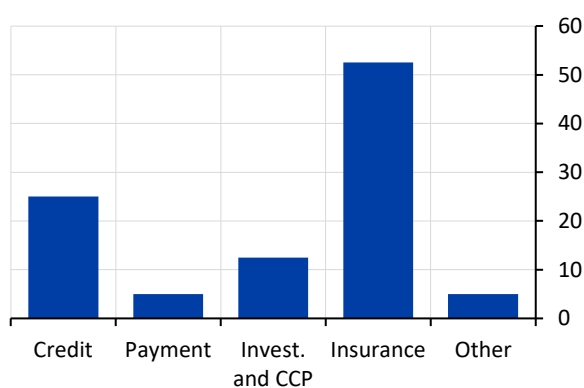
⁸⁶ CERT FR (2026), "Rapport menaces et incidents" - CERT-FR

time between the discovery and exploitation of vulnerabilities, or by automating the execution of complex attack scenarios.⁸⁷

The emergence of frontier AI models thus reflects a structural shift in the cyberlandscape: without fundamentally altering the nature of the risk, they accelerate the potential speed, accessibility and scale of attacks, thereby exacerbating the asymmetry between attackers and defenders, as the capacity for remediation and patch deployment remains constrained by organisations’ operational cycles. While these models can serve as advanced cyberdefence tools, they also harbour significant offensive potential if used maliciously. Faced with this new paradigm, financial institutions will need to go beyond standard cyberhygiene measures and make organisational changes so that they can meet the increased demands for vulnerability remediation.

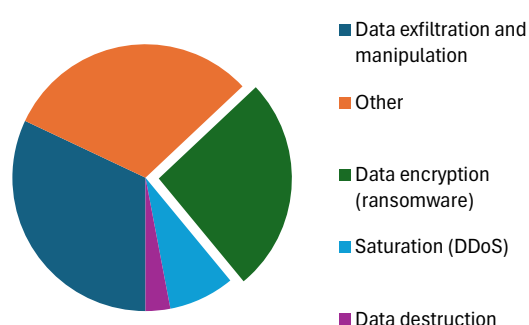
Chart 1.65: Organisations that reported cyberincidents in 2025 (breakdown by sector)

x: sector of activity / y: % share



Source: ACPR.

Chart 1.66: Attacker objectives



Source: ACPR.

Dependence on fossil fuels exacerbates the financial system’s vulnerability to the conflict in Iran and highlights the importance of accelerating the transition to carbon neutrality

The initial economic effects of this recent shock are a reminder that Europe’s dependence on imported fossil fuels poses a risk of inflation and financial instability, even if France appears to be comparatively better protected than other European countries thanks to its nuclear power generation capacity.

For more than a decade, France has been working to decarbonise its economy in the framework of its international commitments. The country has pledged to achieve carbon neutrality by 2050, in line with the Paris Agreement, and has set itself an interim target of reducing greenhouse gas (GHG) emissions by 50% by 2030 compared with 1990 levels⁸⁸ (see Box 1.11). **National emissions were reduced by 37% between 1990**

⁸⁷ Note, however, that performances observed at this stage in independent tests, such as those carried out by the UK’s AI Security Institute, are based primarily on simulated environments and systems with minimal security measures (see <https://www.aisi.gov.uk/blog/our-evaluation-of-claude-mythos-previews-cyber-capabilities>)

⁸⁸ France’s national low carbon strategy *Stratégie nationale bas-carbone (SNBC)* sets out this roadmap across all sectors of activity – Territorial Development and Ecological Transition Ministries.

and 2023,⁸⁹ representing just over three-quarters of the 2030 target.⁹⁰ All sectors managed to lower their emissions over this period, except transport (49% of GHG emissions) and agriculture (4%).

Nevertheless, France remains dependent on fossil fuels. According to the department of data and statistical studies (SDES),⁹¹ 42% of France's primary energy consumption⁹² came from fossil fuels in 2024 (28% from oil, 2% from coal, 12% from natural gas)⁹³ – roughly equivalent to France's nuclear-generated electricity output. Furthermore, France imports almost all of the fossil fuels it consumes, which, in terms of the trade balance, translated into an energy deficit of EUR 130 billion in 2022 and EUR 63 billion in 2024.⁹⁴

This dependence on fossil fuels (and therefore on exporting countries and geopolitical uncertainties) gives rise to well-known financial and economic risks. The reduction in European natural gas supplies in 2022 (notably following the closure of the Yamal and Nord Stream 1 gas pipelines) was a major factor in the rise in euro area inflation in 2022, a phenomenon dubbed "fossilflation", as gas and electricity accounted for 2.6 pp of the 9.9% inflation rate recorded in 2022. Measures put in place to cushion this shock subsequently placed a strain on the government finances of European countries. In France, these measures represented a fiscal cost of 3.5% of GDP between 2021 and 2023.

France has committed to a policy of diversifying its energy supplies in order to limit the impact of conflicts on the cost of its energy imports. Whereas in 2021 France sourced its natural gas from Norway (32%), Russia (22%), Algeria (8%) and the Netherlands (7%), by 2025, gas imports came from Norway (40%) and the United States (21%), followed by Russia (18%) and Algeria (11%). Crude oil, meanwhile, was imported in 2025 from the United States (22%), Kazakhstan (15%), Nigeria (12%) and Norway (10%). However, projections by the International Energy Agency (IEA) indicate that production from existing fields is undergoing a structural decline (8% per year for oil and 9% for gas). Production by some of France's main suppliers could fall below their own domestic consumption levels by 2050, pointing to future strains on fossil fuel supplies in the coming decades, assuming supply from other producers remains unchanged. In the shorter term, however, cyclical factors, such as a possible easing of sanctions against Iran or changes to the governance of the Organization of the Petroleum Exporting Countries (OPEC), could contribute to a scenario of ample supply by the end of the decade.

Reducing France's exposure to geopolitical risks will include pursuing an active decarbonisation strategy, which will preferably be coordinated at European level. Renewable energy requires significant initial investment but provides clean energy that is inexpensive compared with fossil fuels and not subject to geopolitical uncertainties or the volatility of financial markets. Recent studies by the Banco de España show that the 15 pp increase in the share of wind and solar power in the country's energy mix (from 25% in 2019 to 40% in 2024) has led to a reduction of nearly 40% in the price of electricity compared with what the previous energy mix would have produced. According to these same analyses, developments in the energy sector in line with Spain's national decarbonisation plan will eventually halve the cost of electricity for end users by 2030.

While the energy transition will come at a cost to the French and European economies, the cost of doing nothing is far greater, while the cost of delaying the implementation of transition policies, which the short-term scenarios of the Network for Greening the Financial System (NGFS) can help to quantify, must also be taken into account when assessing the costs of the energy transition. The NGFS's "Sudden Wake-up Call" scenario, for

⁸⁹ [Une nouvelle ambition pour le climat: produire en France pour décarboner le monde](#): Rexecode, a research and forecasting institute, makes a harsher assessment. The results are mixed when it comes to net imported emissions, which rose by 40%, meaning that France's carbon footprint (and therefore its contribution to global emissions) fell by only 20% over the period.

⁹⁰ [Chiffres clés de l'énergie édition 2025](#) - Official statistics on energy, transport, housing and the environment (SDES).

⁹¹ This department reports to the Environment, Energy, Construction, Housing and Transport Ministries.

⁹² France's primary energy consumption corresponds to domestic energy demand before conversion and internal use within the energy sector. An analysis of final energy consumption (energy actually used by consumers) shows, however, that fossil fuels still account for nearly 60% of final energy consumption in France - [Livre | Chiffres clés de l'énergie - Édition 2025](#), p.39.

⁹³ By comparing primary energy production (1,564 TWh) with primary energy consumption (2,575 TWh), the SDES reports that the energy self-sufficiency rate reached 60.7% in 2024, its highest level on record.

⁹⁴ [Les enjeux économiques du soutien aux énergies renouvelables électriques \(February 2026\)](#) - Direction générale du Trésor.

example, explores the effects of a three-year delay in the roll-out of transition policies, followed by sudden and disorderly implementation. Although this period is limited in duration, it has significant macroeconomic effects, including reductions of 0.3% for French GDP and 0.8% for global GDP over a two-year period compared with the "Highway to Paris" scenario.

Box 1.11: France's energy sector on the path to carbon neutrality

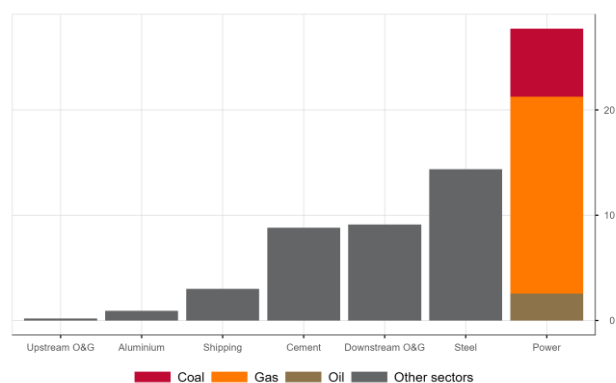
By Julie Beguet, Tristan Jourde and Dilyara Salakhova

In 2020, the adoption by decree of the National Low-Carbon Strategy (SNBC 2) formalised France's goal of achieving carbon neutrality by 2050. This box examines progress in the transition to low-carbon solutions in the energy sector to assess alignment with the carbon-neutrality scenario. The analysis is based on Asset Impact data, which cover virtually all emissions from the energy sector in France.⁹⁵

The energy sector is the third-largest source of emissions in France, after transport and residential and commercial buildings (IEA, 2023). In 2025, its direct emissions (Scope 1) stood at 27 MtCO₂ (see Chart 1), representing 11% of the country's total CO₂ emissions (IEA, 2023). Of these 27 MtCO₂, gas combustion accounted for around 66%, coal for 25% and oil for 9% (see Chart 1). However, these polluting technologies account for only 7% of total electricity generation in France, which is mainly supplied by nuclear power (69%) and renewable and hydroelectric sources (24%; see Chart 2). Based on emission intensities (emissions per unit of energy generated), coal is the most polluting technology, with an intensity more than one and a half times higher than gas. Although it still accounts for a significant proportion of electricity generation, gas has the lowest intensity of all fossil fuels.

Chart 1: Carbon emissions in France, by sector (2025)

x: sectors / y: Scope 1 carbon emissions (MtCO₂)



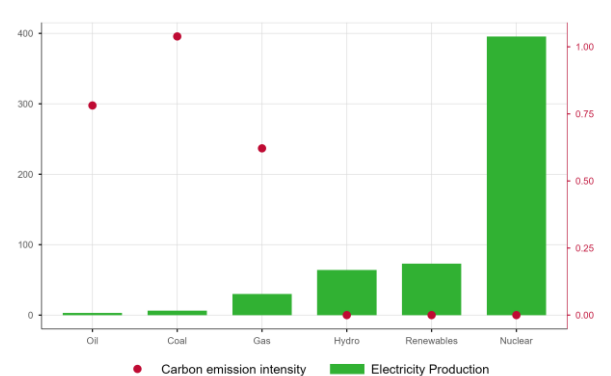
Note: Breakdown of carbon emissions in MtCO₂ in France, by sector (shown in grey). The energy sector is further broken down by technology: coal, oil and gas (in colour).

Sources: Asset Impact, Banque de France calculations.

Most recent value: fourth quarter of 2025.

Chart 2: Electricity generation in France and emission intensity, by technology (2025)

x: technology / y [lhs]: electricity generation (TWh); y [rhs]: emission intensity



Note: The carbon emission intensity for each technology is calculated as the ratio of carbon emissions per unit of electricity generated (TWh).

Sources: Asset Impact, Banque de France calculations.

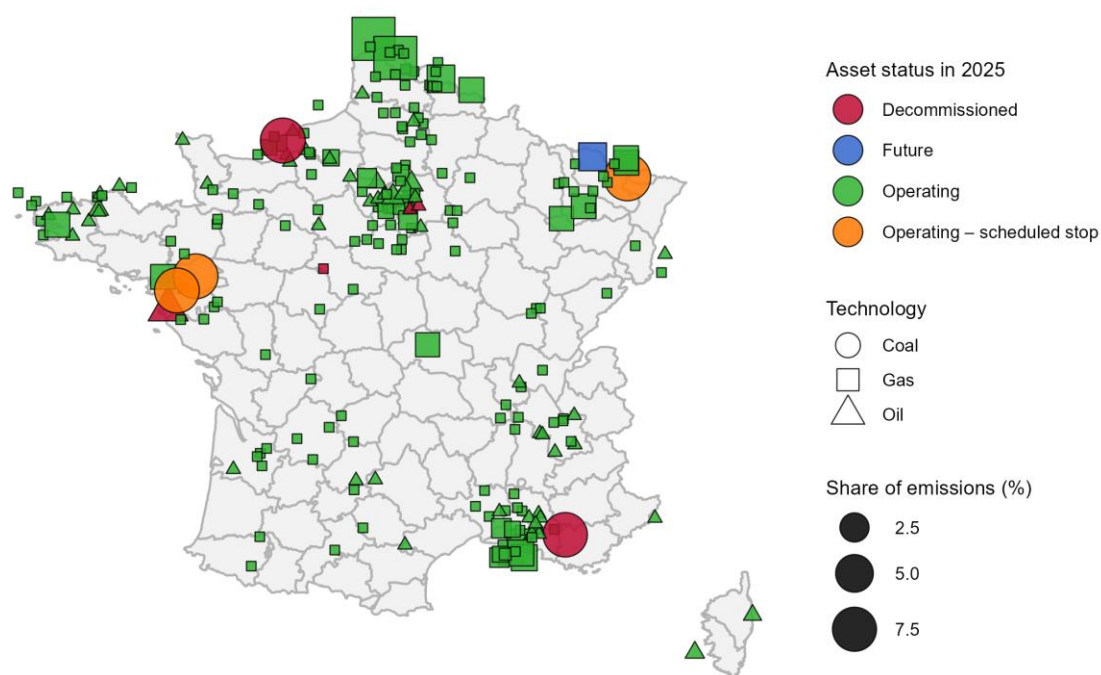
Most recent value: fourth quarter of 2025.

In response to this situation, France is prioritising the phase-out of coal for electricity generation and the development of renewable energy. Two coal-fired power stations have already been closed, and the remaining two are due to close in 2027. Each production unit at these power stations accounted for between 7% and 8% of

⁹⁵ Asset Impact data cover production assets and associated emissions in the following sectors: energy, cement, steel, aluminium, upstream and downstream oil and gas, transport, aviation and maritime transport.

the energy sector's emissions in 2025 (see Chart 3). A number of fuel oil-fired power stations have also been decommissioned, notably the Cordemais plant in 2022, which was responsible for 2.5% of the sector's emissions. Conversely, a gas power station is due to open in 2028, replacing the Saint Avold coal plant, and is expected to account for around 3% of the sector's emissions. The roll-out of renewable energy achieved an average annual growth rate of 6% between 2019 and 2025. Solar capacity doubled and offshore wind capacity increased fivefold over the period.

Chart 3: Energy sector assets in France (2025)



Note: Each dot represents a production unit. For example, the two orange dots in western France represent two production units at the same coal-fired power station. The size of the dots reflects the share of emissions in metropolitan France in 2025. In the case of operational power stations, these figures relate to 2025 emissions; for the others, they are counterfactual estimates (final year of operation if closed or first year if start-up is scheduled). Only power stations accounting for more than 1% of the energy sector's emissions are shown.

Sources: Asset Impact, Banque de France calculations.

Further transition efforts are needed to stay on track with the Institute for Sustainable Futures' scenario, which is consistent with carbon neutrality by 2050.⁹⁶ Firstly, these efforts must translate into a substantial increase in the rate at which renewable energy is rolled out. Unlike the 2023–2025 period, which was characterised by a small gap between renewable generation capacity and the carbon-neutral scenario, current announcements for the coming years fall well short of requirements (see Chart 4).⁹⁷ Likewise, the current reduction in coal's share of electricity generation is not enough to achieve the decreases envisaged in the carbon-neutral scenario, although

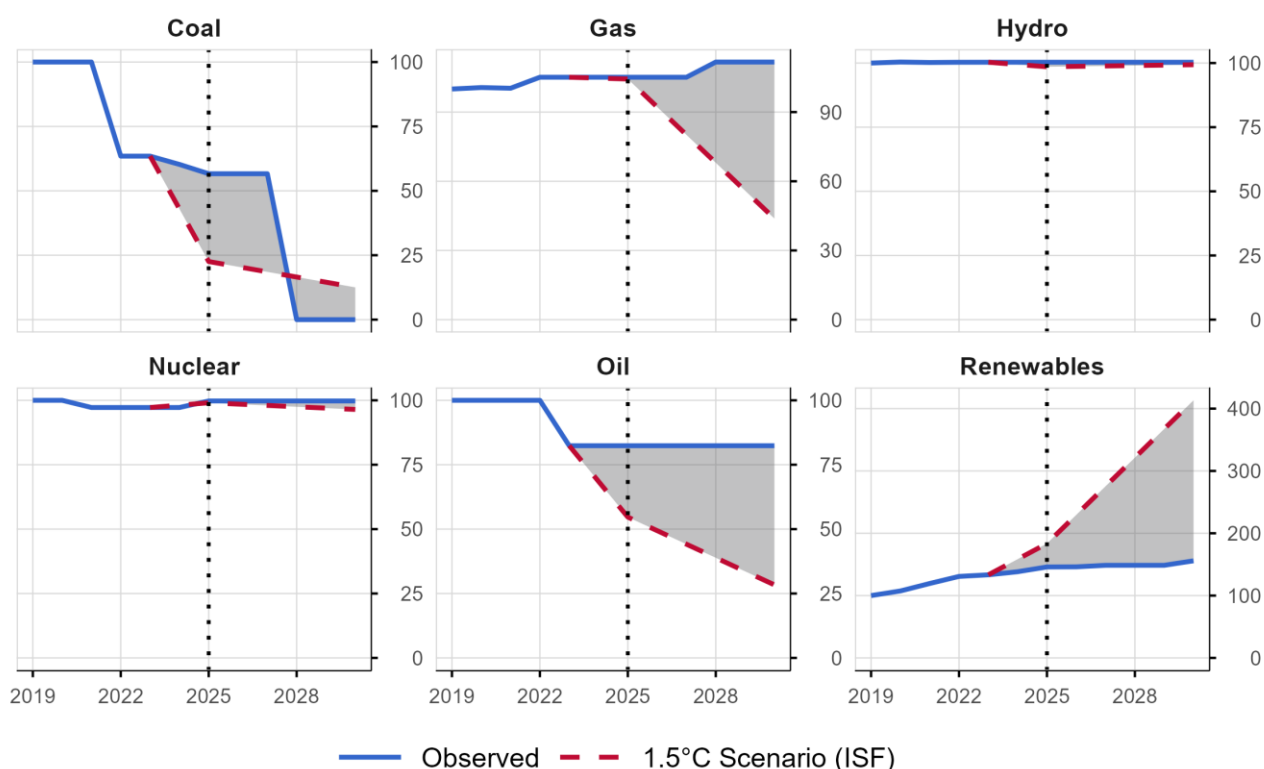
⁹⁶ This methodology differs somewhat from that of the International Energy Agency (IEA) and proposes pathways corresponding to an average temperature rise of 1.5°C by 2100 with a 66% probability (compared with 50% for the IEA model). This model is based primarily on existing, tried-and-tested technologies. Where the model makes assumptions about the development of certain technologies, these are based solely on theoretical technologies whose feasibility has been demonstrated. A distinctive feature of this methodology is that it does not include carbon capture in its calculations.

⁹⁷ Data are observed up to 2025; beyond that, they are projected based on current activity and known commitments.

France will catch up in its alignment with the scenario if the closure scheduled for 2027 goes ahead and is final.⁹⁸ Nuclear and hydro power are broadly aligned, but oil-fired electricity generation capacity was still too high between 2023 and 2025, with no changes anticipated. Regarding gas, no reductions are envisaged; in fact, the new facility planned for 2028 is incompatible with the ongoing reduction required by the scenario from 2025 onwards.

Chart 4: Current trajectories and scenarios compatible with carbon neutrality in 2050

x: time/ y: electricity generation capacity, by technology (2019 = 100)



Note: This chart uses Institute for Sustainable Futures scenarios that are consistent with carbon neutrality by 2050. Data are observed up to 2025; beyond that, they are projected based on current activity and known commitments/announcements.
Sources: Asset Impact, PACTA for Banks methodology. Institute for Sustainable Futures 1.5°C scenario, Banque de France calculations.

To conclude, further efforts are needed to decarbonise the energy sector and accelerate the roll-out of renewable energy. Decarbonising the transport sector (49% of total CO₂ emissions) and the heating of residential and commercial buildings (17%) is another major challenge for France.⁹⁹ These two sectors consume the vast majority of imported oil (74%) and gas (60%). Reducing fossil fuel consumption in these areas would help France to achieve carbon neutrality and strengthen its energy independence.

⁹⁸ Coal power stations were scheduled to be shuttered by 2022 under the 2019 Energy and Climate Act. The Saint Avold power station, which closed down in late March 2022, started up again a few months later, while the shutdown of the Cordemais facility has been postponed until 2027.

⁹⁹ CO₂ emissions by sector in France are published by the IEA.

2. The repo market: a cornerstone of sovereign liquidity and challenges for financial stability

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The repurchase agreement (repo) market, in which financial institutions temporarily exchange securities for cash while agreeing to repurchase them at a specified date, has become a key segment of short-term funding and bond market functioning, largely replacing unsecured funding. While commercial banks have traditionally been the main users of the repo market to meet their funding needs, central banks are also highly active participants, using it to conduct their operations, manage their investments and support bond market liquidity. Repo transactions enable market participants to manage their liquidity and meet funding needs without selling securities outright. With global outstandings of around USD 16 trillion, nearly 80% of which backed by sovereign debt, the repo market has undergone a profound transformation over the last decade, driven by the rise in sovereign bond issuance and monetary policy implementation by central banks. Several recent and successive episodes of market stress (2019, 2020, 2022, and 2025) have highlighted the dual nature of this market segment: while it guarantees the smooth circulation of cash and securities in normal times, it also constitutes a major channel of systemic contagion during periods of stress.

This systemic importance is accompanied by increasing vulnerabilities linked to the growing presence of non-bank financial entities, leverage and high concentration among participants. The repo market is traditionally intermediated by a small core group of major international banks whose capacity may be constrained by prudential rules, particularly the liquidity coverage ratio (LCR) and the net stable funding ratio (NSFR), especially during periods of stress. These entities are allocating a growing proportion of their funding to hedge funds to support highly leveraged arbitrage strategies. This trend exacerbates the risk of sharp price swings and fosters the emergence of contagion channels to the broader financial system in the event of a sudden liquidity squeeze. These vulnerabilities are further amplified by the prevalence of very short-term transactions - predominantly overnight in the United States - and by the application of risk management practices (haircuts and margin calls) that may at times be insufficient and that could prove procyclical in the event of a shock.

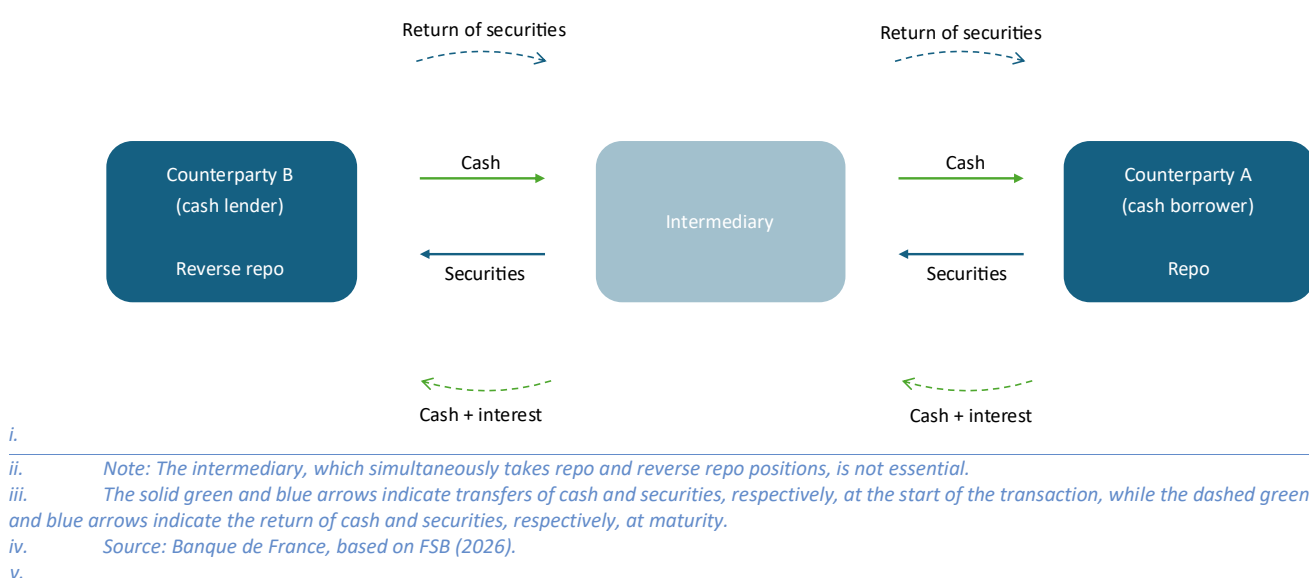
To mitigate these weaknesses, the market is currently undergoing major structural changes, foremost among them the expansion of central clearing. This transition is already well under way globally, as evidenced by the phased introduction of mandatory clearing for US government bond transactions and the significant levels of central clearing already reached for French, German and Italian government bonds (ranging from 30% to 60%, depending on the scope considered). Mandatory central clearing in the European Union could further strengthen the resilience of the European repo market. Regardless, adapting the macroprudential framework to enhance transparency appears essential.

2.1 The repo market is a key source of funding and supports liquidity in sovereign markets

A critical component of short-term funding and bond market functioning

The repo market holds a central position in today's financial architecture. In a repurchase agreement (repo), a financial institution temporarily exchanges securities for cash, committing to repurchase them at a pre-agreed date and price (see Figure 2.1). The mirror transaction from the perspective of the cash provider is known as a reverse repo. Although legally structured as a sale followed by a repurchase, a repo functions economically as a cash loan secured by collateral. As the repurchase price is fixed at the start of the contract, the party that receives the securities is theoretically not exposed to fluctuations in the price of the underlying asset during the term of the transaction. Residual exposure may nevertheless arise if the counterparty defaults between two margin calls, known as gap risk.¹⁰⁰ In this situation, the cash provider would have to liquidate the collateral to recover its funds.

Figure 2.1: Example of a repo with intermediation



The repo market enables financial institutions to access short-term funding against collateral, primarily sovereign bonds. It is a key component of liquidity management in the money market (see Chart 2.1), allowing securities holders to obtain cash without having to sell their securities outright. Repos thus offer a form of “liquidity without liquidation”¹⁰¹ that is particularly valuable during times of financial stress, helping to limit forced asset sales that could exacerbate market disruptions. By facilitating the circulation of securities beyond their long-term holders, the repo market also supports the functioning and liquidity of sovereign bond markets. In particular, it underpins the activities of market makers that are continually buying and selling securities on the secondary market. To play this role, market makers must temporarily hold large inventories of sovereign bonds on their balance sheets. The repo market enables them to fund these inventories at low cost by using securities as collateral to borrow cash. The secured nature of repo trades lowers funding costs and facilitates the holding of sovereign bonds. This contributes to narrower bid-ask spreads and, in turn, improves market liquidity. More broadly, it enhances intermediaries’ ability to absorb buying and selling flows without triggering significant price movements, thereby supporting the liquidity and resilience of sovereign bond markets. By signalling the relative scarcity of certain securities, adjustments to repo rates encourage holders to make them temporarily available, promoting their recirculation within the financial system and improving the effective liquidity of sovereign bond markets (see Box 2.1).

¹⁰⁰ Counterparty risk management mechanism designed to realign the estimated market value of collateral with the amount of cash lent.

¹⁰¹ Coen (J.), Coen (P.) and Hüser (A.-C.) (2024), Collateral demand in wholesale funding markets, *Staff Working Paper* No. 1082, Bank of England, July.

Box 2.1: Rate formation and the role of public sector institutions in the euro area

By Mateo Caicedo Graciano, Lucas Devigne, Paul Domart et Claire Orliac

A repo transaction is negotiated at a rate that balances the supply of and demand for cash against collateral. This rate corresponds to the cost of borrowing cash against securities and fluctuates in the vicinity of the Eurosystem's deposit facility rate (DFR). Repo trades can be divided into two main types according to the type of collateral used.

- **General collateral (GC):** the securities provided as collateral are regarded as interchangeable and grouped into broad, homogeneous classes, typically defined by sovereign jurisdictions.¹⁰² The exact identity of the security at the time of the trade is irrelevant: what matters is that it belongs to a specific collateral class. The associated rates vary according to the credit quality of the securities: the German GC rate is usually lower than the Italian GC rate, as German bonds are considered safer (see Chart 1). Consequently, the party receiving these securities as collateral accepts a lower return because it bears less risk. In this case, the transaction primarily serves a funding purpose, and the repo is above all a means of accessing liquidity.
- **Specific collateral (SC):** whereas some repo trades are primarily intended to meet funding needs, others are driven by the intent to acquire a specific security, for hedging purposes, settlement transactions, or delivery on the derivatives market. When market participants are seeking access to a specific type of collateral, the repo rate may trade well below GC rates, sometimes by several dozen basis points. Such securities are referred to as "special". The lower repo rate reflects the relative scarcity of the security: participants are willing to lend cash on more favourable terms in order to obtain temporary access to that security, thereby encouraging its recirculation within the market. The "specialness" observed since the Eurosystem started purchasing securities must be understood in this context: purchases may have decreased the relative availability of certain sovereign securities and created imbalances between supply and demand for those securities. More generally, during periods when high-quality collateral is relatively scarce, some repo rates may trade well below the DFR. Conversely, when specific securities are in demand but remain sufficiently available on the market, particularly during periods of quantitative tightening (QT) and positive net sovereign issuance, repo rates may move above or close to benchmark money market rates.

Repo rates serve as short-term interest rate benchmarks, complementing the rate for unsecured overnight transactions (€STR, or euro short-term rate) calculated and published by the European Central Bank (ECB). The €STR, GC repo and Euribor rates provide benchmarks for a wide range of financial products, including interest rate derivatives, loans and hedging instruments.

It is important, however, to distinguish these private market transactions and the Eurosystem's refinancing operations. Eurosystem national central banks act as liquidity providers to their monetary policy counterparties through main refinancing operations (MROs) with a one-week maturity and longer-term refinancing operations (LTROs) with a three-month maturity. Although the economic mechanism is similar (a cash loan against securities posted as collateral), these transactions are not carried out in the repo market: they are conducted bilaterally with the central bank against pledge collateral, unlike market repo transactions, which involve a transfer of ownership of the securities.

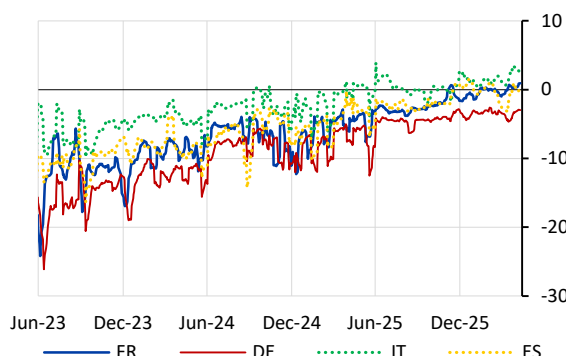
The MRO rate is one of the ECB's three key interest rates. Set at 15 bp above the DFR ("corridor width") since the Eurosystem's operational framework review came into force in September 2024, it helps to shape short-term money market financing conditions. The level of key interest rates and the level of excess central bank liquidity directly influence repo market rates. The latest review of the operational framework confirmed that, in an environment of ample liquidity, the DFR serves as the key benchmark rate around which money market

¹⁰² For example, the "German GC rate on the spot/week maturity" designates the repo rate secured by German government bonds for a transaction that generally starts two business days after the trade date and matures one week later.

conditions fluctuate.¹⁰³ This anchoring ensures the effective transmission of monetary policy, for which short-term market interest rates constitute the primary transmission channel vehicle.

Chart 1: Spread between European O/N repo rates and the DFR

x: time / y: spread (bps)



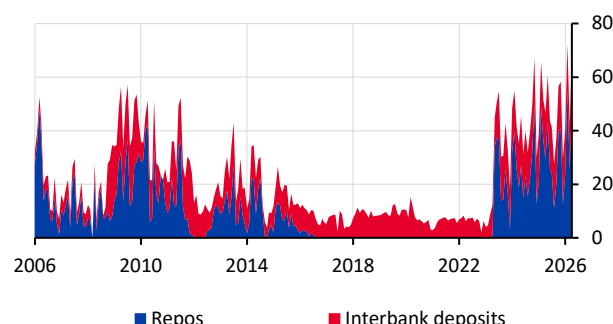
Note: 10-day moving average. Volume-weighted spreads between GC repo rates and the DFR.

Sources: SFTDS, Banque de France.

Most recent value: 5 June 2026.

Chart 2: Average total monthly amount placed in the markets by the AFT

x: time / y: amount in EUR billion



Note: Reverse repos correspond to the AFT's cash investments with commercial banks (mostly primary dealers) in exchange for French government securities (OATs); deposits are cash investments with the same institutions but without associated repos.

Source: AFT Regulation.

Most recent value: April 2026

Public sector institutions participate directly in the private repo market. Central banks trade in this market for two reasons: firstly, the Eurosystem lends securities purchased under its unconventional purchase programmes (APP and PEPP)¹⁰⁴ to alleviate collateral scarcity; secondly, central banks invest on their own account by placing cash through reverse repos transactions to earn a return on it. Agence France Trésor (AFT) is also an active participant in this market through the active management of the French Treasury's cash position, placing tens of billions of euros in reverse repos against French government bonds (OATs), as well as in deposits with commercial banks (see Chart 2). These operations shape market activity, as they are closely aligned with the timing of the State's cash inflows and outflows: funds are invested ahead of government bond redemptions, coupon payments and the payment of civil servants' salaries, and following sovereign debt issuance or the collection of taxes and social security contributions.

Repo and reverse repo activities play a vital role in the functioning of financial markets by facilitating the intermediation of liquidity and collateral. Banks and market intermediaries occupy a central role in this system, as they both intermediate between market participants and finance their own market positions through repo transactions (see Chart 2.2). On the one hand, repos provide a source of secured short-term funding for market participants in need of liquidity, such as certain leveraged funds,¹⁰⁵ by enabling them to temporarily post their securities as collateral. Conversely, they offer market participants with surplus cash, particularly money market funds, a low-risk and highly liquid investment vehicle. On the other hand, repos facilitate the temporary circulation of financial securities among market participants. Some long-term investors, such as insurers, can therefore temporarily lend the securities held in their portfolios in exchange for cash, thereby earning additional returns (see Charts 2.3 and 2.4). Banks and market intermediaries, in turn, borrow these securities for hedging purposes, notably to avoid settlement fails, for balance sheet management purposes, or as part of arbitrage and short-selling strategies. Some participants, such as hedge funds, may operate in either direction, depending on market

¹⁰³ ECB (2024), [Changes to the operational framework for implementing monetary policy](#), 13 March.

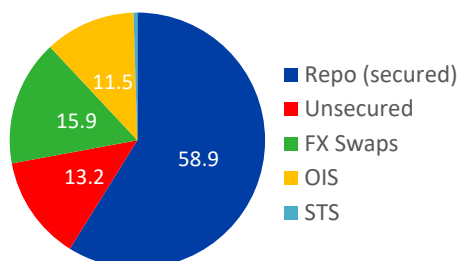
¹⁰⁴ The asset purchase programme (APP) and the pandemic emergency purchase programme (PEPP) are the two main asset purchase programmes implemented by the Eurosystem, since 2015 and 2020 respectively. By purchasing large quantities of sovereign bonds and other securities, these programmes have contributed to a decrease in the amount of high-quality collateral available on the market. To mitigate these effects, the Eurosystem allows market participants to borrow some of the securities held in its portfolios through [securities lending schemes](#).

¹⁰⁵ This trend has become particularly pronounced among leveraged funds since late 2024 (see Section 2.2).

conditions and arbitrage opportunities (see Box 2.2). Their presence is particularly significant in the major repo markets (United States, euro area, United Kingdom and Japan).

Chart 2.1: Share of money market segments in the euro area at the end of 2025

x: time / y: % share

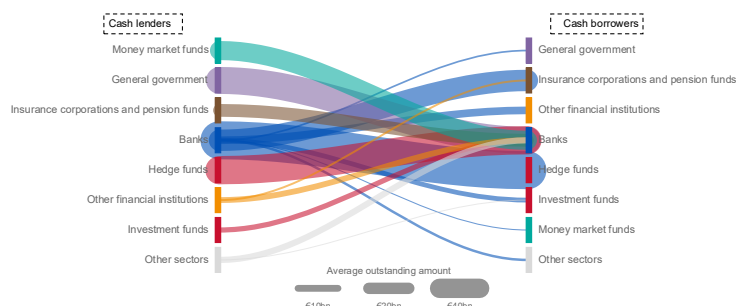


Note: Average daily volumes in the fourth quarter of 2025. Short-term debt securities (STS) account for 0.5% of the market.

Sources: MMSR, Banque de France.

Chart 2.2: Cross-sector OAT repo positions during 2025

x: liquidity lending and borrowing sectors / average daily outstanding amounts in EUR billion



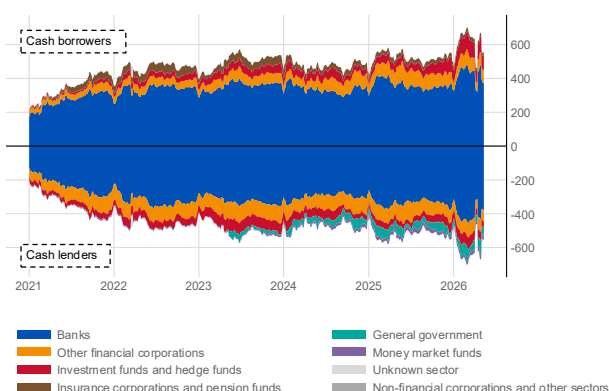
Note: The thickness of the bands corresponds to average daily outstanding cross-sector OAT repo positions in 2025. The transactions considered are OAT repos involving at least one counterparty subject to SFTR reporting. Transactions with central banks are excluded from the analysis due to incomplete data coverage. The exposures observed are, however, similar to those of general government transactions, albeit involving smaller amounts. The “other” category comprises CCPs (trading on their own account), non-financial corporations, financial vehicles and unidentified sectors.

Sources: SFTDS, Banque de France.

Very short-term transactions predominate in the market, with around half of the global outstanding stock maturing overnight. This maturity structure offers several advantages: first, it gives market participants considerable flexibility to adjust their balance sheet. Money market funds, for example, face constraints relating to daily redemptions, which may be substantial. By investing their surplus cash through overnight reverse repos, they are able to earn a return on their liquidity while retaining immediate access to it. Short maturities also help to limit exposure to fluctuations in the collateral value, as well as counterparty credit risk.

Chart 2.3: Cash borrowing and lending on the OAT repo market, by sector

x: time / y: amount in EUR billion



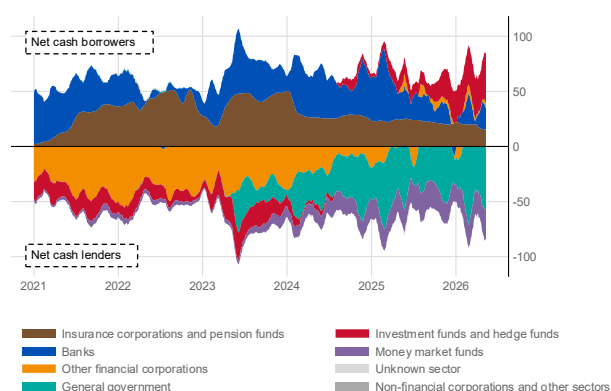
Note: 7-day moving average. The transactions considered are OAT repos involving at least one counterparty subject to SFTR reporting. Transactions with central banks are excluded from the analysis due to incomplete data coverage. The exposures observed are, however, similar to those of transactions with general government, albeit involving smaller amounts. The “other” category comprises CCPs (trading on their own account), non-financial corporations, financial vehicles and unidentified sectors.

Source: SFTDS, Banque de France calculations.

Most recent value: 5 June 2026.

Chart 2.4: Net borrowing and lending positions on the OAT repo market, by sector

x: time / y: amount in EUR billion



Note: 20-day moving average. The transactions considered are OAT repos involving at least one counterparty subject to SFTR reporting. Transactions with central banks are excluded from the analysis due to incomplete data coverage. The exposures observed are, however, similar to those of transactions with general government, albeit involving smaller amounts. The “other” category comprises CCPs (trading on their own account), non-financial corporations, financial vehicles and unidentified sectors.

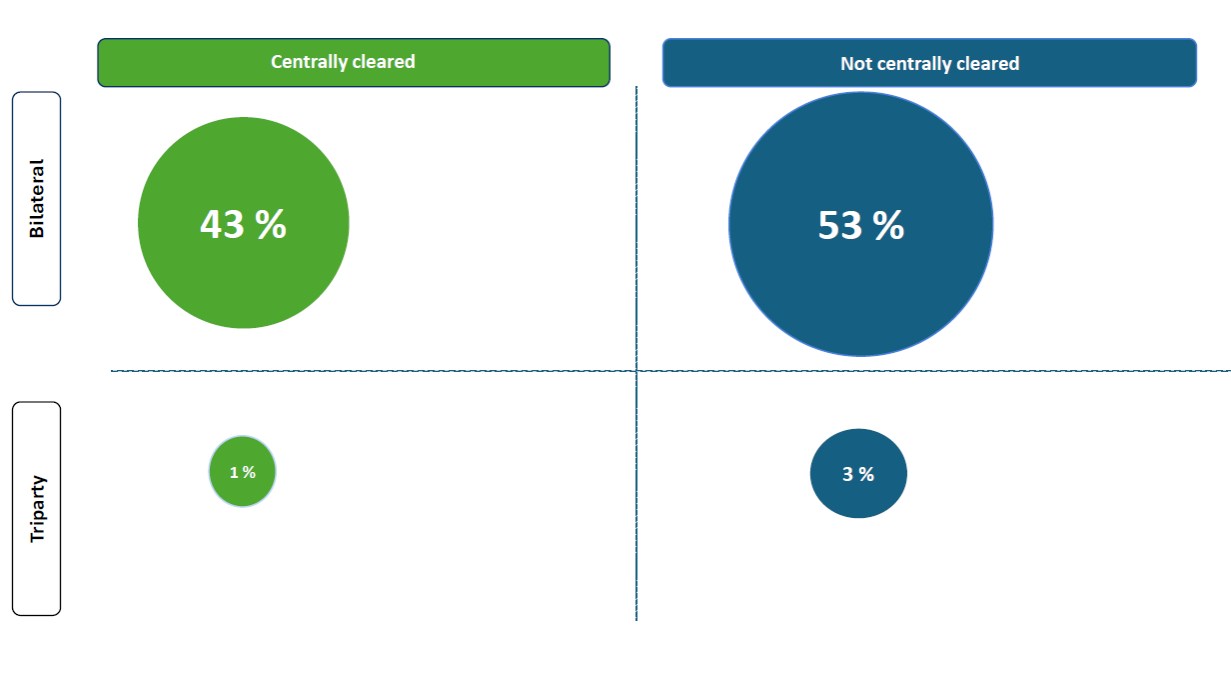
Source: SFTDS, Banque de France calculations.

Most recent value: 5 June 2026.

Segmented and evolving market structure

The repo market is structured along two dimensions: the clearing arrangement (bilateral or centrally cleared) and the settlement arrangement (direct or through a triparty agent). This dual segmentation creates four distinct market segments, of which the non-centrally cleared bilateral repo (NCCBR) segment, characterised by direct settlement, remains the largest. It accounts for around 50% of the global outstanding stock and, depending on the scope considered, up to 70% of transactions in France and the euro area (see Figure 2.2). This reflects participants' continued preference for flexible, albeit less standardised, transactions that allow tailored negotiation of maturities, collateral type and haircuts.

Figure 2.2: Breakdown of the main OAT repo market segments in 2025



Note: The size of the bubble reflects the relative size of each market segment at end-2025. The data used cover only transactions involving at least one counterparty subject to SFTR reporting. This probably causes the amounts of non-cleared repos to be underestimated, as some bilateral transactions fall outside the scope of reporting. Adjusting the scope based on FSB estimates (2026) suggests that the share of non-cleared transactions could be nearly 70% across the euro area.

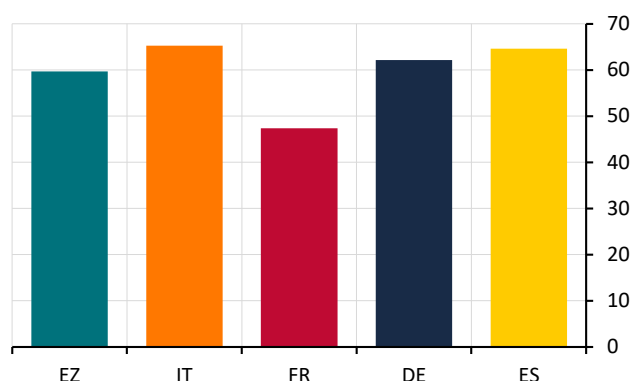
Sources: SFTDS, FSB (2026), Banque de France.

Approximately 40% of outstanding repo market transactions are cleared through a central counterparty (CCP).¹⁰⁶ This segment centralises clearing and may also rely on triparty agents for collateral management. By replacing multiple bilateral exposures with a single exposure to the CCP, central counterparties reduce participants' counterparty credit risk. They also mitigate contagion risk, facilitate multilateral netting and promote greater standardisation of market practices, particularly with regard to contractual arrangements, collateral valuation, margining and haircuts (see Chart 2.6 and Section 2.3). Central clearing is especially well established in the interdealer sovereign bond repo market, where it enables intermediaries to optimise their balance sheet capacity. Between 50% and 60% of European government bond repo outstanding are now centrally cleared, with particularly high shares for major issuers such as France, Germany and Italy (see Chart 2.5). However, this growth mainly applies to transactions between banks and market intermediaries; bilateral transactions continue to dominate repos involving non-bank investors in the dealer-to-client (D2C) segment.

¹⁰⁶ Financial Stability Board (2026), *Vulnerabilities in Government Bond-Backed Repo Markets*, 4 February.

Chart 2.5: Share of CCP-cleared repos at end-2025, main European jurisdictions

x: time / y: % share

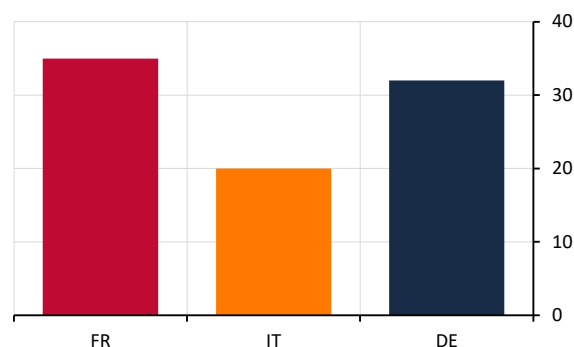


Note: The data used cover only transactions involving at least one counterparty subject to SFTR reporting. This probably causes the amounts of non-cleared repos to be underestimated, as some bilateral transactions fall outside the scope of reporting. Adjusting the scope based on FSB estimates (2026) suggests that the share of non-cleared transactions could be nearly 70% across the euro area.

Source: SFTDS, Banque de France calculations.

Chart 2.6: Share of repos subject to netting on European repo markets in 2025, by jurisdiction

x: time / y: % share



Source: SFTDS.

Most recent value: 5 June 2026.

Since 2021, sponsored clearing models have been developed to broaden access to central clearing beyond the relatively small circle of banks. These models are primarily target at asset managers and investment funds, which remain largely active in the non-cleared bilateral segment. Under sponsored clearing arrangements, the client becomes a direct participant of the clearing house for margining and settlement purposes, while receiving the operational support and financial guarantees of a direct clearing member, usually a bank acting as a sponsor. The sponsor covers contributions to the default fund and may also provide cash and collateral management services. Guaranteed sponsored clearing models have also emerged, particularly to meet the needs of hedge funds. Here, the sponsoring bank not only guarantees the client's operational obligations but also assumes full liability to the CCP for any losses arising from a potential default by the client (see Section 2.3). However, despite the innovative solutions offered, notably by LCH SA (Sponsored Clearing) and Eurex (ISA Direct), these models have yet to be widely adopted in Europe. Sponsored models accounted for just 1% of euro transactions in 2021. That share has since risen to 5.8%,¹⁰⁷ largely due to the attractive terms offered by banks for bilateral transactions. By contrast, the US market has experienced much broader adoption and rapid growth of these models in recent years,¹⁰⁸ illustrating their suitability for the economic and operational constraints faced by market participants (see Box 2.3).

Triparty repo transactions may take place in either the bilateral or the centrally cleared segment. The triparty dimension relates to collateral management, which is outsourced to a third party known as a triparty agent, typically a central securities depository (CSD) or a similar institution. Unlike a CCP, this agent does not bear any counterparty risk, but is mandated to perform collateral-related operational functions, such as selection and daily valuation of securities, application of haircuts, margin calls and settlement.

Interconnected players in a globalised market

The repo market is characterised by a core-periphery structure that is heavily concentrated around a handful of global systemically important banks (G-SIBs), which act as intermediaries for a periphery of diverse participants, including money market funds, hedge funds, asset managers, insurers and smaller banks. This centrality is both functional and structural: nearly 90% of transactions are channelled through bank intermediaries, while direct

¹⁰⁷ ICMA (2026), International Capital Market Association European Repo Market Survey, March.

¹⁰⁸ Copeland (A.) and Kahn (R. J.) (2025), The Rise of Sponsored Service for Clearing Repo, *Liberty Street Economics*, 8 October.

relationships between non-banks are marginal.¹⁰⁹ Intermediaries operate according to a matched-book model, acting simultaneously as borrowers and lenders to transform the liquidity, maturity and collateral needs of market participants (see Figure 2.1).

Market flows also reveal functional and geographical specialisation. Hedge funds have been the main net cash borrowers since mid-2024, mainly to finance leveraged strategies in sovereign bond markets. Their global outstanding repo positions stood at nearly USD 3.3 trillion at the end of 2025, or about 25% of their assets, reflecting the growing use of arbitrage strategies such as basis trade (see Section 2.2 on the role of hedge funds). Money market funds play a central role as cash providers, particularly in the triparty segment, where they are looking for liquid, safe investments with low regulatory capital requirements.¹¹⁰

The US dollar dominates these intermediation activities, accounting for approximately 66% of the global outstanding repo market.¹¹¹ In this regard, European banks occupy a strategic position as an offshore US dollar hub: they capture a significant share of the US dollar liquidity provided by US money market funds, and redistribute it to other European banks, hedge funds or offshore investment funds. Dollar-denominated repos by euro area entities account for nearly 40% of their total outstanding repo volumes, i.e. on a par with their euro-denominated activity. United Kingdom-based entities often play a bridging role in these transatlantic US dollar liquidity flows, connecting US markets with financial institutions in continental Europe.¹¹²

The activities of major European banks, including French ones, in the dollar repo market form a central part of their overall liquidity management, particularly through flows between European parent companies, US subsidiaries and London-based entities. A significant proportion of cross-border repo flows actually consists of intra-group transactions within banking groups, used to rapidly reallocate liquidity and collateral between jurisdictions. These intra-group flows involve huge volumes, amounting to some EUR 700 billion per day for euro transactions and USD 350 billion for dollar transactions, and are predominantly in very short-term (often overnight) maturities.¹¹³ The share of very short-term transactions is actually significantly higher in intra-group transactions than in transactions with external counterparties, reflecting their central role in sophisticated global cash and collateral management. These internal transactions also help to optimise prudential constraints, especially the leverage ratio. For example, European banks frequently scale back their repo positions in the United States as quarter-end regulatory reporting dates approach, in order to temporarily limit the size of their published balance sheet, a technique known as window dressing. The contraction in repo funding is partially offset by increased use of FX swaps, which allow banks to obtain dollars under more favourable accounting and prudential treatment.¹¹⁴ These adjustments account for some of the strong seasonal pressures observed in dollar funding markets at each quarter-end.

Essential functions for rate formation and the transmission of monetary policy

Besides its role in funding and intermediation, the repo market is a key channel for the operational transmission of monetary policy and a vital anchor for short-term interest rates. Central banks steer monetary conditions through their key rates, which determine refinancing costs for institutions with access to central bank money (see Box 2.1). Banks then redistribute the liquidity they have obtained to a range of financial institutions, including non-banks, through a variety of channels. Any disruption to the repo market may therefore disrupt the transmission of monetary policy and fragment financing conditions.

By lending cash against collateral through their main refinancing operations and standing facilities, central banks guide short-term interest rates and signal the monetary policy stance. In times of stress, repo facilities

¹⁰⁹ FSB (2026), *op. cit.*

¹¹⁰ Cenicola (A.) et al. (2026), *Who participates in repo?*, OFR, 31 March.

¹¹¹ FSB (2026), *op. cit.*

¹¹² Hermes (F.) et al. (2025), *The international dimension of repo: five new facts*, Working Paper Series no 3065, European Central Bank, August.

¹¹³ *Ibid.*

¹¹⁴ *Ibid.*

also act as a safety net by enabling intermediaries to obtain cash quickly against high-quality assets. Mechanisms such as the US Federal Reserve's Standing Repurchase Agreement Operations programme¹¹⁵ or the emergency operations taken by the Bank of England during the 2022 gilt crisis illustrate this stabilising function. By limiting the risk of fire sales of sovereign bonds, these mechanisms help to safeguard market functioning and financial stability.

The reduction in excess liquidity is now changing this configuration. As they shrink their balance sheets, central banks gradually return government bonds to the market while reducing excess bank reserves. The repo market is thus shifting from a collateral-seeking environment to a liquidity-seeking one, in which funding needs once again take centre stage. This development has strengthened the role of the GC segment (where the exact identity of the security provided as collateral does not matter), particularly for banks and primary dealers, which play a balance sheet intermediation role by temporarily absorbing sovereign bond issuance. Leverage ratio and capital requirements penalise even temporary gross balance sheet expansions, reducing intermediaries' ability to fund and intermediate bond markets. Repos allow these newly issued bonds to be converted into short-term liquidity without liquidating the underlying assets. The normalisation of central bank balance sheets in the major monetary areas, and particularly in the euro area, has thus repositioned the repo market as a key channel of liquidity provision, partially replacing the abundant liquidity previously provided by central banks. This shift is also fuelling growth in the cleared segment, especially the sovereign bond interdealer market.

2.2 Growing vulnerabilities linked to leverage, market practices and intermediation

The repo market is a vital infrastructure for financing the economy and bond market liquidity, but its current structure harbours vulnerabilities that could make it a powerful channel for systemic contagion in times of stress. These vulnerabilities stem from three key drivers: inadequate and procyclical risk management; the build-up of significant leverage by non-banks, particularly hedge funds; and highly concentrated intermediation, relying on banks whose balance sheet capacity could quickly become constrained.

Procyclical funding mechanisms (haircuts, margins and collateral)

Margin and haircut mechanisms could amplify market shocks. During periods of heightened volatility or falling bond prices, margin calls increase, while lenders demand more collateral to keep positions open. This forces highly leveraged participants to raise cash quickly, often by selling assets. These sales, in turn, depress market prices, triggering further margin calls and fuelling negative feedback loops (see Figure 2.3). Such liquidity spirals were observed during several recent episodes of stress in bond markets, notably the "dash for cash" in March 2020 and the UK LDI fund crisis in 2022. They illustrate the potentially procyclical nature of risk management practices in repo markets.

The repo market uses risk management mechanisms that help to protect individual transactions but that may also generate procyclical dynamics and amplify system-wide financial stress. Firstly, the widespread use of zero haircuts in the non-cleared bilateral segment supports significant leverage build-up. Based on our analysis of SFTDS data, between 50% and 70% of bilateral transactions in EGB and OAT sovereign debt are executed without a haircut (see Chart 2.6). While the absence of a haircut can be explained at the microeconomic level by mechanisms for netting positions and risk at the overall portfolio level, or by the bargaining power of major players in a competitive market, at the macroeconomic level it conceals an accumulation of leverage that greatly increases the system's vulnerability to liquidity shocks.

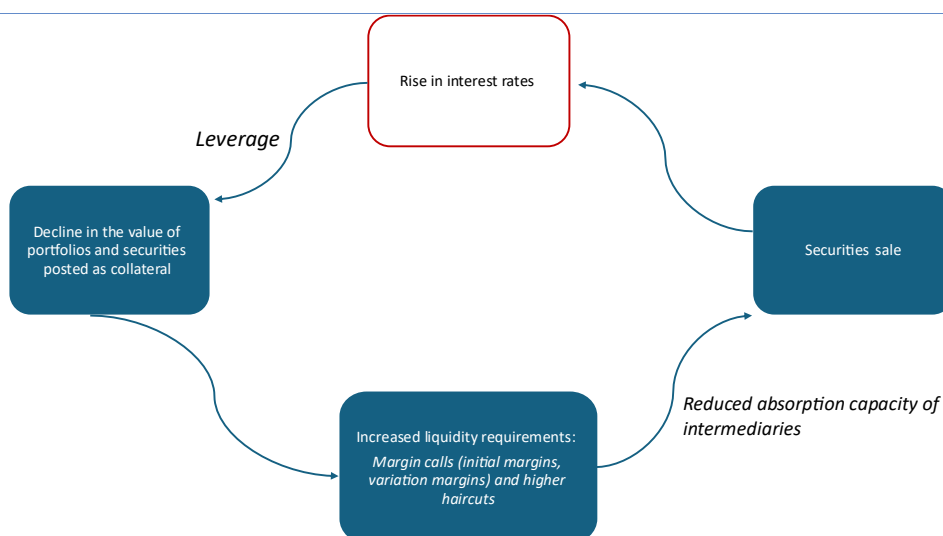
The market's maturity profile is an additional factor of vulnerability. A large proportion of repo trades are concluded on a very short-term basis, often overnight, requiring massive daily rollover of positions. This reliance

¹¹⁵ Previously called the *Standing Repo Facility*.

exposes borrowers to a high level of risk in the event that cash lenders suddenly withdraw or financing conditions deteriorate. An inability to roll over transactions could lead to rapid and disorderly deleveraging.

Finally, collateral reuse¹¹⁶ plays a major role in ensuring the smooth functioning of the repo market. While studies examining the banking sector's overall financing activity in the euro area (including securities lending) have estimated that between 50% and 75% of sovereign collateral is reused,¹¹⁷ more recent research focusing exclusively on the European repo market puts this figure at around 12%.¹¹⁸ According to this research, this amounts to nearly EUR 50 billion exchanged per day and creates intermediation chains comprising an average of three successive nodes. Although this mechanism mitigates situations of collateral scarcity, particularly for the most sought-after sovereign bonds, it lengthens intermediation chains and increases interdependencies between financial participants. A local disruption, such as a counterparty default, an operational difficulty or the precautionary retention of collateral, could thus spread rapidly to the rest of the system. In times of stress, these dynamics can promote collateral hoarding,¹¹⁹ sharply curtailing the liquidity available in the repo market and exacerbating pressures in the underlying sovereign bond markets.

Figure 2.3: Stress transmission channels in the repo market



Source: Banque de France

¹¹⁶ This is made possible by the legal structure of repos: by temporarily becoming the owner of the security, the liquidity provider gains the right to reuse it in a new transaction with a third party, provided the collateral can be returned at maturity.

¹¹⁷ Jank (S.) et al. (2022), Safe asset shortage and collateral reuse, *Working Paper*, Econstor, July.

¹¹⁸ Alexiou (G. A.) et al. (2025), Repo collateral reuse and liquidity windfalls, *Working Paper Series*, n° 3147, BCE.

¹¹⁹ Luu (D. T.) et al. (2021), Collateral unchained: Rehypothecation networks, concentration and systemic effects, *Journal of Financial Stability*, Vol. 52, February.

The central role of leverage and hedge funds

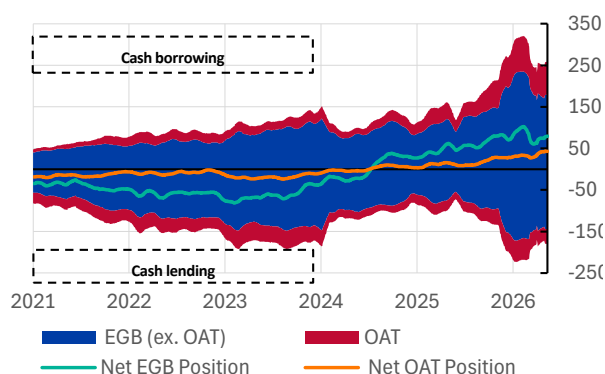
Hedge funds now play a central role in the functioning of repo and sovereign bond markets. They make extensive use of repo financing to support leveraged strategies, with outstanding amounts estimated at around USD 3.3 trillion at end-2025,¹²⁰ or nearly 25% of their assets. This volume of repo financing reflects the nature of the strategies employed, particularly arbitrage transactions such as cash-futures basis trades (see Box 2.2). These strategies increase interdependencies between bond, derivatives and secured finance markets.

In this setting, hedge funds are playing an increasingly prominent role in holding sovereign debt. Banks and primary dealers, which are more constrained by prudential requirements and balance sheet costs, have less capacity to hold bond issues over the long term (despite the high-quality liquid assets [HQLA] requirements under the LCR). Hedge funds are thus absorbing an increasing share of sovereign debt positions through repo financing. In the euro area, they are thought to account for a significant share of the demand directed towards primary dealers during sovereign auctions. Chart 2.7 shows a marked increase in hedge funds' net positions in European repo markets, particularly in euro area government bonds and French OATs. This trend reflects a growing reliance on repo financing to support leveraged strategies, with a marked acceleration from 2024 onwards.

The rise of these strategies is taking place against a market backdrop characterised by exceptionally favourable financing conditions, particularly in the segment comprising repos backed by high-quality sovereign securities. A significant share of transactions involving hedge funds are subject to low or even zero haircuts,¹²¹ fuelling significant use of leverage and strong sensitivity to financing conditions (see Chart 2.8). This configuration supports shock propagation mechanisms. In the event of increased volatility or a fall in bond prices, margin calls and higher haircuts force hedge funds to liquidate their positions to raise cash. These fire sales exert further downward pressure on prices, fuelling a negative feedback loop that could turn a local shock into system-wide stress, as observed during episodes of tension in the bond markets.

Chart 2.7: Hedge fund positions in European repo markets

x: time / y: amount in EUR billion



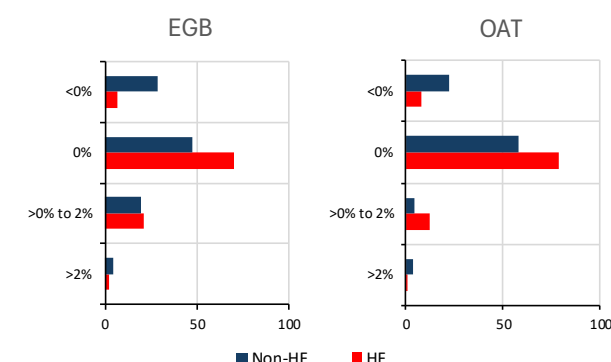
Note: 20-day moving average. The transactions considered involve at least one entity subject to SFTR reporting. Hedge funds are identified using data from the Lipper and ECB databases, including funds domiciled in the Cayman Islands, Bermuda and the British Virgin Islands.

Sources: SFTDS, LSEG Lipper, ECB, Banque de France calculations.

Most recent value: 5 June 2026.

Chart 2.8: Haircuts paid by hedge funds on non-cleared European debt repos

x: % of repo transactions / y: haircut



Note: Average from 1 January 2025 to 5 June 2026.

Source: SFTDS, Banque de France calculations.

This activity is also highly concentrated: a handful of hedge funds rely heavily on the intermediation services of a few major banks acting as prime brokers (see Chart 2.9). This twofold concentration means that, in times of stress, a reduction in risk appetite or balance sheet constraints affecting these intermediaries could quickly translate into

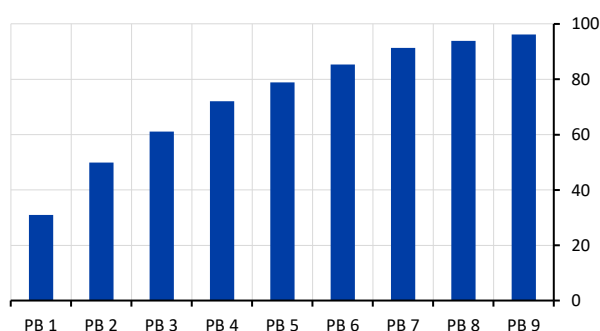
¹²⁰ Office of Financial Research, SEC Form PF.

¹²¹ Haircuts may even be negative. This counterintuitive situation is mainly explained by strong demand for certain sovereign securities considered to be scarce (leading liquidity providers to offer less favourable terms in order to obtain them), by the significant bargaining power of large hedge funds vis-à-vis banks, and by portfolio-wide margin netting practices (FSB (2026), *op. cit.*; Hermes (F.) et al. (2025), *op. cit.*).

refinancing risk for the funds. The risk is further exacerbated by the prevalence of short-term funding maturities: nearly 70% of hedge fund transactions mature in less than 15 days, in a repo market where nearly three-quarters of transactions across all market participants feature similar time horizons (see Chart 2.10). However, the largest hedge funds are characterised by more frequent use of term financing, particularly in relation to the most liquid EGBs, including OATs. This ability to secure funding over longer horizons helps to limit their immediate exposure to refinancing risk compared with smaller players. Conversely, the rise of term financing may increase banks' intermediation needs when final liquidity providers, such as money market funds, favour shorter maturities. This maturity mismatch is likely to be partially absorbed by intermediaries, increasing their exposure to maturity transformation risk during periods of market stress.

Chart 2.9: Bank concentration in hedge fund financing in 2025

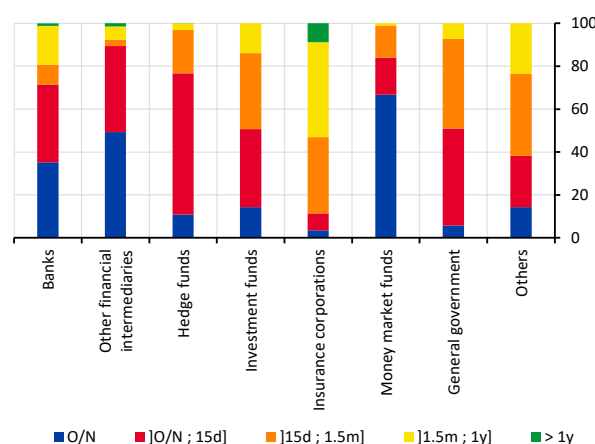
x: banks / y: % share



Note: PB denotes prime brokers. On average, the three largest borrower hedge funds account for 43% of exposure at these institutions.
Source: SFT, Banque de France calculations.

Chart 2.10: Maturity profile in the OAT repo market in 2025, by participant

x: sectors / y: % share



Note: The maturity profile is calculated using monthly snapshots of outstanding OAT-backed repos observed between January 2025 and January 2026. The maturities correspond to the residual maturity of the transactions. Repos without a pre-agreed maturity (open repos) are excluded. For most sectors, the maturity profile is derived from liquidity borrowing transactions; for government and money market funds, which are structurally net lenders of liquidity, it is calculated from liquidity lending transactions. O/N refers to overnight maturities.
Source: SFTDS, Banque de France calculations.

Box 2.2: What are the risks associated with hedge fund strategies in the US sovereign debt market?

By Christin Thibault, Raphael Vives and Xavier Denis

Strong growth in leveraged strategies in the US Treasuries market

In recent years, hedge funds have significantly increased their exposure to strategies that seek to capitalise on valuation gaps between US Treasuries (USTs) and derivatives backed by USTs of equivalent maturity. Basis trade strategies seek to profit from the expected convergence between UST prices and the associated futures contracts. Swap spread strategies, meanwhile, seek to profit from the expected convergence between UST yields and the swap curve (see Figure 1). In both cases, hedge funds' long UST positions are generally financed largely through repos, making them heavily dependent on financing conditions in that market.¹²² As margins are razor-thin, these strategies are only profitable when dealing with very large volumes, which assumes significant leverage.

¹²² The International Monetary Fund estimates that, on average, 99% of the amount invested in USTs by hedge funds is borrowed.

Hedge funds held more than USD 2 trillion worth of USTs¹²³ in the second quarter of 2025, financed by nearly USD 1.8 trillion in borrowing.¹²⁴ They have estimated exposures of over USD 1 trillion to basis trade strategies¹²⁵ and more than USD 630 billion to swap spread strategies.¹²⁶ Swap spread positions more than doubled between the first quarter of 2024 and the second quarter of 2025. It is therefore these positions that contributed most to the acceleration in hedge funds' leveraged positions in recent times. Whereas the trend between 2021 and 2025 was characterised by a steep increase in leveraged positions in USTs,¹²⁷ more recently, basis trade position volumes¹²⁸ appear to have stabilised, while the volumes of swap-spread positions continue to rise sharply.

Since 2021, the rise in swap spread and basis trade volumes among hedge funds betting on convergence between UST and derivative prices has largely been driven by asset managers' preference for increasing the duration of their bond portfolios through derivatives, rather than through direct purchases of USTs, taking advantage of their high liquidity, the reduced balance sheet impact, and the creation of implied leverage.¹²⁹ This preference for derivatives on the part of asset managers therefore explains the existence of a structural valuation gap with their underlying assets (USTs) and reflects the increase in futures prices relative to the underlying USTs.

Vulnerabilities linked to financing and UST market structure

A deterioration in financing conditions in the repo market could lead to forced and rapid unwinding of these strategies. The fact that hedge funds finance their long UST positions through short-term borrowing (repos) makes these strategies highly dependent on financing conditions, and therefore on the volatility observed on US money markets. A rise in repo financing costs,¹³⁰ a reduction in banks' balance sheet capacity, or a sudden and adverse movement in spreads, as observed on several occasions since 2020 (during the pandemic and in April 2025, in particular), could once again disrupt this highly sensitive ecosystem. Note that in contrast to what was observed in the wake of Liberation Day in April 2025,¹³¹ when the forced unwinding of these speculative positions (particularly on swap spreads) triggered a surge in long-term UST yields, market participants have not reported any such dynamics since the start of the conflict in Iran. A volatility spike in the UST market could lead to significant liquidity requirements for hedge funds through increased margin calls from their counterparties in the repo market and a rise in demands for overcollateralisation,¹³² particularly when positions are rolled over. At the same time, in the case of futures and swaps (where these are cleared), a rapid rise in volatility could also cause an increase in margin calls from clearing houses. In order to meet these additional liquidity requirements, hedge funds could be forced to sell their UST holdings, sometimes rapidly and abruptly, thereby undermining these strategies and potentially triggering a cascade effect. Furthermore, as banks' balance sheets are constrained by regulatory ratios, they are not always able to cope with an influx of UST supply onto the secondary market from hedge funds, which can then have a significant upward impact on US interest rates (depreciation of USTs).

Structural factors also increase the risks associated with these positions and cause the spread between USTs and their derivatives to widen. This is particularly true of the sharp increase in the supply of US government debt in recent years: faster growth in the supply of USTs relative to demand may thus lead, all other things

¹²³ The Bank for International Settlements (BIS) estimates that hedge funds' long positions in USTs stood at USD 2.379 trillion in the second quarter of 2025. [BIS \(2025\), Sizing up hedge funds' relative value trades in US Treasuries and interest rate swaps, BIS Quarterly Review, 8 December.](#)

¹²⁴ Hedge funds' net borrowing position in the repo market is estimated at USD 1.8 trillion. [Cenicola \(A.\) et al. \(2026\), op. cit.](#)

¹²⁵ Close to its all-time high (97th percentile), estimated by Bloomberg Intelligence at USD 1.18 trillion in November 2024.

¹²⁶ [BIS \(2025\), op. cit.](#)

¹²⁷ Between 2022 and 2025, hedge funds' repo transactions rose by 154% and their borrowing from banks by 83%. [Bright \(S.\) et Hamandi \(H.\) \(2026\), Calm markets and underlying risks, The OFR Blog, 26 March.](#)

¹²⁸ [BIS \(2025\), op. cit.](#)

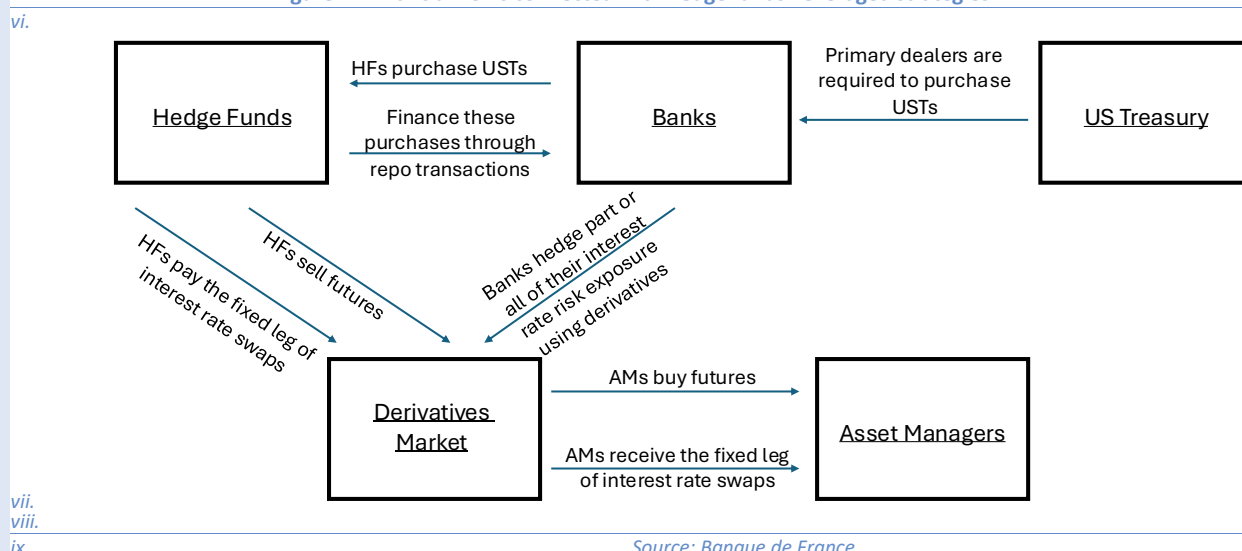
¹²⁹ [Iorio \(B.\) et al. \(2024\), Why do mutual funds invest in treasury futures, FEDS Notes, 10 May.](#)

¹³⁰ On 22 May, the Secured Overnight Financing Rate (SOFR) stood at 3.55%, after averaging 3.64% between 1 January and 22 May.

¹³¹ [Banque de France \(2025\), Financial Stability Report, June.](#)

¹³² [Glicoes \(J.\) et al. \(2024\), Quantifying treasury cash-futures basis trades, FEDS Notes, 8 mars;](#) et [Kahn \(R. J.\) et McCormick \(M.\) \(2025\), Proportionate margining for repo transactions, FEDS Notes, 14 February.](#)

Figure 1: Financial flows connected with hedge funds' leveraged strategies



being equal, to a structural depreciation of USTs relative to derivatives, such as futures and swaps. In recent years, this situation has pushed swap spreads into negative territory (swap rates lower than UST yields of the same maturity), particularly at the long end of the sovereign curve.

Finally, hedging positions in UST derivatives are extremely concentrated: at 23 January 2026, the eight largest short positions in 10-year UST futures contracts were estimated to account for more than 30% of total short positions. They account for nearly 50% of those on the five-year contract.¹³³ This increases the vulnerability of these speculative positions and the risks in the event of rapid and disorderly unwinding.

The reliance of these strategies on short-term funding therefore represents a potential channel through which stresses could spread between money markets, interest rate derivatives markets and the UST market.

Concentrated intermediation and structural vulnerabilities

Significant centralisation of repo intermediation with a handful of major banks means that risks are heavily concentrated. In the euro area, five institutions alone account for nearly two-thirds of repo financing for hedge funds, while in the United States a few large banks dominate the prime brokerage sector. Reliance on a handful of intermediaries creates systemic vulnerability: a decline in risk appetite, balance sheet constraints or operational difficulties affecting a key bank could quickly disrupt access to funding for a large part of the system. This vulnerability is exacerbated by a twofold concentration of exposures. Not only is hedge fund financing concentrated with a few key banks, but the exposure of these banks is in turn also concentrated with a small number of large funds. As such, the main borrowing hedge funds likely account for a significant proportion of the banks' total exposure to the sector, given that, in the case of the main European institutions, the three largest hedge funds clients accounted on average for 43% of total exposure to the sector at the end of 2025. This configuration increases the risk of bilateral contagion between systemically important institutions and highly leveraged entities.

Internationalisation of the repo market also exacerbates these structural vulnerabilities. Major European banks play a central role in the functioning of the offshore dollar market by redistributing the liquidity provided by US money market funds to banks, hedge funds and international investors. The role of European banks as a hub for US dollar financing increases the interconnectedness of US and European markets. A squeeze on dollar liquidity or a shock affecting the US repo market could therefore quickly feed through to the financing conditions of

¹³³ Bloomberg (2026), Treasury basis position hits highs as market calm, net short holders concentrated in TY and US Contracts, 23 January.

European intermediaries. Conversely, balance sheet constraints affecting European banks could reduce their capacity of these institutions to redistribute this liquidity to the rest of the global financial system. Intragroup flows also play an important role in this architecture. A significant proportion of cross-border repo transactions consists of intra-group transactions within large banking groups, used to rapidly redistribute liquidity and collateral between jurisdictions and to optimise prudential constraints. These adjustments increase the repo market's global integration, but also its sensitivity to international financing pressures.

The repo market is also closely linked to other segments of global finance, notably FX swaps, facilitating the rapid transmission of stress between money markets, collateral markets and foreign exchange markets. Prudential constraints may also prompt procyclical adjustments to bank balance sheets. Window dressing – temporary reductions in repo activity in the run-up to regulatory reporting dates – regularly cause liquidity strains and increased volatility in financing rates.

Finally, this concentration is accompanied by a lack of full visibility on the aggregate risks. As the market goes ever more digital, major leveraged players are using electronic platforms to approach multiple banks simultaneously, deliberately fragmenting their flows to maximise their access to funding. A direct consequence of this fragmentation is that each intermediary now sees only a limited fraction of its client's total activity. This inability of banks to assess their counterparties' overall exposure makes it considerably harder to assess systemic risk and identify vulnerabilities before periods of stress arise.

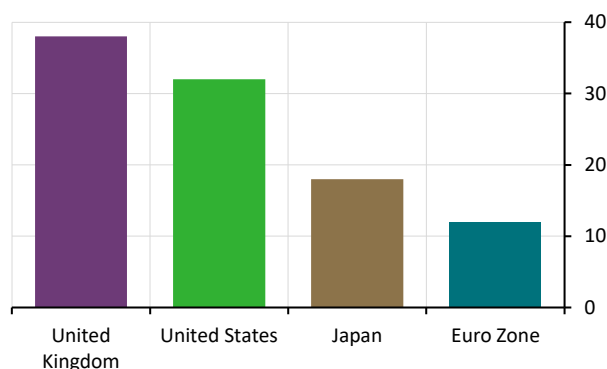
Significant interactions with sovereign markets and monetary policy

The repo market occupies a central place in the functioning of sovereign markets and monetary policy transmission. By supporting the financing of bond portfolios, the circulation of collateral and the liquidity of market makers, it is a vital infrastructure for the orderly functioning of government debt markets (see Chart 2.11). However, this interdependence means that tensions in the repo market can quickly spill over into sovereign bond markets and, more broadly, into the economy's financial conditions. Widespread use of repo financing to underpin leveraged positions creates, in particular, a direct transmission channel between funding stress and bond market volatility. In times of stress, heightened volatility or a fall in sovereign bond prices may lead to margin calls and an increase in investors' liquidity requirements.

Forced sales can fuel self-sustaining dynamics of falling prices and rising volatility, turning a market correction into a system-wide crisis. Recent events have highlighted this vulnerability. In March 2020, the massive unwinding of arbitrage strategies involving USTs led several hedge funds to rapidly sell off sovereign bonds, despite these being regarded as the safest assets in the global financial system (see Chart 2.12). This triggered a sharp deterioration in liquidity in the UST market and necessitated a major intervention by the Fed (UST purchase programme). Similarly, during the crisis in UK government bonds (gilts) in September 2022, the sudden rise in sovereign yields triggered massive margin calls for pension funds employing liability-driven investment (LDI) strategies. These strategies are based on borrowing liquidity in the repo market to finance long-term bond positions. Forced gilt sales to meet these margin calls amplified the increase in UK rates and prompted the Bank of England to take emergency action to restore the orderly functioning of the bond market. These episodes show that pressures on the repo market are not just a short-term funding issue: they can directly affect the liquidity and stability of sovereign markets (see Box 2.3). In the euro area, this vulnerability is of particular significance at a time of rising public financing needs and the growing role of non-banks in sovereign debt markets.

Chart 2.11: Size of the repo market relative to the sovereign debt market in 2025

x: country / y: % share

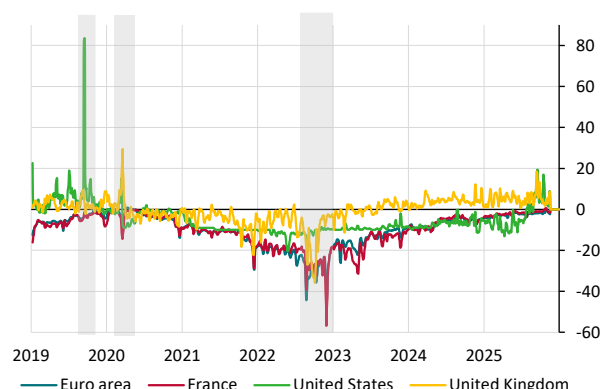


Note: Similar levels are observed for the main European jurisdictions in the repo market within the narrower SFTDS scope: around 10% and 11% for France, Italy and Germany; 6% for Spain.

Source: ECB, Banque de France, Banque de France calculations.

Chart 2.12: Spreads between GC repo rates and central bank deposit rates

x: time / y: spread (bps)



Note: 5-day moving average. The shaded areas indicate crises in the repo market (surge in rates in the United States in September 2019, euro area "dash for cash" in March 2020, LDI crisis with volatility spikes in the euro area in September 2022).

The euro area sample corresponds to the average of the four main jurisdictions in Europe's repo market (France, Germany, Italy and Spain).

Sources: FRBNY, ECB, Bloomberg, Banque de France calculations.

The repo market also plays a vital role in the transmission of monetary policy. Repo rates serve as a key anchor for short-term monetary conditions and support the distribution of liquidity throughout the financial system. Central banks, especially the Fed, use repos and reverse repos directly as an operational tool of monetary policy, while repo market conditions influence the formation of money market rates and government bond yields. The unconventional policies pursued since the Global Financial Crisis have profoundly altered this balance. Asset purchase programmes (quantitative easing, QE) carried out in the euro area removed a significant proportion of sovereign bonds from the market, reducing the amount of available collateral and compressing repo rates, in some cases to below central bank key rates. The scarcity of high-quality collateral heightened the specialness of highly sought-after sovereign bonds. Conversely, the phase of monetary normalisation and central bank balance sheet reduction (quantitative tightening, QT) has gradually increased financing conditions in the repo market. Reduced excess bank liquidity and increased sovereign bond issuance are reinforcing the role of repo as the main channel for secured market financing. In this new environment, pressures in the repo market may feed through more directly to government financing conditions and overall monetary conditions.

Finally, the internationalisation of the repo market contributes to the cross-border transmission of monetary and financial shocks. The dollar's dominance of secured finance markets means that tighter US dollar financing conditions or a change in US monetary policy could quickly affect repo conditions in Europe and other major jurisdictions. This interdependence increases the systemic importance of the repo market within the global financial architecture.

Box 2.3: What impacts can be observed from the repo stress test?

By Émilie Da Silva, David Gauthier and Aymeric Schneider

To better understand the risks, the Banque de France included a repo market model in the system-wide stress test that it conducted in 2026. This modelling draws on work by the European Central Bank (ECB) to simulate the spread of financial shocks within a financial system comprising banks, investment funds and insurers. The ECB's ISA model highlights the financial stability implications of the interconnections between these three sectors through two main channels.

- The liquidity channel: when one participant obtains liquidity from another, the latter's liquidity position worsens.
- The default channel, which results in losses for counterparties. Liquidity needs can trigger forced sales of financial securities, causing their prices to fall and generating losses for the other agents who hold them.

The extension developed by the Banque de France incorporates institution- and transaction-level repo market dynamics by drawing on the granular data available in the Securities Financing Transactions Data Store (SFTDS) database. Reporting requirements apply to European financial and non-financial counterparties (including non-EU branches), as well as to European branches of foreign entities. Reporting entities provide detailed information on the collateral used (ISIN code), as well as a set of transaction characteristics that are relevant to the simulation, including volume, maturity, rate and haircut. The data cover repos and reverse repos.

Our model highlights two repo-specific channels of shock transmission.

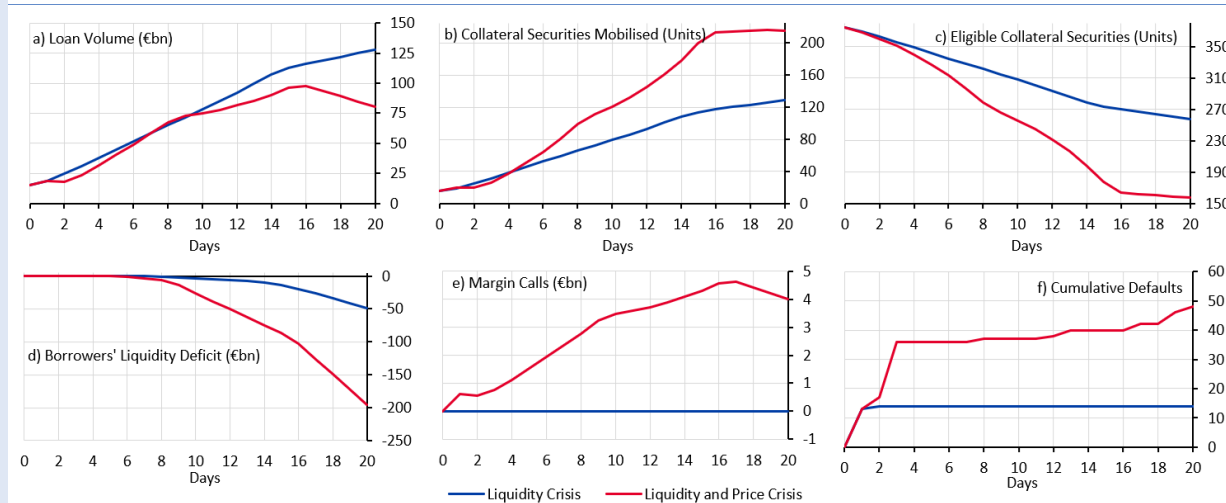
- Collateral channel: falling asset prices reduce the value of collateral, squeeze borrowing capacity in the repo market and force borrowers to provide more collateral for the same funding.
- Liquidity redistribution: when the price of securities posted as collateral falls, borrowers face margin calls and must transfer cash to their lenders to maintain their positions. This mechanism compresses borrowers' effective financing capacity. Similarly, outstanding long-term repo positions translate into an additional liquidity requirement at maturity. When participation in the repo market no longer provides sufficient liquidity, agents facing constraints turn to alternative funding sources, such as unsecured borrowing or asset sales.

Our analytical framework enables us to examine several scenarios.

- Scenario 1 – liquidity shock:
 - Increased liquidity requirements, combined with stable prices (no margin calls), lead to greater use of repos and rollovers. In this scenario, securities-backed cash loans rise steadily, reaching EUR 125 billion after one month (see Chart 1.a), while borrowers' liquidity increases.
 - As a result, the number of securities mobilised increases (see Chart 1.b), while the stock of securities available to be mobilised decreases (see Chart 1.c). Borrowers are able to mobilise sufficient collateral to meet their liquidity needs.
 - The market remains broadly functional, with few defaults (see Chart 1.f).
- Scenario 2 – liquidity shock and falling prices:
 - Falling asset prices trigger margin calls, which rise gradually to reach EUR 5 billion before beginning to decrease as the pool of collateral that can be mobilised shrinks (see Chart 1.e).
 - The number of securities that borrowers can mobilise as collateral decreases (see Chart 1.c), curtailing borrowing capacity.
 - The number of entities in default is higher than in the scenario featuring only a liquidity shock. The increasing amount of margin calls and the reduced supply of liquidity in the repo market prevent some borrowers from meeting their obligations, causing them to default (see Chart 1.f).

Charts 1: Liquidity shock and price fall scenarios:

x : days / y: %



Note: This figure is based on a sample of financial institutions participating in the repo market and included in the dataset used for the ISA model simulation. The values shown represent the total volume for the sample in the O/N maturity. The simulation is based on SFTD data at 19 June 2024. The scenarios considered are as follows: (i) a liquidity crisis characterised by a 3% daily increase in the regulatory cash requirement; (ii) a combined liquidity and price crisis, incorporating the increased cash requirement along with a 5% fall in prices in each period. Chart (a) shows the amount of liquidity loaned/borrowed; Chart (b) shows the number of collateral securities mobilised; Chart (c) shows the number of unencumbered collateral securities. The sum of the securities that have been mobilised and those that are available to be mobilised therefore corresponds to the total number of securities. Chart (d) shows borrowers' liquidity requirements. Chart (e) shows the daily amount of margin calls. Chart (f) shows the number of entities in default.

Source: Banque de France, authors' calculations.

Our model therefore illustrates how, in times of crisis, the disruption of the repo market can act as a factor that amplifies shocks. As the value of the collateral falls, participants in need of liquidity find their access to the repo market restricted. To meet their liquidity requirements, they will therefore be forced to sell securities. As in the ISA model on which our repo market simulation is based, forced sales exacerbate the fall in prices, creating feedback loops that amplify the stress.

2.3 Making the repo market more resilient: instruments, limits and the macroprudential framework

In light of the structural vulnerabilities and recent episodes of stress, the repo market's regulatory framework is receiving renewed attention from international and European authorities. The challenge for regulators is to design a framework capable of limiting the build-up of leverage among non-banks and mitigating procyclical dynamics, without hindering the financing and liquidity of sovereign markets. To meet this twofold requirement, regulatory discussions are focusing on three main areas: direct regulation of haircut practices, extension of central clearing, and enhanced risk monitoring.

Introduction of haircut floors

The introduction of haircut floors is primarily intended to ensure adequate coverage against credit risk; it also helps to limit excessive build-up of leverage in repo markets and to reduce the procyclicality of secured finance. Besides providing protection against counterparty default, an ex ante minimum haircut ties up a portion of capital and prevents participants from financing themselves indefinitely against collateral, as leverage is mechanically limited. This approach builds on the 2014 recommendations of the Financial Stability Board (FSB), which proposed minimum haircuts ranging from 0.5% to 10%, according to the type of asset, issuer and maturity, in order to contain the risks of disruptive margin calls. However, by limiting its scope to cash borrowing by non-banks and excluding sovereign collateral, the FSB framework does not capture the majority of transactions, particularly those involving hedge funds. These standards were subsequently incorporated into the Basel framework for counterparty risk; while transactions below the recommended thresholds are not prohibited, they are treated as unsecured exposures for prudential purposes. In Europe, the decision not to transpose these measures has so far been justified by the 2019 report from the European Banking Authority (EBA), which highlighted several potential side effects, including threshold effects, regulatory arbitrage, competitive distortions between financial sectors, and the risk of a shift towards less regulated segments. The debate remains open, however, with the CRR3 mandating the EBA to reassess the question by the end of 2026, to determine whether EU transposition is appropriate.

Recent work by Grill et al. (2025) strengthens the case for haircut floors.¹³⁴ Drawing on granular data from the euro area repo market, the authors highlight a significant discrepancy between market practices and the haircuts recommended by the FSB (excluding transactions involving sovereign collateral), suggesting a market failure in the pricing of systemic risk. The prevalence of low or even zero haircuts, particularly in the non-cleared bilateral segment, enables non-bank financial institutions, especially hedge funds, to build up significant leverage. According to the authors' analysis, application of the FSB's floors would reduce repo leverage by around 13% for the non-bank sector as a whole, and by up to 42% for entities accounting for the largest borrowing volumes, i.e. precisely the participants most likely to generate systemic stress.

At present, large, highly leveraged entities often enjoy the smallest haircuts, probably because of their bargaining power, and would be the most affected by the introduction of floors. Minimum haircuts would make it possible to build up safety buffers in normal times and lower the risk of fire sales during crises. However, they must be implemented with caution. Overly restrictive floors could make secured finance more expensive, reduce liquidity in some markets, particularly sovereign markets, and encourage participants to move their activities outside the regulated perimeter. For this reason, a purely prudential transposition that applies only to banks would probably be insufficient, as it could shift activity towards relationships between non-banks. Market regulation covering all relevant players appears more consistent with the objective of financial stability and a uniform regulatory framework. The challenge for the EBA is therefore to devise a framework that is sufficiently restrictive to curb excessive leverage, yet sufficiently nuanced to avoid an excessive deterioration in liquidity and arbitrage effects. Furthermore, market rules for haircuts should not be designed to replace banks' careful risk

¹³⁴ Grill (M.) et al. (2025), "Repo haircuts: Market practices and the impact of minimum requirements on leverage". *Finance Research Letters*, Vol. 71, 106484, January.

management vis-à-vis non-bank counterparties, particularly those that are leveraged. This is the aim of the Basel Committee's guidelines for counterparty credit risk management, published following the collapse of Archegos Capital Management in March 2021.¹³⁵

Extending central clearing would help to structurally improve the resilience of the repo market

The episodes of market stress that occurred in 2019, 2020, 2022 and 2025 in sovereign debt markets showed that central clearing is a tried and tested mechanism for absorbing shocks.¹³⁶ Its use tends to increase during periods of financial strain, especially when participants seek to limit their bilateral exposures by transferring their counterparty risk to a highly regulated central entity.¹³⁷ This increased use of central clearing tends to continue after market conditions normalise, reflecting a structural preference for the centralised model, subject to certain limitations. Several recent episodes, notably during the March 2020 "dash for cash", revealed a shift in flows towards the cleared segment as participants prioritised operational security, transparency and netting capabilities.¹³⁸

Use of central clearing subjects repo transactions to standardised risk management systems whose primary aim is to neutralise counterparty risk. By interposing themselves between buyers and sellers, CCPs ensure the successful completion of transactions and substitute themselves for the initial counterparties. The use of central clearing is therefore subject to strict access conditions, based mainly on the credit quality of members. Furthermore, by acting as buyer to the seller and as seller to the buyer, the CCP replaces a set of bilateral relationships with a single exposure to the clearing house, thereby limiting the risk of contagion in the event of a participant's default. Centralisation of exposures is accompanied by structured mechanisms for the mutualised management of defaults (notably through default funds and orderly liquidation procedures) designed to limit the spread of shocks throughout the financial system.

Finally, central clearing makes the financial system more efficient by facilitating multilateral netting. By offsetting debit and credit positions among multiple parties, it drastically reduces settlement flows and participants' liquidity requirements, while limiting settlement fails. Central clearing also enables participants to optimise balance sheet management by reducing total recorded exposure, which is now calculated on a net rather than a gross basis. This aspect is especially significant at a time when banks' capacity to intermediate growing volumes of sovereign debt through repo transactions is being constrained by prudential requirements, notably the leverage ratio, which takes total exposures into account regardless of their risk level. Central clearing helps to limit banks' consumption of balance sheet capacity and support their intermediation capacity.

In practice, netting reduces exposure in the event of default and, consequently, risk-weighted assets, thereby lowering banks' capital requirements. CCP exposures also generally benefit from more favourable prudential weightings than traditional bilateral exposures, making clearing even more attractive to banking intermediaries. The reduction in apparent balance sheet size also helps to limit the increase in the metrics used to calculate G-SIB surcharges. Besides netting exposures, central clearing enables settlement netting, which reduces the physical flows of cash and securities to be settled on a daily basis. Instead of having to settle a large number of gross transactions, participants now settle only one net position per security and per date, which lowers operating cash requirements and the risk of settlement fails. By facilitating multilateral netting, central clearing thus helps to preserve banks' capacity to provide financing and circulate large volumes of liquidity.¹³⁹

Experience with CCP interoperability on one of the main repo trading markets, MTS Repo, operated by Euronext, illustrates the potential benefits of greater integration of clearing infrastructures in Europe. Since

¹³⁵ [Basel Committee \(2024\), Guidelines for counterparty credit risk management, December.](#)

¹³⁶ [ESRB \(2024\), A system-wide approach to macroprudential policy, November.](#)

¹³⁷ [Hüser \(A.-C.\) et al. \(2024\), How does the repo market behave under stress? Evidence from the Covid-19 crisis, Staff Working Paper, n° 910, Bank of England.](#)

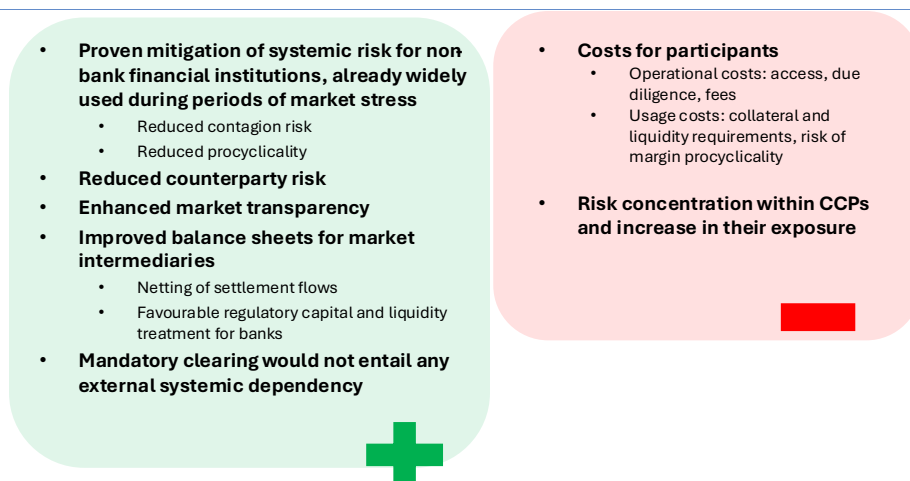
¹³⁸ [FSB, 2026, op. cit.](#)

¹³⁹ [Chen \(J. Z.\) et al. \(2022\), Potential netting benefits from expanded central clearing in Canada's fixed-income market, Staff analytical note, 2022-8, Bank of Canada, June.](#)

2003, this arrangement has allowed members of two CCPs, LCH SA and Euronext Clearing (formerly CC&G), to trade with each other as if they were operating within a single virtual CCP, without having to be members of both infrastructures simultaneously. This architecture facilitates cross-border flows between international banks, many of which are members of LCH SA, and Italian domestic institutions, which account for nearly 80% of Euronext Clearing's members, and thereby contributing to recycle liquidity in the Italian sovereign bond market. According to several estimates, transactions carried out through this link accounted for approximately half of the volumes cleared on MTS Repo at the end of 2023.¹⁴⁰ The arrangement proved its worth during several episodes of market stress by maintaining Italian banks' access to international funding and facilitating the circulation of sovereign collateral within the cleared repo market.

Finally, the use of CCPs promotes more standardised market practices, particularly in terms of contractual documentation, collateral valuation, haircuts, collateral eligibility rules and margin calls. Harmonisation reduces some of the operational and legal risks associated with non-uniform bilateral practices and improves the market's overall transparency. It also facilitates the prudential monitoring of participants' exposures and liquidity needs, particularly during periods of stress, by limiting discretionary trading and information asymmetries between counterparties. For hedge funds, whose repo market activity has increased significantly (see Section 2.1), central clearing through sponsored access models (sponsored or guaranteed sponsored)¹⁴¹ can provide access to deeper and more stable liquidity pools, while reducing reliance on bilateral relationships, whose capacity may be limited or volatile.

Figure 2.4: Recap of the benefits and drawbacks of central clearing



Source: Banque de France

Some limitations need to be overcome to ensure that central clearing can deliver the expected benefits

Following the episodes of stress that began in 2019, the United States introduced in late 2023 mandatory central clearing for transactions backed by US Treasuries, to be implemented by 2027. Even as it is being phased in, this rule is already bringing structural changes to the US market (see Box 2.4). By contrast, owing to the fragmentation of their sovereign markets and infrastructures, European and UK authorities are currently ruling out such a legal mandate, instead favouring an incentive-based approach to encourage voluntary use of central clearing.

¹⁴⁰ Di Luigi (C.) et al. (2024), *The fundamental role of the repo market and central clearing*, Occasional Paper, n° 48, Banca d'Italia.

¹⁴¹ These models are aimed at buy-side financial institutions, such as hedge funds and pension funds, which gain access to central clearing, along with the operational support and financial guarantees of a direct clearing member, usually a bank, acting as a sponsor.

The efficiency gains associated with clearing are accompanied by costs for participants, including fixed costs relating to membership requirements, such as the costs of adapting operational processes and carrying out due diligence, as well as recurring costs associated with posting margins and contributing to the default fund. However, these costs do not necessarily translate into a structural increase in costs over the medium term. This is because the economic benefits of central clearing depend closely on participants' business profiles. In this regard, the benefits of multilateral netting are especially significant for market participants clearing diversified, low-directionality, high-volume portfolios. These benefits also depend on further on how costs are shared between banks and their clients, a factor that is especially crucial to the development of sponsored models.

The ability of central clearing to fully deliver on the expected resilience gains remains contingent on resolving several structural issues specific to the European market. On the one hand, the European repo market differs from the US market in that both the underlying assets and market infrastructure are significantly more fragmented. It features a plurality of sovereign debts, presenting varying levels of liquidity and depth, which makes it harder to determine the scope of any potential central clearing mandate. A requirement covering all sovereign debt does not necessarily seem justified from an economic perspective, particularly for illiquid issues that are mainly held or traded by local market participants, for which the expected benefits of central clearing in terms of reducing systemic risk would be limited. Conversely, restricting such a mandate to the most liquid debt (Italian, German and French) might raise political acceptability challenges. Furthermore, European market is characterised by a more fragmented market infrastructure, which could lessen the efficiency of multilateral netting and limit the creation of fully pan-European liquidity pools. Since local interests continue to dominate the European market, both in terms of clearing and settling transactions, introducing mandatory central clearing without making significant progress in infrastructure interoperability might not lead to greater market integration and could instead reinforce existing silos.

While the functioning of the repo market relies on a balance between liquidity borrowers and providers, such as money market funds (see Section 2.1), the latter are structurally less developed in Europe than in the United States (ratio of approximately 1:8 in terms of total assets under management).¹⁴² This private liquidity-providing segment's shallow depth constrains supply to the European repo market, placing a greater burden on central banks to provide liquidity. European CCPs have therefore developed specific access models, notably through "special member" status, to encourage central banks and national treasuries to participate in the cleared repo market, for example through reduced margin requirements. However, these mechanisms are still only partially utilised by the relevant participants in Europe.

The expected benefits of multilateral netting may also be reduced by maturity mismatches, as liquidity providers often favour very short maturities, whereas borrowers seek longer-term funding. In practice, netting mechanisms allow only flows with identical characteristics, including the same settlement and maturity dates, to be offset against one another. An overnight loan cannot be directly offset against a longer-term funding requirement, which limits netting gains and maintains the maturity transformation needs of banking intermediaries. Similarly, certain prudential rules, particularly under the standardised approach to counterparty credit risk (SA-CCR), may limit the benefits of netting across different product classes, even where the positions are legally eligible for netting.

Finally, the European regulatory framework still lacks clarity regarding sponsored access models and their prudential treatment, which is hindering the development of these models in Europe. Unlike in the US market, where the use of sponsored clearing is based on harmonised standards (see Box 2.3), the coexistence of several active CCPs (including LCH SA, Eurex and Euronext) in Europe's repo market does not facilitate the emergence of a single standard in this area,¹⁴³ as the applicable regulations are not highly prescriptive regarding the required operational framework (e.g. in terms of the prefunded resources that may be mobilised and monitoring of sponsored members' exposures). Uncertainties also persist over the prudential treatment of sponsored models. The impact of sponsored clearing on the clearing member depends on the terms of the sponsorship contract and

¹⁴² Cipriani (M.) *et al.* (2024), *Monetary Policy and Money Market Funds in Europe*, *Liberty Street Economics*, 11 April.

¹⁴³ LCH SA commands a 76% market share, followed by Eurex Clearing and Euronext Clearing, which each accounted for nearly 12% of volumes in 2025.

the risks to which it remains exposed as sponsor. If the clearing member guarantees fulfilment of the sponsored client's obligations to the CCP, it is exposed to that client. The member is therefore required by the rules to include its exposure to the client in the denominator of its ratio, as if it were dealing directly with the client. Conversely, if the clearing member does not guarantee fulfilment of the sponsored client's obligations to the CCP, it does not need to include that exposure in the denominator. This treatment reflects the clearing member's reduced exposure to the client. In practice, however, this distinction remains tenuous, owing to the risk of implicit support, which means that, should the sponsored client run into difficulties, the clearing member might be inclined – for business, reputational or financial stability reasons – to intervene beyond the scope of its contractual obligations.¹⁴⁴

Beyond these structural and regulatory constraints, academic studies have also highlighted that the benefits of central clearing for financial stability depend closely on the degree of market centralisation and CCP design characteristics. While central clearing helps to mitigate counterparty risk and improve multilateral netting, without structural changes, its expansion could shift certain bilateral credit risks towards more centralised liquidity requirements and increase risk concentration among a small number of infrastructures.¹⁴⁵

Furthermore, although margin calls are intended to cover exposures on an ongoing basis and to absorb potential losses arising from market movements, their automated and synchronised application across all participants may amplify stress in times of crisis. Several studies have highlighted the potentially procyclical nature of margin models.¹⁴⁶ During periods of heightened volatility, simultaneous increases in margin calls can trigger significant liquidity requirements and force some participants to carry out forced asset sales to meet these needs, in turn causing asset values to fall and fuelling liquidation spirals. However, the procyclicality of margin models depends on CCP design characteristics, which include, in accordance with the regulatory requirements set out in the European Market Infrastructure Regulation (EMIR), limiting mechanisms such as floors, buffers and smoothing procedures to limit the scale of adjustments.¹⁴⁷ These mechanisms are subject to regular review by the competent authorities as part of their supervisory remit and are also taken into account at international level.¹⁴⁸

Box 2.4: Repo clearing: the US experience

By Raphaël Vives, Xavier Denis and Enda Palazzeschi

US authorities introduced a structural reform in response to **several episodes of major stress in the US repo market**, notably in 2008, 2019 and 2020. On **13 December 2023**, the Securities and Exchange Commission (SEC), the US financial markets regulator, adopted a rule introducing **mandatory central clearing** for:

- UST purchase and sale transactions (to be implemented by end-2026);
- **Repos** collateralised by USTs (to be implemented by end-2027).

The reform is extremely broad in scope, **and would cover around 80% of the US repo market**.¹⁴⁹ It applies to all participants, including asset managers and hedge funds, with a **few targeted exemptions** (notably transactions with the public sector, between entities from the same group, with another clearing house, and open repos).

From a technical point of view, this reform also imposes:

¹⁴⁴ Banque de France (2018), “Does the leverage ratio have an adverse impact on client clearing?”, *Bulletin de la Banque de France*, 218/1, July-August.

¹⁴⁵ Bardoscia, M., F. Caccioli, and H. Gao (2022), Efficiency of central clearing under liquidity stress, Working Papers 1002, Bank of England.

¹⁴⁶ ESRB (2020), *Mitigating the procyclicality of margins and haircuts in derivatives markets and securities financing transactions*, January.

¹⁴⁷ FSB (2026), *op. cit.*

¹⁴⁸ See for example the review by CPMI-IOSCO in 2022, *Review of margining practices*

¹⁴⁹ Cenicola (A.) et al. (2026), « How will central clearing impact the repo market? », *The OFR Blog*, 29 janvier.

- **Easier access to clearing** for participants who are not **direct members** of the CCP. Given the systemic role played by CCPs, access to them is deliberately selective, and only large financial institutions may be direct members or participants. These firms typically offer clearing services to clients (**agent clearing**), acting as intermediaries and taking on all requirements and responsibilities. In this situation, clients are not members of the CCP. **Alternative models** have also been developed, including the **sponsored member** model. Here, a direct member gives a non-member access to the CCP by acting as its sponsor, i.e. by guaranteeing its obligations towards the CCP and handling some of the operational requirements. The sponsored member becomes a limited direct member;
- **Strict segregation of margins** (amounts collected by the CCP to cover potential losses arising from repo transactions) used to cover the proprietary activities of direct members from those collected on behalf of their clients (in the agent clearing model).

Entry into force of this far-reaching reform has already been **pushed back by a year** to take account of operational constraints and concerns raised by the industry. Two issues in particular prompted the SEC to reopen a **public consultation period**: (i) the scope of intra-group transactions and (ii) extraterritorial application of the rule. In both cases, the SEC adopted broad definitions for the entities subject to the rule, to prevent it from being circumvented. But the current wording poses operational problems because it requires transactions involving entities located outside the time zones covered by CCP business hours to be cleared as well.

The effects of the reform are already evident in the market. Although the requirement will not come into full effect until mid-2027, the repo market is **already undergoing structural changes**:

- **Volumes cleared by the Fixed Income Clearing Corporation (FICC)**, until now the only active clearing house in the US market, are on the rise. The scale of the forthcoming shift could be significant: according to OFR estimates, if this rule had been in force during the first eight months of 2025 (and assuming that the outstanding amounts of underlying assets remained unchanged), the proportion of centrally cleared repo transactions in the United States would have risen from 45% (the currently observed level) to 77%.
- **Two new CCPs** have been authorised to operate in the US market (CME Securities Clearing in late 2025 and ICE Clear Credit in early 2026), which was previously dominated by the FICC alone.
- Clearing access models are evolving rapidly: sponsored clearing enables new players, such as asset managers, to access the CCP without becoming direct members.
- There is growing debate between two trade execution methods: "**done-with**" – standard practice whereby execution and clearing are bundled and performed by the same counterparty (a direct member of the CCP); and "**done-away**" – which allows execution and clearing to be carried out by different intermediaries, in order to promote competition between counterparties in execution and to secure the best rates. In the short term, done-with, which is already used in practice, dominates, but many market participants expect use of the done-away model to increase gradually to ensure best execution.

Research suggests that the **additional cost of central clearing should be limited**, at around **± 2 bps**, and is likely to be offset by gains in financial stability and market efficiency, particularly through reduced overall liquidity requirements.

Mandatory central clearing of US repos will profoundly change the UST market, which is a cornerstone of the global financial system. Although it reduces some of the flexibility inherent in bilateral contracts, mandatory

clearing enhances the market's resilience, transparency and ability to absorb shocks. In the long term, this reform also takes place against the backdrop of a major trend: the steady rise in US government debt issuance, volumes of which could **almost double by 2035**, further expanding the role of dollar-denominated assets, whose repo market is a central component of the global economy.

Enhanced risk monitoring

In addition to the above measures, steps are needed to substantially strengthen macroprudential oversight capabilities in order to better detect the build-up of leverage and liquidity vulnerabilities within the non-bank financial system. The FSB, the European Systemic Risk Board (ESRB) and the Bank of England notably point out that recent episodes of stress have revealed significant data gaps, hampering supervisors' ability to identify interconnections between banks, hedge funds and other non-bank financial institutions in real time. Within the European Union, real progress has been made thanks to the Securities Financing Transactions Regulation (SFTR), which requires European participants to report their repo transactions in detail. However, this reporting framework does not cover transactions between two counterparties outside the European Union, and a large proportion of the business carried out by hedge funds, which are often domiciled in offshore centres, is channelled through non-European intermediaries. As a result, these offshore structures largely escape the scrutiny of the European authorities, which fragments the analysis and complicates the real-time detection of contagion risks.

In addition to addressing data gaps, the authorities will also need to adapt their supervisory systems to keep pace with technological developments in the financial markets. Still in their infancy, tokenised repos,¹⁵⁰ based on distributed ledger technology (DLT) and smart contracts, aim to automate transactions and support near-instant settlement. This innovation has the potential to improve operational efficiency and mitigate some settlement risks. But it could also alter participants' liquidity requirements by limiting netting benefits and increasing the need for cash that can be mobilised in real time. Although adoption of the technique remains minimal at present, this trend illustrates the need for the authorities to maintain forward-looking oversight of structural changes in the repo market.

In this environment, the FSB and the ESRB recommend developing harmonised macroprudential indicators to monitor movements in leverage, maturity mismatches, haircuts and risk concentrations between counterparties. The aim is to transform transactional data into genuine early warning signals, in order to anticipate unwinding dynamics and the risks of forced asset sales. This approach will also involve improving macroprudential authorities' access to granular data collected by national supervisors, along with greater harmonisation of reporting standards. Standardisation initiatives, such as the Common Domain Model (CDM), are regularly cited as tools that could improve the automated use of transactional data.

Supplementary data should support the development of ad hoc monitoring tools. The aggregation of individual institutions' (micro-level) regulatory data, which offer a macro-level view of exposures, together with market data, is necessary to identify vulnerabilities linked to the leverage of non-bank financial institutions at an earlier stage. This approach also addresses the observation that banks often have only a fragmented view of their clients' positions: today, a hedge fund may deal simultaneously with multiple intermediaries, each of which sees only a fraction of its total exposure, which masks the actual build-up of leverage at the systemic level.

Finally, a number of institutional and professional players advocate a complementary approach based on strengthening prudential oversight of the internal models used by banks to set haircuts and margin calls. This guidance is intended to ensure that internal models remain sufficiently sensitive to extreme stress scenarios. Supervisors would therefore be responsible for ensuring that haircuts remain appropriate relative to counterparty risk and do not structurally underestimate volatility when financial stress is low. Such an approach would see margin practices become a genuine focus of macroprudential supervision.

¹⁵⁰ Tokenised repo appears to be gaining particular prominence in the United States, [with nearly USD 400 billion outstanding at the start of 2026](#).

Conclusion

The central role of the repo market and increasing vulnerabilities call for heightened macroprudential vigilance.

The market's gradual transition towards central clearing represents a major structural advance in mitigating counterparty and contagion risks, enhancing transparency and limiting the leverage of non-bank participants. Beyond central clearing, a comprehensive approach, combining close monitoring of the leverage of non-bank participants, addressing the fragmentation of European infrastructure, and coordinated exploration of safeguards, such as minimum haircuts, will ensure the long-term resilience of this ecosystem in the face of future shocks.

Glossary

Term	Definition
Agent clearing	Model providing indirect access to central clearing in which a direct member acts as an intermediary and assumes all responsibilities and obligations (including margin calls) on behalf of its clients, which are not members of the central counterparty (CCP).
Basis trade	Highly leveraged arbitrage strategy widely used by hedge funds, which involves anticipating and exploiting valuation gaps between the price of a sovereign bond on the spot market and the associated futures contract.
Buy-side / Sell-side	The buy side comprises market participants (investment funds, money market funds and insurance companies) that use the repo market for investment, funding or collateral sourcing purposes. The sell side refers to the intermediaries (commercial banks and prime brokers) that facilitate market activity by connecting these participants, balancing flows and providing them with access to clearing.
Cash-driven market	Market configuration in which participants are primarily seeking funding (liquidity) rather than a specific security, thus favouring the general collateral segment.
Central Clearing / CCP	Mechanism whereby a clearing house interposes itself between the buyer and the seller, guaranteeing the successful completion of the transaction and substituting its own risk for that of the initial counterparties. In particular, this allows banks to optimise their balance sheets through multilateral netting.
Collateral-driven market	Market configuration often linked to quantitative easing policies, in which participants agree to lend liquidity at very low rates, potentially even below key rates, in order to acquire scarce securities.
Default fund	Shared financial reserve within a clearing house, funded by its members, designed to absorb and limit the spread of losses in the event of a participant's default.
Deposit Facility Rate (DFR)	The Eurosystem's deposit facility rate serves as a benchmark around which repo market conditions fluctuate during periods of ample liquidity.
Done-with / Done-away	Trade execution procedures. "Done-with" is the standard practice of having execution and clearing performed by the same counterparty (CCP member). In the "done-away" approach, execution and clearing are unbundled to encourage competition and secure better rates.
Euro Short-Term Rate (€STR) / Secured Overnight Financing Rate (SOFR)	Benchmark short-term interest rates. The US SOFR is derived directly from repo transactions backed by US Treasuries. Although based on unsecured transactions, Europe's €STR is closely linked to repo market conditions.
Gap risk	Residual risk to which the liquidity provider is exposed in the event of a counterparty default between two margin calls, which would force the provider to liquidate the collateral to recover its funds while bearing any price fluctuations that may have occurred in the meantime.
General Collateral (GC)	Repo transactions in which the securities provided as collateral are treated as interchangeable within a standard class (e.g. German government debt). Such transactions are primarily intended to meet a funding requirement.
Haircut	Safety margin applied to the value of securities provided as collateral to protect the liquidity provider against credit risk or asset impairment.
Liability-Driven Investment (LDI)	Investment strategy primarily used by pension funds and aimed at aligning the return on assets with very long-term financial obligations (liabilities). These funds rely heavily on borrowing cash via the repo market to finance highly leveraged long-term bond positions.
Main Refinancing Operation (MRO) / Long-Term Refinancing Operation (LTRO)	Eurosystem refinancing operations that enable banks to borrow cash against collateral at one-week (MRO) or three-month (LTRO) maturities.
Margin call	Counterparty risk management mechanism designed to realign the estimated market value of collateral with the value of the loaned cash.

Matched book	Configuration in which an intermediary interposes itself in two trades, simultaneously taking repo and reverse repo positions with two different end clients. The aim is to balance exposures by matching repo and reverse repo positions with clients and CCPs in order to transform liquidity requirements and potentially reduce balance sheet costs.
Netting	Mechanism that helps reduce gross exposures. By offsetting debit and credit positions, it drastically reduces actual settlement flows, cash requirements and the total exposure recognised on intermediaries' balance sheets.
Open repo	Type of repo transaction that does not have a fixed maturity date when it is entered into.
Primary Dealers	Banks that are required to participate in sovereign debt auctions in the primary market and play a balance sheet intermediation role by temporarily absorbing these securities through repo market financing.
Prime broker	Major investment bank acting as a central intermediary to provide financing, execution and custody services to other segments, notably hedge funds. These are referred to as prime brokerage activities.
Quantitative Easing (QE) / Quantitative Tightening (QT)	Quantitative easing (QE) refers to central banks' asset purchase programmes, which have reduced the supply of sovereign collateral. Quantitative tightening (QT) refers to the phase in which central bank balance sheets are normalised and reduced, with securities being returned to the market and excess liquidity being removed.
Rehypothecation/ collateral reuse	Practice whereby the liquidity provider, which has temporarily become the owner of the security, reuses it in a new transaction with a third party. Although this helps to make the market more fluid, it also increases interdependencies.
Rollover risk	Risk linked to the predominance of very short-term (overnight) maturities, exposing borrowers to the possibility of being unable to roll over their transactions should financing conditions deteriorate, which could lead to forced deleveraging.
SFTR / SFTDS	The Securities Financing Transactions Regulation (SFTR) requires European market participants to report their repo transactions in great detail. These data feed into the Securities Financing Transactions Data Store (SFTDS), which contains, on a daily basis and at the transaction level, all securities financing transactions.
Specialness / Specific Collateral (SC)	Trades carried out with a view to acquiring a specific security (for hedging or settlement purposes). Due to the security's scarcity, the repo is traded on "special" terms, i.e. significantly below the GC rate (participants agree to lend cash on very favourable terms in order to acquire this security).
Sponsored clearing	Model enabling non-bank entities such as investment funds and asset managers to gain access to the clearing house by becoming direct participants for margin calls, while benefiting from the operational support and guarantees provided by a bank acting as sponsor. In its guaranteed variant (guaranteed sponsored clearing), which is particularly suited to hedge funds, the sponsoring bank does not merely assume operational responsibilities: it also assumes full financial responsibility for losses arising from any default by its client vis-à-vis the central counterparty, in some cases extending even beyond its contribution to the default fund.
Swap spread strategy	Leveraged arbitrage strategy based on taking a position on the spread between the yield of a sovereign bond (UST) and a swap rate. Heavily dependent on financing conditions in the repo market.
Tokenised repo	Emerging sector based on distributed ledger technology (DLT) and smart contracts. Aims to automate transactions and support near-instant settlement, changing liquidity requirements in real time.
Triparty agent	Third party (usually a central securities depository) that is appointed to carry out operational functions relating to the collateral in a repo transaction (selection, daily valuation, application of haircuts and margin calls, settlement), but that does not bear counterparty risk.
Window dressing	Practice used by banks to temporarily shrink their balance sheets (and therefore their repo transactions) in the run-up to quarter-end regulatory reporting dates in order to optimise their prudential indicators. Responsible for seasonal liquidity pressures.

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