

# Financial Stability Report

JUNE 2025



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## Overview

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**The French financial system is facing an unprecedented international macroeconomic environment characterised by very high uncertainty, fueled by the unpredictability of US policies.** The announcement by the United States on 2 April of widespread and large-scale tariffs, which were subsequently partially suspended, and the implementation of bilateral retaliatory measures by the affected jurisdictions, notably China, have added to an already severely strained geopolitical environment. In addition to the ongoing wars in Ukraine and Gaza, an open conflict between Israel and Iran started on 13 June.

**Since the outbreak of the trade war, markets have been resilient, but are still at risk of disorderly adjustments in the event of further adverse shocks.**

**The exceptionalism of financial assets issued by the US government and US corporates, which prevailed at the time of the December 2024 Financial Stability Report, is now being called into question.** At the end of 2024, US equities were still appreciating significantly faster than those in other advanced economies, driven by expectations of faster growth and their concentration in the digital technology sector. These expectations were also reflected in an appreciation of the dollar and a decoupling of interest rates between the United States and the euro area. However, in January 2025, fears over a potential artificial intelligence bubble triggered a correction, with a gradual deterioration in US equity market valuations. This reversal accelerated in February and March with the deterioration in US growth expectations that accompanied the new administration's first economic policy announcements, while Germany's budget announcements supported bond yields and European stock market valuations.

**Financial markets then reacted sharply to the announcement of tariffs on 2 April.** The significant movement of risk aversion also impacted US Treasuries, which failed to play their traditional role as a safe haven. The Treasuries market experienced increased volatility in early April, with a sharp rise in long-term rates. At the same time, the US dollar depreciated sharply against other currencies. Contrary to the usual historical correlations, the rise in long-term Treasury yields was not accompanied by an appreciation of the US dollar. Conversely, gold benefited fully from its status as a safe haven asset, reaching an all-time high.

**However, the steepening of the US yield curve is part of a broader trend of rising long-term sovereign bond yields worldwide since 2022.** This trend is partly attributable to a deterioration in fiscal positions in many jurisdictions, characterised by high government deficits and large public debts in a context of moderate global growth. At the same time, the bond market normalised with the end of ultra-accommodative monetary policies.

**Hedge funds are increasingly prominent in G10 sovereign debt markets, including in Europe.** In 2023, they accounted for more than half of the volumes traded in euro area sovereign securities, as well as half of the aggregate demand recorded by the main banks during auctions. Due to the high leverage embedded in certain strategies, a significant price movement could force funds to unwind positions simultaneously, increasing volatility and weighing further on prices, particularly if other financial intermediaries are unable to absorb these sales.

**The announcement of tariffs also led to significantly higher volatility on international equity and bond markets, with US indices underperforming markedly.** However, in Europe and France, the adverse movements on equity and bond markets following the announcements on 2 April remained contained. Equity indices recovered most of their losses in June 2025. Equity market valuations remain high, particularly in the United States, in view of the climate of uncertainty and the long-term historical average. Risk premia on corporate bonds deteriorated temporarily in the United States and Europe, in particular for lower-quality issues, before returning to levels close to those prevailing prior to 2 April.

**The materialisation of geopolitical risks may disrupt supply chains and result in higher risk premia in markets.** The proliferation of international armed conflicts, in particular the deteriorating situation in the Middle East, may disrupt strategic trade routes, such as the Strait of Hormuz, and lead to higher prices for energy commodities. While the cut-off date for the market data in this report was 17 June 2025, the outbreak of the Israel-Iran war on 13 June and US military involvement on 22 June have added to the uncertainty. Under these circumstances, oil

prices initially rebounded strongly. A sustained rise in commodity prices could fuel inflationary pressures and an escalation of the conflict could possibly lead to increased risk aversion in markets and investor flight to safe assets.

### **The trade war and widespread uncertainty could weaken non-financial players**

**The unpredictability surrounding new international trade rules is encouraging companies and investors to adopt a wait-and-see approach, which is likely to hold back global growth.** However, it is still difficult at this stage to quantify the macroeconomic impact of tariffs on economic activity and inflation in France, given the many possible scenarios. Studies conducted by the Banque de France suggest that the new US trade policy would in principle result in limited losses for French GDP. Furthermore, although tariffs are likely to lead to imported inflation from the United States, their overall effect should in principle be rather disinflationary due to a decline in global demand and to lower import prices from other regions of the world.

**The relative resilience of the French economy in the first few months of 2025 is contributing to the stability of the financial system, despite moderate growth prospects in the short term.** After reaching 2.3% in 2024, headline inflation is expected to bottom out at 1.0% in 2025 due to a sharp decline in energy prices,<sup>1</sup> while inflation excluding energy and food is expected to fall to 1.9%. From 2026 onwards, the normalisation of energy prices would bring headline inflation back to 1.4% in 2026 and then to 1.8% in 2027, still below the 2% threshold. This return of inflation to its target would occur without a recession, while growth is expected to remain moderate but nevertheless positive, at 0.6% for 2025 and 1.0% for 2026. However, the risks to these growth forecasts are on the downside, given the unpredictability of US trade policy.

**French firms are overall less exposed to the US market than their German or Italian counterparts, with disparities across sectors.** Within the manufacturing sector, aerospace, beverages and, to a lesser extent, pharmaceuticals are the most exposed. However, these sectors are currently in very good financial health and the low level of corporate debt contributes to their resilience. In 2023, the share of at-risk debt held by companies in these three sectors was less than 1% of total debt. Conversely, the real estate sector, which accounts for the bulk of at-risk debt in France, is not expected to suffer directly from the increase in US tariffs. However, this sector remains vulnerable as it is particularly sensitive to fluctuations in long-term interest rates and economic activity.

**Beyond the potential impact of trade barriers and the high uncertainty environment, French corporates continue to suffer from high interest expenses.** The cost of new loans is continuing to adjust downward as monetary easing is passed on, but borrowing costs remain high in France due to the French financing system, with a predominance of fixed-rate loans. However, French companies, as elsewhere in Europe, have adjusted to the period of higher interest rates by reducing their leverage. In addition, the level of corporate failures appears to have stabilised across all sectors and for all company sizes in the first few months of 2025. This improvement comes after a sharp rise in failures in 2024, which was partly due to a catch-up effect following the low point observed during the pandemic.

**With public debt at 113.2% of GDP in 2024, France ranks third among euro area countries in terms of debt-to-GDP ratio, behind Italy and Greece.** Such a high level of debt is very worrying in the current context of rising average interest rates on French public debt. Moreover, the fiscal space needed to mitigate an adverse shock appears very limited and could complicate the implementation of any countercyclical fiscal measures, beyond the role of automatic stabilisers.

**The persistence of high government deficits and the failure to correct the debt trajectory are having a negative impact on market conditions.** As a result, the yield spread between French and German government bonds was still higher in June 2025 than it was before the announcement of the snap election in June 2024, with a higher spread than for some lower-rated countries. However, liquidity conditions remain good, on both the primary and secondary markets.

**Although household confidence has deteriorated due to the high level of uncertainty, the risks associated with housing credit appear to be contained.** Households' financial assets as a whole are underpinned by a high saving

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<sup>1</sup> Assumption underlying the macroeconomic forecast published on 12 June 2025.

ratio.<sup>2</sup> Furthermore, with historically low unemployment and continued growth in the purchasing power of gross disposable income, the risks stemming from households' financial position appear limited, although aggregate indicators could mask some heterogeneity across income levels. According to the June 2025 macroeconomic projections of the Banque de France, the rise in the unemployment rate is expected to be limited.

**The residential real estate market is starting to recover, while the commercial real estate market is stabilising.** After an orderly decline in prices and transaction volumes starting in 2022, the gradual reduction in borrowing costs has paved the way for a recovery in residential real estate, resulting in an acceleration in new housing loans, an increase in transaction volumes, and a slight rise in prices for existing homes. While the commercial real estate market is showing signs of stabilisation, it remains vulnerable to a potential deterioration in the macroeconomic environment.

### **Financial intermediaries have limited direct exposure to US assets but remain exposed to a deterioration in the macroeconomic environment**

**Banks remain exposed to a deterioration in the macroeconomic environment and to the situation in the non-financial sector.** The cost of risk for banks continued to increase in the first quarter. While in 2024 the rise in the cost of risk was mainly attributable to the loan portfolio of non-financial corporations (NFC), the situation changed in the first quarter of 2025. The cost of risk rose on the portfolio of households, confirming the heterogeneity of situations within this sector despite a broadly robust financial situation, but remained stable on NFC portfolio outstanding amounts. However, in terms of asset quality, the portfolio of bank loans to SMEs deteriorated, accounting for just under half of total outstanding loans to NFCs.

**French banks can rely on a sound and diversified business model and are benefiting from improved financing conditions, which enable them to post historically high income.** After declining in 2023, the net banking income (NBI) of the six leading French groups had already grown significantly in 2024 (+8%), supported in particular by income from fees and commissions and from market activities. The figures for the first quarter of 2025 show that this growth has continued. This is mainly underpinned by growth in net interest margins and, to a lesser extent, a volume effect confirming the recovery in lending in response to stronger demand.

**The insurance sector remains sound, with solvency well above regulatory requirements.** French insurers hold own funds well in excess of their capital requirements, with the solvency capital requirement coverage ratio reaching 238% at the end of 2024. Investment portfolio yields are improving, thanks to past interest rate increases, and insurers' exposure to commercial real estate remains very limited (7% of investments at the end of 2024). However, non-life insurance technical profitability remains under pressure, due to past inflation and the multiplication of climatic events.

**A deterioration in the macro-financial environment could also test the resilience of unlisted asset funds, which generally target highly indebted companies.** Private equity and private debt funds have experienced rapid growth over the past decade, although growth has been less strong since 2022. This growth has been accompanied by increasing interconnections with the rest of the financial system, which remain difficult for authorities to measure accurately. Greater transparency in this market appears essential in order to better understand the risks and ensure effective supervision.

**In the sector of crypto assets, the development of stablecoins poses risks of contagion to the financial sector.** Dollar-backed stablecoins account for 99% of these instruments, which are highly concentrated around two main issuers. In the event of a loss of confidence, a sudden run by investors could force stablecoin issuers to rapidly liquidate their reserve assets, at the risk of generating stress in the underlying markets. To date, the reserves of the two main stablecoins consist mostly of short-term US Treasury securities. Rapid growth of stablecoins would therefore enhance their potential footprint on the short term sovereign debt market. Moreover, the rapid

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<sup>2</sup> In Q4 2024, the household financial saving ratio stood at 9.7% of gross disposable income, while the saving ratio (including investments in new housing and major renovations) reached 18%.

development of dollar stablecoins, encouraged by the new US administration, should not come at the expense of European monetary sovereignty.

### **Geopolitical tensions and the weakening of multilateral initiatives are increasing cyber and climate risks**

**According to data from the University of Maryland, the number of cyber attacks worldwide stabilised in 2024, but threats persist.** Increasing digitalisation, the use of external services providers, and the deterioration of the geopolitical environment could lead to a resurgence of cyber attacks. The European Agency for Cybersecurity (ENISA) has highlighted that banking institutions are prime targets and were affected by close to half of all cyber attacks targeting the European financial sector between 2023 and 2024. However, the entry into force in January 2025 of the European Digital Operational Resilience Act (DORA), which will complement other coordination mechanisms at national, European and international level, should enhance the resilience of the European financial system to cyber threats.

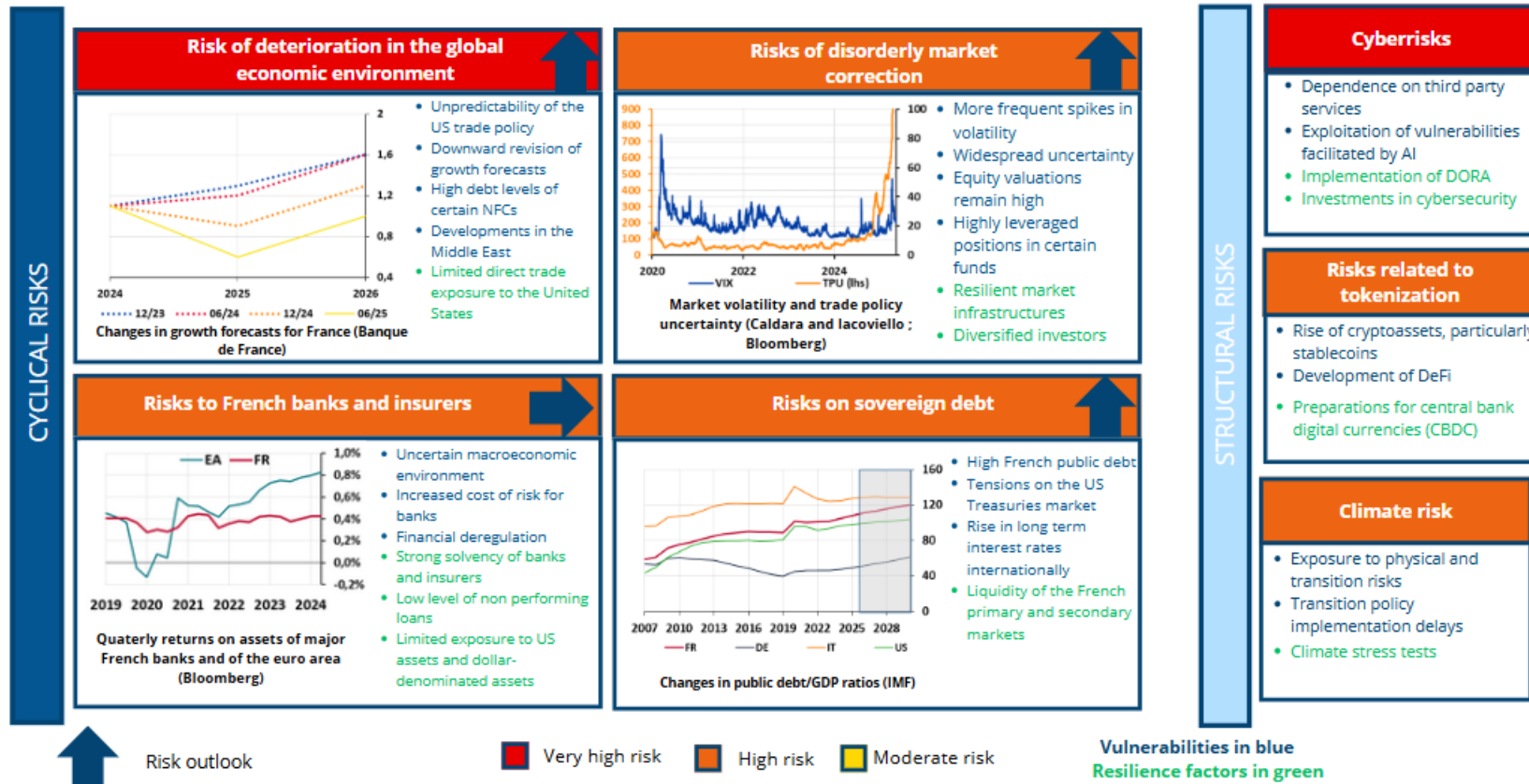
**The assessment of the consequences of climate change confirms that, in both the short and long term, transition is significantly less costly than inaction.** While in France, a no policy change scenario with regard to climate change would lead to a loss of 11.4 percentage points of GDP by 2050, the return on mitigation policies appears to be significant. Conversely, less coordination of transition policies and delays in their implementation raise the costs and risks associated with the transition. In this context, the fact that the United States is scaling back its ambitions in this area and withdrawing from the Paris Agreement could increase the climate risks weighing on the financial system.

**A thematic chapter of this report introduces a new forward-looking transition risk indicator for French financial sector market portfolios.** This indicator is based on a model of sectoral income trends in response to climate transition, derived from scenarios developed by the Network for Greening the Financial System.<sup>3</sup> By projecting changes in corporate income according to the sectoral breakdown of their turnover, this approach makes it possible to identify climate vulnerabilities at the microeconomic level in a forward-looking manner.

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<sup>3</sup> For a presentation of these scenarios, see the cross-sectoral chapter of the Financial Stability Report, Part 1.4, June 2025. Banque de France.

# ASSESSMENT OF RISKS OF THE FRENCH FINANCIAL SYSTEM | June 2025



## Measures taken by authorities

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**Against a backdrop of gradual disinflation, the Governing Council of the European Central Bank (ECB) continued its policy of lowering key interest rates initiated in the second half of 2024, with four additional cuts of 25 basis points in January, March, April and June 2025.** Since 11 June 2025, the interest rates on the deposit facility, the main refinancing operations and the marginal lending facility have been 2.00%, 2.15% and 2.40% respectively. At its June meeting, the Governing Council noted that inflation is currently around the 2% target for the medium term and that concerns over a tightening of financial conditions, in response to the uncertainty and market volatility that prevailed in April following trade tensions, have since eased. It reaffirmed its commitment to a meeting-by-meeting and data-dependent approach, particularly given the current context of exceptional uncertainty.

**Furthermore, the Governing Council maintained its strategy of gradually reducing its asset purchase programmes.** Asset purchase programme (APP) portfolios are continuing to decline, with no reinvestment of the principal payments from maturing securities. The pandemic emergency purchase programme (PEPP) portfolio is also declining at a measured and predictable pace, as the Eurosystem has no longer been reinvesting the principal payments from maturing securities since December 2024.

**The French macroprudential framework has been simplified while continuing to ensure the resilience of the French financial system.** The rate of the countercyclical capital buffer (CCyB)<sup>4</sup> remained stable at 1%. In June, the HCSF decided to scrap the sectoral systemic risk buffer (sSyRB). Introduced in 2023 to replace the “large exposures” measure, this buffer was designed to mitigate the risk of the concentration of French systemic banks’ exposures to heavily indebted large companies. The specific risks that led to the introduction of this measure have significantly decreased, as reflected in the current very low prudential requirements for this buffer. Its deactivation therefore has no effect on the resilience of the French financial system and was considered useful for the purposes of simplification. Furthermore, the *Haut Conseil de stabilité financière* (HCSF – High Council for Financial Stability) adopted reciprocal measures for the Belgian<sup>5</sup> and Norwegian<sup>6</sup> systemic risk buffers. The legally binding standard<sup>7</sup> for granting residential housing loans remains in force. This standard imposes a maximum debt-service-to-income ratio of 35% (including borrower's insurance) and a maximum repayment period of twenty-five years (or twenty-seven years in certain specific cases<sup>8</sup>), with a flexibility margin of 20% of the banks' quarterly new lending.<sup>9</sup> It has helped to limit excessive debt repayment periods and debt service-income ratios since its introduction, without significantly impact on new housing loans or residential real-estate prices since interest rates began to rise. Banks' use of the flexibility margin for granting housing loans increased slightly, but remained well below the 20% ceiling.<sup>10</sup>

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<sup>4</sup> [Haut Conseil de stabilité financière \(HCSF\) \(2023\)](#), “Publication on the countercyclical buffer”, December

<sup>5</sup> [Decision HCSF-2025-1](#)

<sup>6</sup> [Decision HCSF-2025-2](#)

<sup>7</sup> [Decision HCSF-2021-7](#)

<sup>8</sup> This flexibility applies to loans where there is a lag between the disbursement of the loan and the date when the borrower(s) can move into the property. This applies in particular to the purchase or construction of a new dwelling and those related to purchases of existing dwellings giving rise to a work programme for which the amount represents at least 10% of the total cost of the transaction.

<sup>9</sup> 70% of this flexibility margin must be reserved for buyers of primary residences, of which 30% must be reserved for first-time buyers. Flexibility is applied in the event that one of the two allocation limits or the total flexibility margin is exceeded in a single quarter, with compliance with these limits on overall new lending for that quarter and the following two quarters constituting appropriate and sufficient corrective action.

<sup>10</sup> [Press release and HCSF of 04 March 2025](#)

**The new European Commission, which took office in December 2024 for a five-year term, presented its first major initiative in January 2025, a roadmap entitled "Competitiveness Compass for the EU".<sup>11</sup>** It provides a clear strategic framework to guide the Commission's work during its term of office and translates the recommendations of the Draghi report<sup>12</sup> into an operational roadmap structured around three main lines of action: innovation, decarbonisation and security. These priorities, considered essential for boosting European competitiveness, are complemented by five horizontal catalysts designed to strengthen all economic sectors. These catalysts include financing competitiveness (through the Savings and Investments Union) and simplifying regulations.

**As regards the financing of the economy, on 19 March 2025 the Commission published a document on the Savings and Investments Union.<sup>13</sup>** The measures announced primarily aim to strengthen financial integration in order to enable the European Union to finance the additional investment needed to meet current challenges (in particular climate change and technological developments) estimated at an extra EUR 750 billion per year by 2030 in the Draghi report. This strategy also aims to enhance the prosperity of citizens and the economic competitiveness of the Union by mobilising more private savings for the real economy. It is structured around four complementary strands of work: facilitating citizens' access to financial markets to offer them products with better returns (Citizens and Savings); encouraging business investment, particularly by small and medium-sized enterprises (SMEs) and start-ups, through better access to capital markets (Investment and Financing); removing barriers to integration in order to build a genuine single capital market in Europe (Integration and Scale); and strengthening the convergence and effectiveness of financial supervision within the internal market (Efficient Supervision in the Single Market). These priorities correspond to those identified by the Banque de France and the *Autorité de contrôle prudentiel et de résolution* (ACPR), as set out in their response to a consultation launched by the Commission in the first quarter of 2025.<sup>14</sup>

**The European Commission also wants to shore up the competitiveness of European businesses by developing a roadmap for regulatory and administrative simplification.** It has therefore committed to reducing the administrative burdens on European businesses by more than 25%. For example, this commitment was demonstrated with the publication in February 2025 of the "omnibus package", which aims to reduce the administrative and regulatory burdens on SMEs and intermediate-sized entities with regard to environmental, social and governance (ESG) reporting. The proposal also provided for postponing certain ESG disclosure requirements, and was fast-tracked and adopted on 14 April 2025.<sup>15</sup>

**Given the temptation to ease financial sector regulations in the United States, French and European authorities have clearly stressed that the European simplification agenda will not mean deregulation.** In other words, the aim is to simplify the regulatory framework to make it more effective, reducing its complexity without lowering its standards. While the new US administration has not yet announced its timetable for finalising the implementation of the Basel III agreements, certain statements suggest that it may propose a reduction in capital requirements for US banks. In light of these uncertainties, the Bank of England announced that it would delay the implementation of these agreements by one year (to 2027).<sup>16</sup> The Governor of the Banque de France reiterated that he was "a strong advocate" of implementing the Basel III agreements, with one exception: given the uncertainty at the international level, it seems appropriate to postpone the implementation of the market risk framework reform by one year, to 2027. Beyond prudential regulation in the banking sector, financial deregulation in certain jurisdictions could also occur in the area of cryptoassets (including stablecoins), but also as a result of less ambitious measures to address climate-related challenges or the non-bank financial intermediary (NBFII) sector. Such a development would entail new financial risks and systemic vulnerabilities; it would also increase the risk of regulatory arbitrage.

<sup>11</sup> [Press release of the European Commission of 29 January 2025.](#)

<sup>12</sup> [European Commission \(2024\), "The Draghi report on EU competitiveness", September.](#)

<sup>13</sup> [European Commission \(2025\), "Savings and Investments Union", March.](#)

<sup>14</sup> [European Commission \(2025\), "Feedback from: Banque de France / ACPR" March.](#)

<sup>15</sup> [Directive \(EU\) 2025/794 of the European Parliament and of the Council of 14 April 2025 amending Directives \(EU\) 2022/2464 and \(EU\) 2024/1760 as regards the dates from which Member States are to apply certain corporate sustainability reporting and due diligence requirements \(Text with EEA relevance\)](#)

<sup>16</sup> [Bank of England \(2025\) "The PRA announces a delay to the implementation of Basel 3.1", January.](#)

**Box: The pilot systemic stress test exercise conducted by the Banque de France, the *Autorité de contrôle prudentiel et de résolution* (ACPR) and the *Autorité des marchés financiers* (AMF)**

The growing interconnections between banks and non-bank financial intermediaries, such as investment funds and insurance companies, are making the financial system more complex and increasing the risks of contagion, which are not currently taken into account in individual stress tests. System-wide stress tests therefore appear to be promising tools for identifying and quantifying these interconnections, better assessing contagion risks and improving their management.

The Banque de France and the ACPR are currently working with the AMF to finalise the terms of a pilot systemic stress test exercise involving banks, insurers and investment funds. This exploratory and voluntary exercise, which will be conducted in the second half of 2025, will not translate into regulatory requirement. It is primarily a mutual learning exercise for the authorities, participants and the Paris financial centre as a whole. The methodology, which is currently being finalised, is being developed jointly with the participants in the exercise.

**The US retreat from its climate ambitions was evident in the Trump administration's (renewed) withdrawal from the Paris Agreement in January 2025** and in its new prospects for fossil fuel projects. The US administration's actions are also weakening international climate finance mechanisms: it has withdrawn its support for the Loss and Damage Fund and, in February 2025, cancelled a USD 4 billion commitment to the Green Climate Fund (GCF). Moreover, heightened trade tensions could exacerbate climate risks: increased customs duties and retaliatory measures are disrupting the low-carbon energy value chain, as illustrated by China's April 2025 export controls on a range of critical minerals, rare earth elements and permanent magnets to the United States. More generally, trade tensions increase regulatory uncertainty for businesses – including uncertainty surrounding environmental regulations – and can have adverse macroeconomic effects on the green transition, such as slowing the diffusion of technological progress.

## 1. Cross-cutting analysis of vulnerabilities

### 1.1 The triggering of a trade war by the United States led to a major but orderly market correction

**Both the rise in volatility and the equity market correction were significant, but they remained contained**

**US exceptionalism, which seemed to prevail over the financial markets at the end of 2024, now appears to be in question.** At the end of 2024, the US stock market continued to grow significantly faster than the equity markets in Europe and in other advanced countries, driven by expectations of accelerating growth and the country's dominance in the digital sector. Market players expected a heightened transatlantic divergence, with a more favourable growth momentum in the United States than in Europe and risks of rising inflation in the United States. This was also reflected in the US dollar's appreciation against the euro and a growing interest rate disparity between the United States and the euro area. However, the inauguration of the new US president on 20 January 2025 saw the beginning of a correction to this dynamic, with the US stock market stagnating and market valuations and growth expectations gradually deteriorating as the new administration made its first economic policy announcements in February and March (see Chart 1.1).

**Chart 1.1: S&P 500, Euro Stoxx 50 and CAC 40 market trends since 1 January 2024**

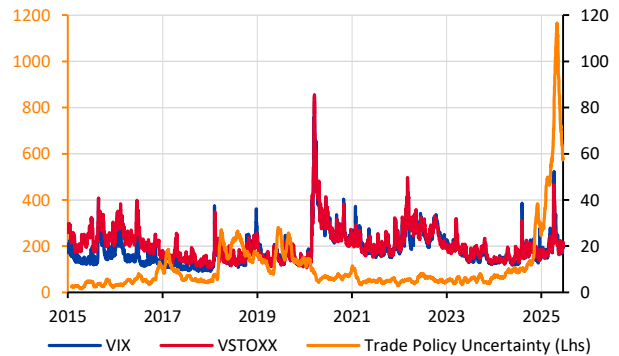
x: time/y: indices, 1 January 2024 = 100



Source: Bloomberg.  
Most recent value: 17 June 2025.

**Chart 1.2: Stock market volatility and trade policy uncertainty**

x: time/y: indices



Sources: Bloomberg, Caldara (D.), et al. (2020).  
Note: Daily data for the VIX and VSTOXX, monthly data for the Trade Policy Uncertainty (TPU) index; most recent value as at 17 June 2025.

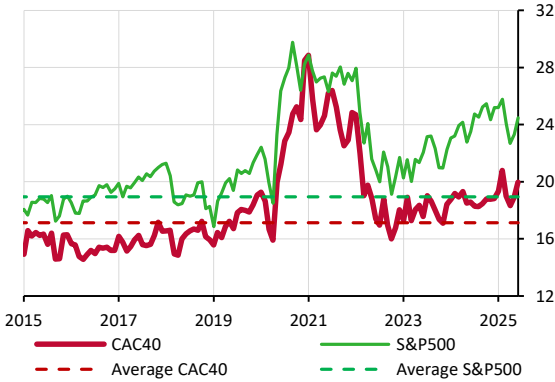
**Observers were then taken aback by the scale of the tariffs announced by the US administration on 2 April, which triggered market turmoil and retaliatory measures, particularly from China.** The heightened risks for global trade led to a sharp spike in volatility across the financial markets as a whole. The announcement on 9 April 2025 of a pause on US tariffs (which still did not include China in early May) followed by progress in bilateral trade negotiations in May, helped ease tensions, but investor sentiment remains depressed amid extreme economic uncertainty and acute sensitivity to trade policy announcements. On the US equities markets, the VIX volatility index, which had been relatively unresponsive to the heightened trade tensions since the start of the year, rose sharply, even briefly exceeding 60 during the day of 7 April following announcements from certain jurisdictions of retaliatory measures. The European equity markets recorded similar movements in volatility (see Chart 1.2), but overall the spike remained well below the volatility levels witnessed during the Covid-19 pandemic.

**Equity markets experienced a sharp correction internationally as growth forecasts were revised downwards:** down 12.6% between 2 and 9 April on the CAC 40, down 12.85% on the Euro Stoxx 50, and down 12.14% on the S&P 500. The main equity indices then rebounded in the wake of the announcement of a pause on the main tariff measures, but as at 17 June 2025, they had still not recovered to the historic highs recorded at the start of the year. The most tariff-exposed sectors and the cyclical sectors, such as banking, were particularly affected. The price-to-book ratio of US bank stocks fell sharply, from around 1.6 in early March to 1.2 after the tariff announcements; it has only partially recovered since, significantly narrowing the gap with the less affected European bank equities.

**Despite the equity market correction, which erased the gains recorded in the first quarter, valuations remain historically high.** In the United States, as at 17 June, the S&P 500 was up 1.95% since the start of the year, while the CAC 40 and the Euro Stoxx 50 were up 3.92% and 7.54%, respectively. Price-earnings ratios fell by 3% in the United States (from 25.2 to 24.5) and rose by 3% in France (see Chart 1.3), but levels are still above their historical averages, particularly for equities listed on the S&P 500 index. Equity risk premiums (which is the excess return demanded by investors over a risk-free rate) also remain at historically low levels (see Chart 1.4). These extreme valuations continue to make equity markets vulnerable to a sharp deterioration in risk aversion in the event of an adverse shock.

**Chart 1.3: Price-earnings ratios of French and US equity**

x: time/y: ratio



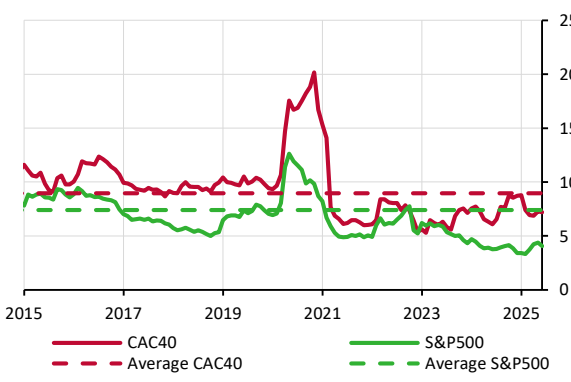
Sources: Eikon Refinitiv, IBES, Banque de France calculations.

Note: The price-earnings ratio is calculated based on the share price on 1 May 2025 and the earnings expected over the next few years by financial analysts. Historical averages are calculated for the 1995-2025 period.

Most recent value: 1 June 2025.

**Chart 1.4: Risk premiums on French and US equity**

x: time/y: risk premium in %



Sources: Eikon Refinitiv, IBES, IMF WEO, Banque de France calculations

Note: Risk premiums are estimated using the dividend discount model developed by Fuller (R.J.) and Hsia (C.) (1984).<sup>17</sup> Historical averages are calculated for the 1995-2025 period.

Most recent value: 1 June 2025.

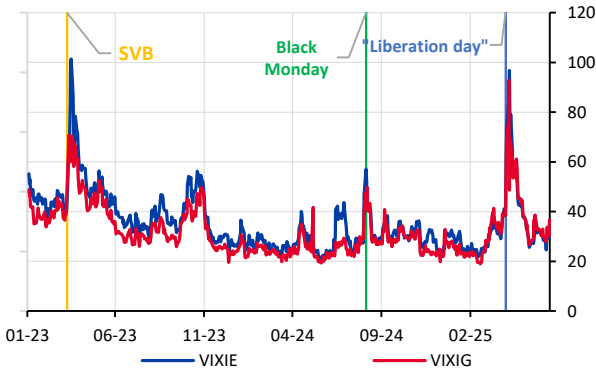
<sup>17</sup> Fuller (R.J.) and Hsia (C.) (1984), "A simplified common stock valuation model", *Financial Analysts Journal*.

# The deterioration in the international environment has also impacted financing conditions on the corporate bond market

The volatility sparked by the announcement of tariff barriers was not confined to the equity markets: volatility also rose sharply on corporate bond markets in the United States and Europe, reaching levels similar to those seen during the collapse of Silicon Valley Bank in the United States in March 2023 (see Chart 1.5).

**Chart 1.5: Volatility of investment grade bonds in Europe and the United States**

x: time/y: index

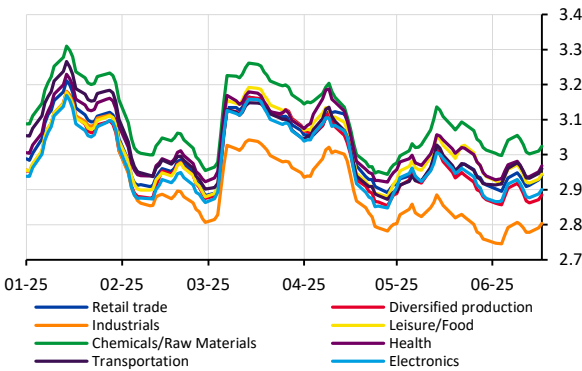


Source: Bloomberg.

Note: The VIXIE index is a barometer of volatility of European investment grade bonds; the VIXIG index is an indicator of volatility of US investment grade bonds. .  
Most recent value: 17 June 2025.

**Chart 1.6: European investment grade bond yields, by sector**

x: time/y: rate (%)



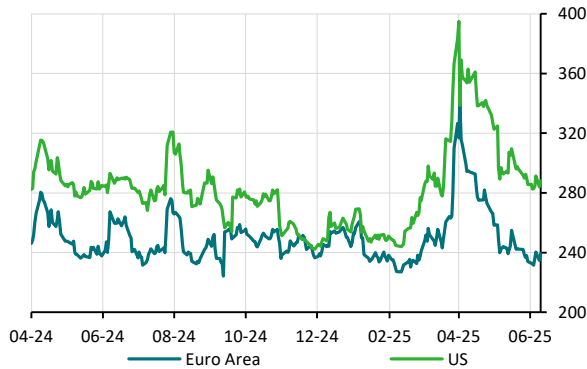
Source: Eikon Refinitiv, Banque de France calculations

Note: Most recent value: 17 June 2025.

The most significant development in the corporate bond market was the sharp increase in credit spreads, particularly in the high-yield (HY) segment, despite being compressed until March. The average credit spread on euro-denominated HY bonds rose from 335 basis points on 2 April to 400 basis points on 15 April – its highest level since the end of 2023, but still well below the peaks observed in summer 2022 (650 basis points) and March 2020 (900 basis points). It has since fallen back and stood at 288 basis points on 17 June. Overall, after rising briefly following the announcements of 2 April, market financing costs for companies in France and the rest of the euro area were slightly lower in June 2025 than in 2024, in the wake of decreasing European sovereign yields over the period. There is no significant difference between yields across activity sectors, although industrial activities continue to benefit from slightly more favourable conditions than the other sectors (see Chart 1.6).

Chart 1.7: HY-IG spread on European and US bonds

x: time/y: basis points



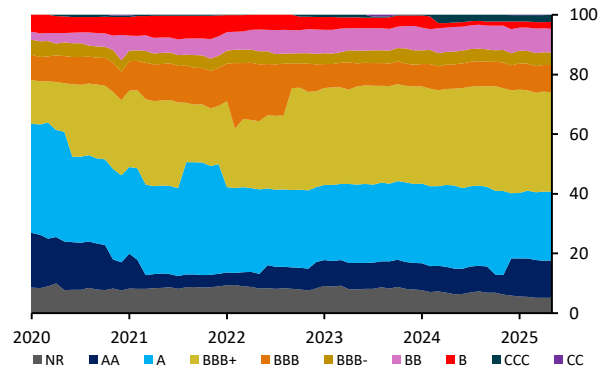
Sources: Bloomberg, Banque de France calculations

Note: Most recent value: 17 June 2025.

HY: high yield; IG: investment grade.

Chart 1.8: Outstanding debt of French non-financial corporations, by rating

x: time/y: % of total outstandings



Source: CSDB, Banque de France calculations.

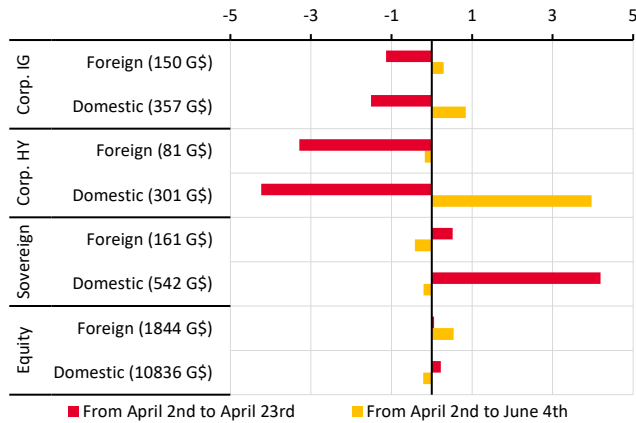
Note: Most recent value: 31 May 2025.

**At the European level, there was a sharp decline in the gross issuance of euro-denominated bonds by highly rated companies in April, which accentuated a clear trend that began at the start of 2025.** From February to April 2025, bond issuance by European investment grade (IG) companies was 26% lower than in 2024. However, it rebounded strongly in May, with issuance of EUR 120.5 billion compared with EUR 83.9 billion the previous year, partially offsetting the decline observed in the preceding months. This seems a normal wait-and-see attitude from issuers during periods of severe uncertainty. Across the euro area as a whole, total outstanding corporate bonds as at 31 May 2025 amounted to EUR 1,815 billion for NFCs and EUR 9,118 billion for financial intermediaries, of which French non-financial corporations and financial intermediaries accounted for EUR 705 billion and EUR 2,061 billion, respectively. Most of this corporate bond debt is rated IG, with the HY segment accounting for only EUR 425 billion across the euro area, EUR 91 billion of which was issued by French NFCs, accounting for around 13% of their total bond debt (see Chart 1.8).

**Furthermore, between 2 April and 23 April, the US and European bond funds that specialise in HY-rated corporate bonds experienced very significant outflows (see Charts 1.9 and 1.10).** Funds investing in IG-quality corporate bonds also recorded outflows, but to a lesser extent. In particular, one of the largest ever outflows of capital from HY funds recorded in a single week was observed over the 2 to 9 April period. If the US administration had not announced a pause in its tariffs and this pattern had continued, the resilience of these funds, which present an asymmetry of liquidity between assets and liabilities, could have been put to the test. Following the announcement of the pause, flows into funds exposed to HY corporate bonds reversed sharply in both the US and Europe. This reversal may reflect a renewed appetite for risk, despite continued extreme caution from foreign investors.

**Chart 1.9: Cumulative fund flows in the United States since April 2025**

x: cumulative flow as a % of outstandings/y: fund type and domiciliation  
Brackets: total assets under management

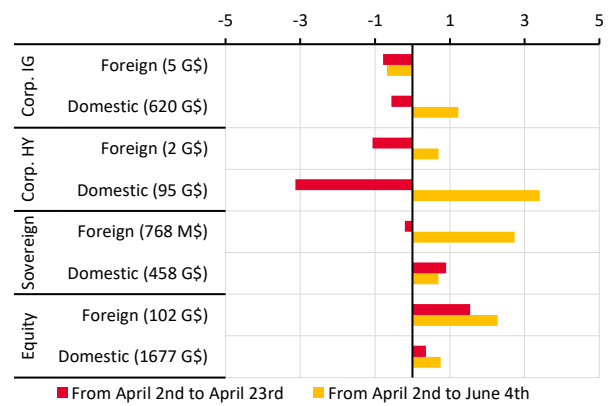


Source: EPFR, Banque de France calculations.

Note: Domestic funds are funds domiciled in the United States with an investment mandate that covers US equities, US bonds and US corporate bonds with IG and HY ratings. Foreign funds are funds domiciled outside the United States with an investment mandate to invest in these asset classes in the United States.

**Chart 1.10: Cumulative fund flows in Western Europe since April 2025**

x: cumulative flow as a % of outstandings/y: fund type and domiciliation  
Brackets: total assets under management



Sources: EPFR, Banque de France calculations.

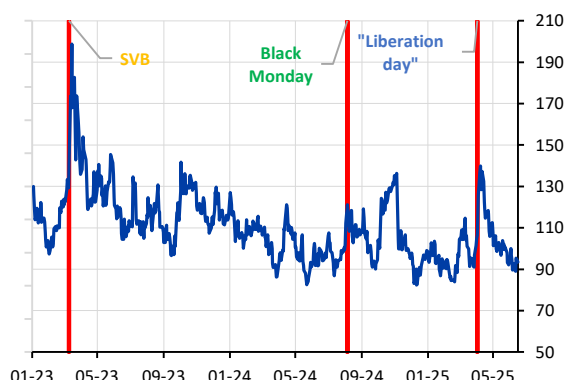
Note: The Western Europe category represents funds with an investment mandate that covers European markets and includes the following countries: Austria, Belgium, Denmark, Finland, France, Germany, Greece, Italy, the Netherlands, Norway, Portugal, Spain, Sweden, Switzerland, the United Kingdom and Ireland. This also includes funds that can invest in several countries on the European continent, including the United Kingdom. Domestic funds are funds domiciled in Austria, Belgium, Switzerland, Cyprus, Germany, Denmark, Estonia, Spain, Finland, France, the United Kingdom, Greece, Guernsey, Ireland, the Isle of Man, Italy, Jersey, Liechtenstein, Luxembourg, the Netherlands, Portugal, Sweden and Turkey.

## US Treasuries and the US dollar have not benefited from their traditional status as safe-haven assets

**One of the most atypical developments observed on the markets in April concerned US Treasuries (UST) market dynamics.** The market experienced a sharp – though contained – rise in volatility (see Chart 1.11) and a steepening of the UST curve that is unusual in periods of risk aversion. The 30-year sovereign yield rose by 26 basis points between 1 April and 16 April 2025, after fluctuating within an exceptionally wide range of 70 basis points in the week following 2 April (see Chart 1.12). Over the same period, the two-year sovereign rate fell by 10 basis points, despite rising slightly in the first few days. The rise in US long-term rates also had a limited contagion effect on European long-term rates, which is also unusual. The spread between US and French 10-year sovereign rates thus widened by 47 basis points during April.

Chart 1.11: Implied volatility of the US Treasuries market

x: time/y: MOVE index

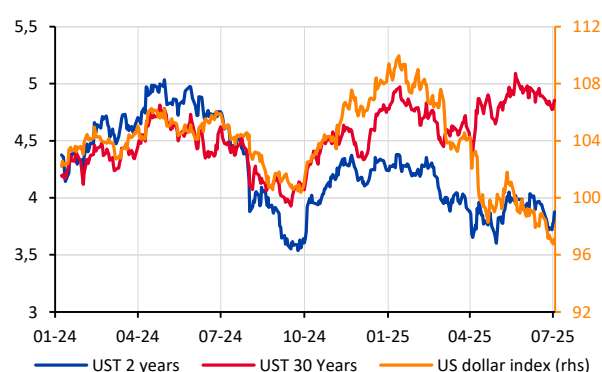


Source: Bloomberg.

Note: Most recent value: 17 June 2025.

Chart 1.12: Changes in the US dollar index and yields on 2-year and 30-year US Treasuries

x: time/y (RHS): US dollar index/y (LHS): UST yields (%)



Source: Bloomberg

Note: Most recent value: 17 June 2025.

**Box 1.1: Possible factors behind the tensions in the US Treasuries market***By Caroline Bienvenu, Mathieu El Dahaby and Raphaël Vives*

In the wake of the US tariff announcements on Wednesday 2 April, and while the US equity markets fell sharply (the S&P 500 index lost nearly 10.5% in net terms during 3 and 4 April sessions), US Treasuries (UST) yields initially eased across all maturities as the USTs played their traditional safe haven role.

However, movements became unusual as from Monday 7 April: while the US equity markets again opened sharply down, long-maturity UST yields began to rise significantly. In particular, the 30-year UST rate rose by almost 30 basis points on 7 April alone, and this movement accelerated in the following sessions, momentarily reaching the symbolic 5% threshold during the 9 April Asian session, a level not seen since October 2023 (see Chart 1) against a backdrop of sharply deteriorating liquidity in the UST market. Consequently, the 30-year UST rate rose from a low of 4.30% during the 4 April session to a high of 5.02% during the 9 April session, calling into question the UST's safe-haven status. In addition, UST rates rose more sharply than swap rates for similar maturities, causing the yield spread between the UST curve and the swap curve (the benchmark curve for USTs) to widen significantly for long maturities.

Market participants cited several factors, albeit with a high degree of uncertainty to explain these unusual movements in the UST market (with no order of priority):

- 1) Unwinding of speculative positions on the UST market (arbitrage between the UST market and UST futures, known as basis trade,<sup>18</sup> and the swap market, known as swap spreads)<sup>19</sup> by hedge funds seeking to reduce their risk exposure due to the sharp increase in volatility. [The Federal Reserve Bank of New York attributes the rise in long-term rates to the unwinding of swap spread positions](#) that many hedge funds had been putting in place since the beginning of the year in anticipation of a forthcoming easing of regulations, particularly with regard to the leverage ratio. However, it minimises the impact of a supposed unwind of the basis trade positions, arguing that

<sup>18</sup> For more information, see the *Assessment of Risks to the French Financial System – December 2023*.

<sup>19</sup> A swap spread is the difference between the nominal yield on sovereign securities and the nominal yield on the fixed component of a swap agreement.

the absence of significant tensions in April for US dollar financing (particularly on domestic repo markets) does not support this explanation.

- 2) Following the sharp and rapid equity market depreciation, investors on derivatives markets also faced a steep increase in margin calls, prompting them to sell USTs to meet their liquidity needs (generally characterised as a dash for cash).
- 3) Supposed asset reallocation movements, both by domestic investors (with some pension funds preferring equities over bonds in order to maintain a constant relative allocation between the two asset classes despite the dip in equity prices) and international investors (which had significantly increased their exposure to US dollar-denominated assets over the past several years, including on the UST market, which offered higher yields than most other developed countries).
- 4) A deterioration in macroeconomic prospects, notably reflected in higher inflation expectations (due to the increase in tariffs), lower growth and greater future US Treasury financing requirements due to the budget proposal currently being discussed in Congress. On 4 April, the Congressional Budget Office published its new deficit projections, estimating that if the budget were approved, it would add an additional USD 5.8 trillion in cumulative primary deficits over the next ten years. These projections triggered a sharp rise in the UST term premium at the beginning of the month (see Chart 2).
- 5) The particularly rapid and intense movements observed in early April for USTs may have been exaggerated by a steep decline in liquidity during the period, given the sharp increase in volatility. [The Federal Reserve Bank of New York estimates that liquidity deteriorated significantly in early April for certain segments of the UST market](#) (notably off-the-run and inflation-indexed securities).
- 6) Rumours with regards to potential sales of UST by certain Asian central banks although an analysis of international UST flows and foreign exchange movements does not seem to suggest that central banks made such sales. Furthermore, these reserves are mainly invested in short-term UST, whereas it was the longer maturities that reacted most severely in April.

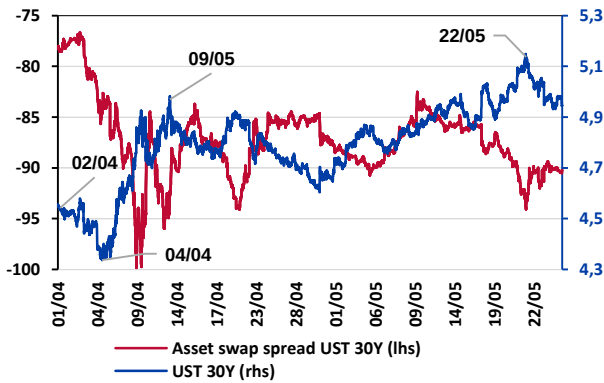
After a brief lull in the wake of the announcement on 9 April of a pause in the reciprocal tariffs, similar rapid and sharp rises in long-maturity UST rates were observed again in mid-April, even as US equity markets were down and the US dollar was depreciating. Certain market participants interpreted these simultaneous shifts – of falling US equity markets, a weaker US dollar and lower UST prices (i.e. rising yields) – as a “sell America trade”, i.e. a supposed effort on the part of certain investors to reduce their exposure to all types of US financial assets. In its latest letter<sup>20</sup> to the US Secretary of the Treasury at the end of April, the Treasury Borrowing Advisory Committee (TBAC) listed a number of factors that contributed to this market behaviour.

Finally, although US markets – and especially the UST market – have been the focus of particular attention since the beginning of April, no structural reallocation away from US dollar-denominated assets appears to have taken place as yet, and such a process would take time. However, given the movements on the markets observed since April, many international investors now seem increasingly inclined to hedge their currency risks against a further depreciation of the US dollar – a market practice that had dropped off sharply in recent years in line with the currency's appreciation. Although certain market indicators are already beginning to point to a likely increased demand for hedging in the foreign exchange market, this would remain only partial.

<sup>20</sup> US Department of the Treasury (2025), [“Report to the Secretary of the Treasury from the Treasury Borrowing Advisory Committee”, April.](#)

**Chart 1: 30-year swap spread and 30-year UST yields during April 2025**

x: time/y [LHS]: yields (%); y [RHS]: swap spreads (basis points)



Sources: Bloomberg, Banque de France calculations.  
Note: Most recent value: 28 May 2025.

**Chart 2: 10-year UST term premium (Federal Reserve Bank of New York model) between 1 January 2025 and 23 May 2025**

x: time/y: term premium (%)

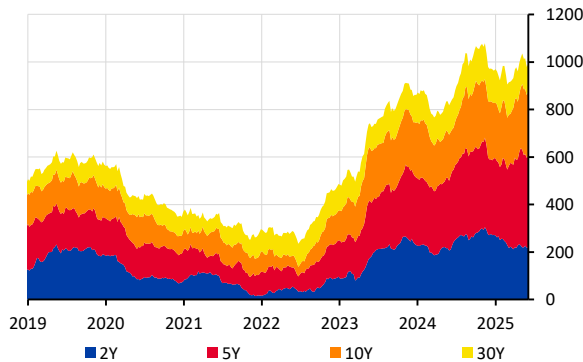


Sources: Bloomberg, Banque de France calculations  
Note: Most recent value: 23 May 2025.

Several potential factors have been suggested to explain these movements on the US sovereign market (see Box 1.1). The unwinding of positions on the UST market through swap spreads (long positions in USTs financed by repos and hedged by a rate swap) appears to have played a decisive role. Investors, particularly hedge funds, had significantly increased these positions at the beginning of the year, betting on a narrowing of the spread between the yields on bonds and swaps in the event of an easing of the supplementary leverage ratio (SLR) applicable to US banks. Market participants also cited as a potential explanatory factor the unwinding of basis trade positions in futures (long positions for bonds and short positions for futures) in response to an increase in margin calls. However, data from the Commodity Futures Trading Commission (CFTC) do not point to any large-scale unwinding of basis trade positions during the week from 2 April to 9 April, which tends to diminish their relative role in the April tensions (see Chart 1.13).

**Chart 1.13: Short positions of leveraged funds on US government futures**

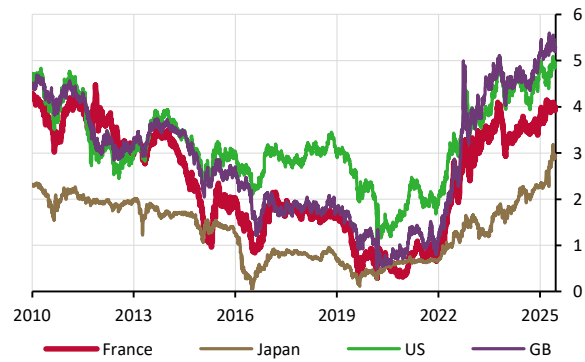
x: time/y: USD billions



Sources: CFTC, Banque de France calculations.  
Note: Most recent value: 03 June 2025.

**Chart 1.14: Yields on 30-year French, Japanese, US and UK sovereign bonds**

x: time/y: yield (%)



Source: Eikon Refinitiv.  
Note: Most recent value: 17 June 2025.

The steepening of the US yield curve is part of a broader international trend of rising long-term sovereign yields (see Chart 1.14). This dynamic is due in part to heightened fiscal constraints in numerous jurisdictions, as a result

of high deficits against a backdrop of subdued global growth. Furthermore, while central banks' quantitative easing policies had helped to maintain very favourable financing conditions for governments, the normalisation that began in 2022 has led to a change in the investor base on the sovereign markets and private investors now appear to have less appetite for longer maturities.

**Since 2022, hedge funds have been increasingly present on G10 sovereign debt markets, including markets in Europe.** In 2023, they accounted for around 55% of sovereign securities trading volumes in the euro area and more than 50% of aggregate demand recorded by major banks during auctions. However, data on derivatives transactions and securities financing transactions provide no evidence of hedge funds systematically implementing basis-trade type relative-value strategies on the European sovereign markets, which would be similar to those observed in the United States (see Box 1.2).

### Box 1.2: A growing hedge fund presence on the European sovereign debt market

*By Martin Saillard*

**Hedge funds occupy a unique place in asset management due to their sophisticated strategies, risk appetite and high concentration among US managers.** Hedge funds stand out from other types of funds for their often riskier and more sophisticated investment strategies aimed at generating high returns. The majority of these funds are operated by US-based managers (the United States represented 83% of global net asset value at the end of 2023),<sup>21</sup> and are mostly domiciled in the Cayman Islands,<sup>22</sup> attracted by an advantageous tax regime and a light-touch regulatory framework. In contrast, funds domiciled in Europe account for only around 12% of global net asset value. US funds are mainly active in North America, but they make around 20% of their investments<sup>23</sup> in European markets, and particularly in European sovereign markets.

**Hedge funds are increasingly present on G10<sup>24</sup> sovereign debt markets, including markets in Europe.** Since 2022, their presence on G10 country bond markets has expanded significantly, in a context of quantitative tightening in the main currency areas and an increase in the volumes of sovereign debt issuance (see Chart 1). These developments have opened up new investment opportunities, helping to make hedge funds today's dominant players in the euro area's secondary sovereign debt markets. In 2023, they accounted for around **55% of sovereign securities trading volumes in the euro area<sup>25</sup>** and more than **50% of aggregate demand recorded by major banks during primary auctions.<sup>26</sup>**

**Although increased hedge fund activity in these markets promotes liquidity and price formation, it also poses risks for financial stability.** Due to the high leverage inherent in certain strategies, a significant price movement could force funds to simultaneously unwind positions, heightening volatility and putting further downward pressure on prices, particularly if financial intermediaries (dealers) are unable to absorb the sales. Some studies suggest that sales by leveraged hedge funds engaged in basis trade amplified (but did not cause) market tensions in March 2020.<sup>27</sup> Other strategies used by hedge funds that involve sovereign debt securities, such as swap spreads, have also been cited as contributing to the rise in US sovereign rate volatility in April 2025.<sup>28</sup>

<sup>21</sup> International Organization of Securities and Commissions (IOSCO) (2024); [Investment Fund Statistics Report](#) 2023, January.

<sup>22</sup> In the second quarter of 2024, 53.5% of the net asset value of hedge funds registered with the United States Security and Exchange Commission (SEC) and with at least USD 500 million in assets under management were domiciled in the Cayman Islands. See [SEC \(2024\), "Private funds statistics"](#), Table 3.1.

<sup>23</sup> Estimation based on the SEC filings of large hedge fund advisors (fund managers with at least USD 1 billion in total assets under management).

<sup>24</sup> The G10 countries considered here are Belgium, Canada, France, Germany, , Japan, the Netherlands, Sweden, Switzerland, the United Kingdom and the United States.

<sup>25</sup> Ferrera (F.M.), et al. (2024) "Hedge funds: good or bad for market functioning?", the European Central Bank (ECB) blog, September.

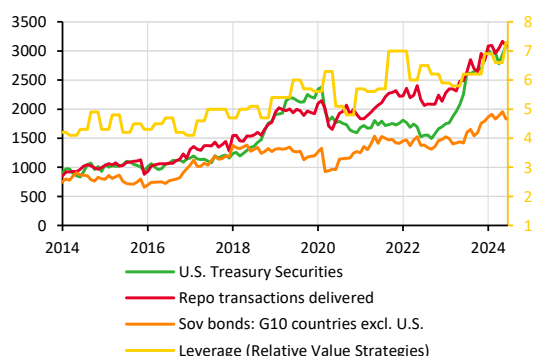
<sup>26</sup> According to a [survey](#) of primary dealers conducted by the ECB's Bond Market Contact Group in June 2024 among primary dealers.

<sup>27</sup> See Barth and Khan (2020); Barth and Khan (2021); Banegas et al. (2021).

<sup>28</sup> See Perli (R.) (2025), "Recent developments in Treasury market liquidity and funding conditions", [Federal Reserve Bank of New York](#), May 2025.

**Chart 1: Gross exposure of qualifying hedge funds registered with the SEC to sovereign debt securities and the repo market (all types of collateral combined)**

x: time/y: USD billions

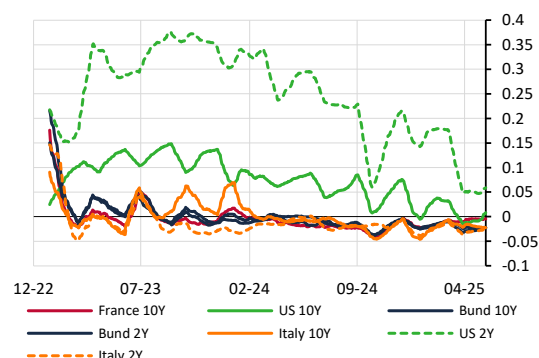


Source: SEC Private Fund Statistics (Table 8.16 and 8.17), second quarter -2024, Banque de France calculations

Note: Gross exposure is calculated as the sum of long and short exposures and includes on-balance sheet and off-balance sheet positions, i.e. debt securities and related derivatives. Qualifying hedge funds are hedge funds with at least USD 500 million in assets under management.

**Chart 2: Basis between sovereign securities (CTD) and futures, net of financing costs (repo)**

x: time/y: %



Source: Bloomberg, Banque de France calculations.

Note: Adjusted basis, measured as the difference between the price of the futures and that of the cheapest-to-deliver (CTD) sovereign security, net of financing costs, i.e. including the financing cost (repo rate) of the security over the term of the forward contract.

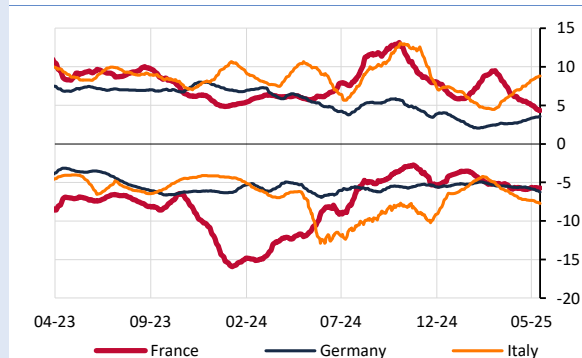
**The strategies employed by hedge funds on sovereign markets vary depending on the jurisdiction and have heterogeneous risk profiles.** Basis trade, which is in vogue in the United States, is based upon the spread between the price of Treasury securities and their futures contracts. This differential, net of financing costs, remains structurally positive in the United States and thus makes the strategy attractive (see Chart 2). In Europe, however, the spread is often zero or even negative – particularly for French, German and Italian debt – which limits this strategy’s appeal on European markets. This divergence is notably due to the depth of the UST market and the intense futures activity of US asset managers. With regard to primary issues, European primary dealers (specialists in Treasury securities) cite several hedge fund strategies associated with the “auction cycle”,<sup>29</sup> based on imbalances between supply and demand and issue absorption. Some strategies require the intermediation of primary dealers, while others are implemented directly by hedge funds on the secondary market. During syndications, hedge funds can account for the majority of demand, but are only allocated a very small proportion (around 1% to 3% of syndications carried out by the French Treasury, AFT - Agence France Trésor - since early 2024), as sovereign issuers, including the AFT, prefer long-term investors.

**Data on derivatives transactions and securities financing confirm that hedge funds are active on European markets, but do not point to a systematic implementation of basis trade strategies.** The share of hedge funds in French, German and Italian debt futures contracts has remained relatively low and balanced over the past two years, averaging 7% of long and short positions (see Chart 3), and has shown no signs of any particular directional positioning. In the repo market, which is particularly important for the financing of leveraged positions, hedge funds have been scaling back their positions in securities lending and borrowing against liquidity since the third quarter of 2024 (see Chart 4).

<sup>29</sup> According to the AFT, the auction cycle refers to variations in the price of issued securities, both before and after auctions. Securities tend to depreciate in the days leading up to the auction and then appreciate after.

**Chart 3: Share of hedge funds in long positions (top) and short positions (bottom) on French, German and Italian sovereign debt futures contracts**

x: year/y: % of notional total holdings

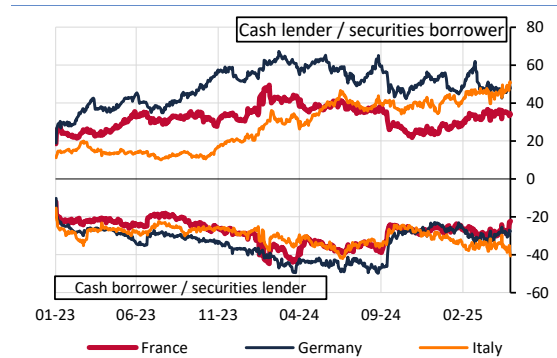


Sources: EMIR (prior to May 2024), EMIR Refit (since May 2024), ECB, Lipper. Banque de France calculations based on ECB data.

*Note: The EMIR data may be limited in terms of coverage and quality. The data do not include transactions between counterparties located outside the euro area and identification of the underlying asset, in particular, is not always consistent or complete. Furthermore, the first waves of reporting following the entry into force of the Refit reporting requirements may have gaps or errors associated with the gradual adaptation of reporting systems. The hedge funds are identified using regulatory and commercial databases (ECB, Lipper). Investment funds domiciled in the Cayman Islands are considered hedge funds.*

**Chart 4: Hedge fund repurchase and reverse repurchase agreements backed by French, German or Italian sovereign securities**

x: time/y: EUR billions



Source: Securities Financing Transactions Data Store (SFTDS), Banque de France calculations.

*Note: The data do not include transactions between counterparties located outside the euro area, which may lead to an over or understatement of hedge fund positions. The hedge funds are identified using regulatory and commercial databases (ECB, Lipper). Investment funds domiciled in the Cayman Islands are considered hedge funds.*

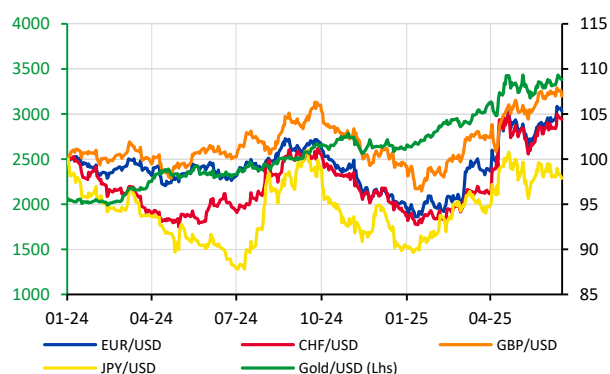
**The cross-border investments carried out by hedge funds restrict authorities' ability to supervise and to assess the risks that these entities may pose to financial stability.** The domiciliation of many funds outside of Europe, combined with a lack of data on their securities holdings, means authorities are unable to gain a consolidated picture of their positions. This lack of transparency complicates the identification and assessment of potential systemic risks. Furthermore, existing reporting frameworks, such as the European Market Infrastructure Regulation (EMIR) and the Securities Financing Transactions Regulation (SFTR), do not apply to transactions between two counterparties located outside the European Union, thus reducing the scope of data coverage. To address these limitations, European authorities, in coordination with the Financial Stability Board (FSB), are working to strengthen transparency requirements for non-bank financial entities, particularly hedge funds.

## The climate of uncertainty is boosting gold and maintaining price volatility on the commodities and crypto-asset markets

**April's risk aversion did not result in an appreciation of the US dollar**, which came under sustained downward pressure in April (see Chart 1.15) amid heightened euro/US dollar exchange rate volatility. On 21 April 2025, the euro/US dollar exchange rate reached its highest level since February 2022, with the euro at over USD 1.15, despite observers still anticipating a return to parity at the start of 2025. Other major currencies also benefited from this movement, with the Swiss franc/US dollar exchange rate even reaching its highest level since August 2011 at USD 1.23 on 11 April 2025, as it fulfilled its safe haven role.

**Chart 1.15: Change in gold and various currencies against the US dollar**

x: time/y [RHS]: 1 January 2024 = 100, [LHS] USD per ounce of gold

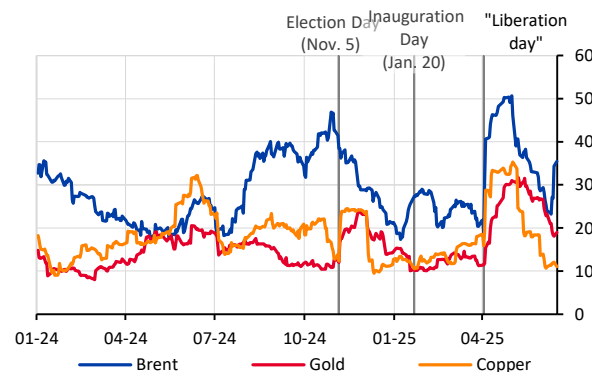


Source: Bloomberg.

Note: Most recent value: 17 June 2025.

**Chart 1.16: Commodities volatility**

x: time/y: volatility (%)



Sources: Bloomberg, Banque de France calculations Note: Volatility over 20 working days.

Most recent value: 17 June 2025.

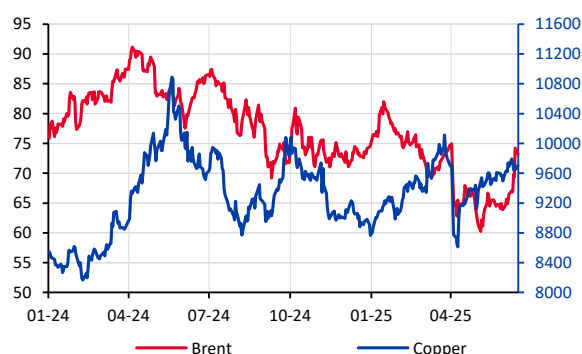
**Indicative of the high level of uncertainty, the price of gold hit a record high of USD 3,500 per ounce in mid-April 2025, up 27% from 1 January 2025 to 17 June 2025 (see Chart 1.15).** This increase was the result of the persistent economic and geopolitical uncertainties, which have driven the demand for gold. Prior to April 2025, concerns about possible US tariffs on gold imports, combined with higher prices on the New York futures market than on the London spot market, encouraged transfers of gold from London to New York. This dynamic led to higher borrowing and acquisition costs for gold on the London market. Lastly, the prices of futures contracts with delivery hit record highs, underscoring gold's safe-haven status in a time of heightened economic and trade uncertainty.

**The tariff announcements prompted increased volatility in commodity prices, without exceeding the levels observed in the weeks leading up to the US presidential election.** Brent crude oil volatility was below the levels seen in the weeks leading up to the presidential election at around 23%. Gold volatility has also slowed since November 2024, reaching around 15%. However, copper volatility is an exception and is particularly acute given the potential implications of tensions with China (see below). It reached nearly 35% at the end of April 2025, exceeding its November 2024 level.

**Oil prices fell sharply in early 2025, with the price of Brent dropping to a four-year low of USD 60 per barrel on 5 May (see Chart 1.17).** Oil prices fell in March and April due to a sentiment of risk associated with the US tariffs and fears of a recession, and exacerbated by the decision of OPEC+ to reduce production less than expected from May onwards. The International Energy Agency (IEA) has revised down its forecasts for global oil demand growth for 2025, and a slowdown is expected in 2026. Global supply rose in March, driven by non-OPEC+ countries, but the increase in OPEC+ production targets announced in May could be undermined by overproduction by some of its members. The Brent futures curve provides a sign of the current high level of uncertainty and confusion among market players. Having flipped into backwardation in 2024 (with futures prices falling and below the spot price, possibly suggesting a decline in expected prices), it presented a very unusual shape at the end of April 2025 with backwardation on the shortest maturities but contango (with futures prices rising and above the spot price) on maturities of 18 months or more. This shows that market players are taking opposite positions on oil futures depending on the time horizon and appear to remain optimistic as to the medium-term global economic outlook (see Chart 1.18). Prices rebounded sharply with the outbreak of war between Israel and Iran on 13 June 2025 and Brent was trading at USD 75 per barrel on 17 June.

Chart 1.17: Brent crude oil and copper prices

x: time/y: [LHS]: Brent price in USD; y: [RHS]: price of copper in USD

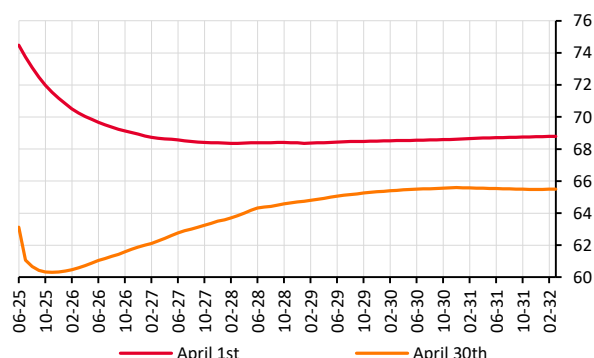


Source: Bloomberg.

Note: Most recent value: 17 June 2025.

Chart 1.18: The Brent futures curve on 1 April 2025 and 30 April 2025

x: maturity/y: price in USD



Sources: Bloomberg, Banque de France calculations.

After reaching record levels in May 2024, the price of copper rose by 11.4% from EUR 8,700 per tonne at the beginning of 2025 to EUR 9,700 per tonne in mid-June. The main copper producers expect prices to rise sharply in 2025 due to the announcement of higher tariffs on China, the world's largest copper refiner, and increased demand from developed countries as the rise of artificial intelligence drives up demand for the metals needed in the electronic components used in data storage systems, such as copper.<sup>30</sup> Artificial intelligence technologies are thus intensifying copper demand, which is already integral to the energy transition, and particularly the production of renewable energies (wind turbines, solar panels).<sup>31</sup>

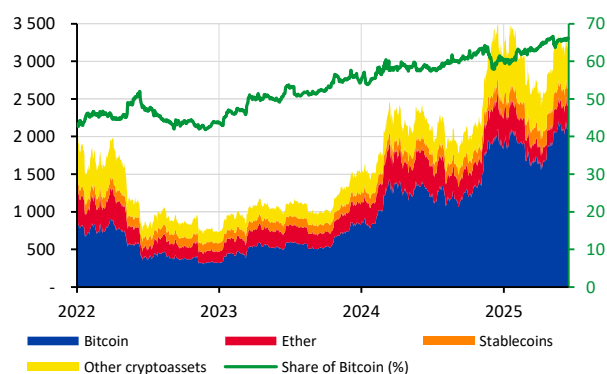
Lastly, the crypto-asset market has also experienced significant volatility since the US presidential election. The market value of crypto-assets has risen by 6% since the end of 2024 to USD 3,223 billion on 17 June 2025 (see Chart 1.19). This increase is mainly driven by a 15% rise in the value of Bitcoin, which accounts for 66% of the crypto-asset market. In the run-up to the US presidential election, the crypto-asset market was buoyant, fuelled by expectations that the new administration would ease crypto regulations. The market then fell into a downward correction in the first quarter of 2025 before resuming its upward trend as trade tensions between the United States and China eased. After a surge of investor enthusiasm in 2024, spot Bitcoin exchange-traded products (ETPs) continued to trend upwards, and achieved cumulative net inflows of USD 42 billion between their launch in January 2024 and mid-June 2025 (see Chart 1.20). Similarly, inflows to spot Ethereum ETPs have increased by 128% since the beginning of 2025, bringing total inflows to USD 2 billion.

<sup>30</sup> Brousse (C.) (2025), "AI and the growth of data centres: challenges for the copper market", *Eco Notepad blog*, Banque de France.

<sup>31</sup> Dees (S.) (2023), "Critical metals for the transition: macro-financial issues", *Eco Notepad blog*, Banque de France, May.

Chart 1.19: Crypto-asset market valuation

x: time/y [LHS]: USD billions; y [RHS]: in %

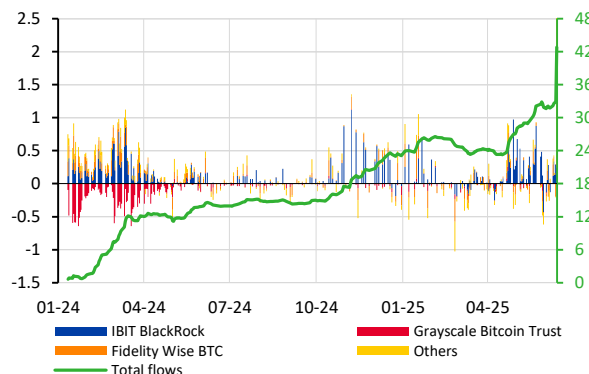


Source: Eikon Refinitiv.

Note: Most recent value: 17 June 2025.

Chart 1.20: Bitcoin spot index fund flows

x: time/y: daily flows in USD millions; y [RHS]: total inflows in USD millions



Source: Bloomberg.

Note: Most recent value: 17 June 2025.

## 1.2 The unpredictability of US policy increases risks for the non-financial sector

### The trade war increases macroeconomic risk internationally

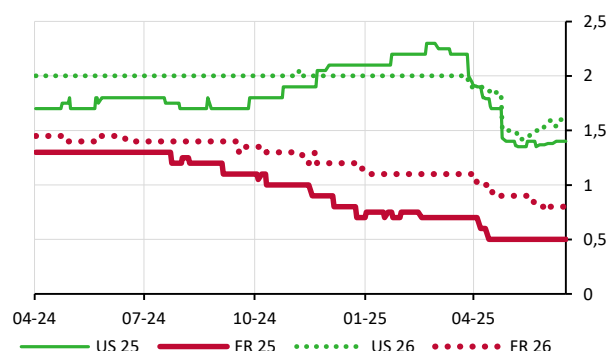
Even before the US tariff announcements, the international environment was already highly uncertain and marked by renewed geopolitical tensions. Geopolitical risk has risen sharply in recent years, due in particular to Russia's invasion of Ukraine in February 2022, the war in Gaza, the situation in the South China Sea, and also due to more long-term processes such as increased military spending and the decline of multilateralism. The materialisation of geopolitical risk could affect non-financial players by prompting a deterioration in their financing conditions and the quality of their assets, and by weighing on their results due to higher input costs and fewer export market opportunities.<sup>32</sup>

In this already deteriorated international environment, the announcement of raised US tariffs, followed by their partial and, moreover, erratic implementation, is shaking the foundations of international trade and value chains. The resulting additional uncertainty fosters a wait-and-see attitude towards both consumption and investment. While part of the so-called "reciprocal" tariffs announced on 2 April 2025 were paused on 9 April, the prospect of intensifying trade tensions risks a contraction in global growth and higher inflation. The Bloomberg consensus economists' growth forecasts have been sharply revised downwards for the US economy (1.4% on 5 May 2025 compared with 2.3% at the end of February) and also, though to a lesser extent, for the French economy (see Chart 1.21).

<sup>32</sup> See in particular the IMF's *Global Financial Stability Report*, April 2025, Chapter 2.

**Chart 1.21: Change in Bloomberg consensus growth forecasts for 2025 and 2026**

x: year/y: expected growth rate (%)

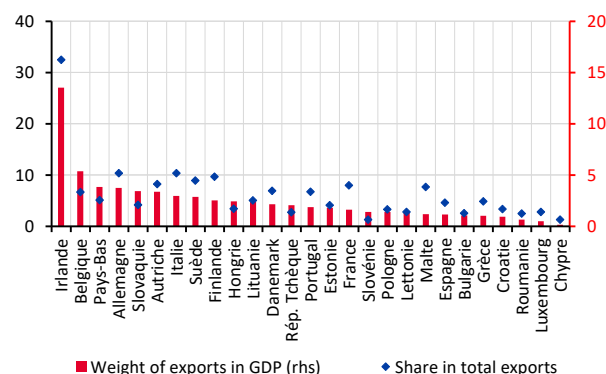


Source: Bloomberg.

Note: Most recent value: 17 June 2025.

**Chart 1.22: Weight of exports to the United States**

x: country/y: weight in terms of GDP (RHS), weight in terms of total exports (LHS)



Source: Eurostat.

Note: Gross domestic product (GDP) at current prices.

Nevertheless, the French economy appears less directly exposed to US tariff measures than other economies in the euro area (see Chart 1.22 and Box 1.3). In 2024, France exported products worth EUR 47 billion to the United States, which represents 8% of total French exports and just under 2% of gross domestic product (GDP). By way of comparison, 10% of German and Italian exports were destined for the United States in 2024, representing 3.75% and 2.95% of GDP, respectively. Nevertheless, uncertainty surrounding the new rules of the game for international trade is encouraging business leaders and investors to adopt a wait-and-see approach, which could penalise growth regardless of a country's direct exposure. Moreover, France is also exposed indirectly, through European value chains.

**Quantifying the macroeconomic effects of tariffs on euro area activity and inflation must take into account an enormous range of possible scenarios since the new US administration took office.** The results of model simulations should therefore be interpreted with caution. Nevertheless, studies conducted by the Banque de France show that higher US tariffs would lead to limited euro area GDP losses, as long as there are no additional amplification effects, such as an unexpected deterioration in financial conditions or other factors that increase uncertainty. The impact should be disinflationary: although the direct impact of tariffs leads to inflation imported from the United States (which may be amplified should the euro area retaliate by imposing higher tariffs on US imports), the disinflationary effect can be explained by a decline in global demand and a reduction in prices imported from other regions, which more than offset the direct effect.

**The resilience of the French economy during the first few months of 2025 has contributed to the stability of the financial system, despite a moderate short-term growth outlook.** Headline inflation (HICP – Harmonised Index of Consumer Prices), after a rate of 2.3% in 2024, is expected to bottom out in 2025 at 1.0% due to a sharp decline in energy prices. Inflation excluding energy and food, including services prices, is expected to fall to 1.9%. From 2026 onwards, the normalisation of energy prices should bring headline inflation back to 1.4% in 2026 and then to 1.8% in 2027, still below the 2% threshold. Inflation would thus return to target without a recession, while growth is expected to remain moderate but positive, forecasted at 0.6% for 2025 and 1.0% for 2026. From 2025 onwards, it will be lifted by a gradual pick-up in household consumption, supported by improved real wage purchasing power and, starting in 2026, a recovery in private investment. Inflation is expected to be lower than forecast in the March 2025 projections, (0.7% for 2025, 1.2% for 2026 and then 1.3% – as predicted in March – for 2027), mainly due to the higher US tariffs and the assumption of a higher exchange rate, which would significantly dampen French exports. The heightened uncertainty would also weigh on investment, particularly in 2025. By contrast, the lower energy prices are expected to lend support to consumption in 2025 and 2026. However, the risks to these growth forecasts are generally tilted to the downside due to the uncertainty surrounding US trade policy. In an alternative, more adverse, macroeconomic scenario that reflects aspects of these uncertainties, particularly a sharper increase in US tariffs on European Union products and lasting and heightened uncertainty

with regards to trade policy, GDP growth would fall by 0.3 percentage point in both 2025 and 2026. Nevertheless, the French economy should avoid a recession with growth of 0.3% in 2025 and 0.7% in 2026.

### Box 1.3: Impact of increased US tariffs on the financial positions of French companies

*By Émilie Da Silva, Lisa Kerdelhué and Édith Stojanovic*

This box examines the impact of an increased US tariff shock on the vulnerability of French companies. While French companies are less exposed than their German or Italian counterparts, the impact would vary across sectors in France. Within the manufacturing sector,<sup>33</sup> the aerospace,<sup>34</sup> beverages and, to a lesser extent, pharmaceutical subsectors export a significant proportion of their products to the United States (see Chart 1). A company's sensitivity to a tariff shock depends on how much of its revenue comes from exports and what share of its exports are sold in the United States. Therefore, companies in the aerospace sector appear particularly exposed, as almost 70% of their revenue is generated from exports, and 15% of their exports go to the United States. Beverage manufacturers would be slightly less exposed as around half of their total revenue come from exports, and 20% of their exports are sold in the United States. Automotive manufacturers would be relatively protected: although three quarters of the sector's revenues come from exports, the weight of the United States in the sector's total exports is very low.

The vulnerability of non-financial corporations (NFCs) also depends on their ex ante financial position, which dictates whether they can absorb the shock with greater or lesser resilience. In 2023, at-risk debt held by companies in exporting sectors (beverages, aerospace, shipbuilding and railway construction, and pharmaceutical production) accounted for less than 1% of total debt (see Chart 2). The low level of debt of NFCs in this sector is therefore a factor of resilience in the face of any geopolitical shocks that may arise. In France, the real estate sector<sup>35</sup> accounts for the majority of at-risk debt but should not suffer directly from the US tariff increases. Nonetheless, it is exposed to the potential indirect effects of rising long-term interest rates and falling real estate demand.

In order to assess these companies' resilience to a tariff shock, we apply two scenarios of increasing intensity to their 2023 balance sheets,<sup>36</sup> assuming that the revenue generated by exports to the United States is proportional to their weight in total exports. In the first scenario, we apply a uniform increase in tariffs to 25% for all activity sectors, starting from an initial 3.5%.<sup>37</sup> For every 1 percentage point increase in tariffs, there is a 1.2% decline in exports.<sup>38</sup> In the second, more extreme scenario,<sup>39</sup> we assume a total halt in trade with the United States. In both cases, the losses in terms of revenue are deducted directly from the EBITDA<sup>40</sup> of the companies concerned, which allows the share of at-risk debt following the shock to be recalculated. A priori, the US tariff increases would have virtually no impact on at-risk debt. We assess the impact on heavily indebted companies –companies with an EBITDA-to-interest coverage ratio of less than 3 and a total debt (including undrawn credit lines)-to-EBITDA ratio of more than 4 – and of those, we identify vulnerable companies with less than 30 days of cash flow. In the most extreme scenario, the share of debt held by heavily indebted companies would rise to 22% compared with 21% in the absence of a shock (see Chart 2) while the share of debt held by vulnerable companies would also increase by 1 percentage point.

<sup>33</sup> According to customs data, the manufacturing sector accounted for 93% of total exports in 2024.

<sup>34</sup> NAFR2-30 Manufacture of other transport equipment. This division includes the construction of boats and ships, railway equipment and aeronautical and aerospace equipment ([nafr2-30-Manufacture of other transport equipment | INSEE](#))

<sup>35</sup> NAFR2-68: the real estate sector include the activities of landlords, agents and/or brokers in one or more of the following areas: purchase and sale of real estate assets, rental of real estate assets, provision of other real estate-related services, such as asset valuation or escrow agent services (see [nafr2-L-Real estate activities | INSEE](#)).

<sup>36</sup> FIBEN group data for 2024 were not yet available at the time of writing.

<sup>37</sup> [Droits de douane entre l'UE et les États-Unis en sept questions | vie-publique.fr](#)

<sup>38</sup> [Berthou, Mayer and Mésonnier, 2024](#)

<sup>39</sup> Part of the costs could be avoided by redirecting sales to other markets.

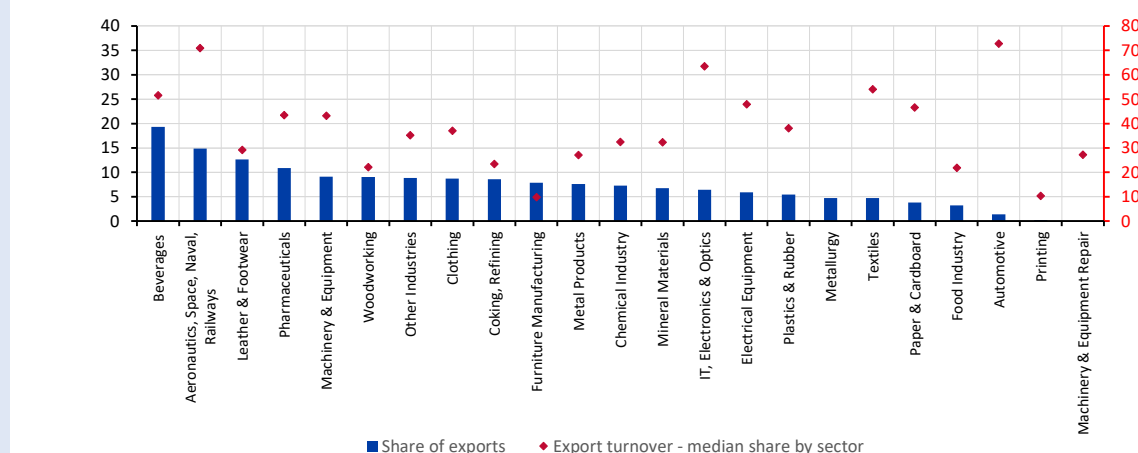
<sup>40</sup> Earnings before interest, taxes, depreciation and amortisation.

This exercise only takes into account the first-round effects linked to the exposure to the United States of the most export-oriented sectors. However, French companies are also exposed via their subsidiaries abroad. They could also be hit by increased competition from other countries targeted by higher tariffs seeking to redirect their exports, and a slowdown in the global economy. Conversely, French companies could benefit by redirecting their sales to other markets (starting with the domestic market), and from accessing cheaper inputs due to the reallocation of Chinese exports.

If we move away from the concept of at-risk debt, EBITDA losses under the second scenario amount to around EUR 45 billion – or 10% of our sample's aggregate EBITDA – in 2023. The losses are highly concentrated, with the five most severely affected NFC groups accounting for 65% of EBITDA losses. Only one of these five groups slips into the vulnerable category.

**Chart 1: Weight of exports to the United States in the manufacturing sector in 2023**

x:country/y: weight in total exports for the sector in % (LHS), median ratio of export revenue to total revenue in % (RHS)

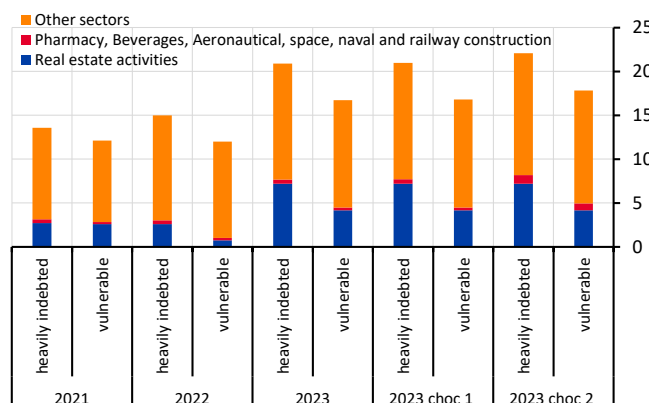


Sources: Customs data, FIBEN group database, Banque de France calculations.

Note: Nomenclatures correspond to INSEE NAFR2 level 2.

**Chart 2: Share of debt held by heavily indebted or vulnerable French companies**

x: time/y: at-risk debt, as a % of total debt



Source: Customs data, FIBEN group database, Banque de France calculations.

Note: A company is deemed heavily indebted if it has an EBITDA-to-interest coverage ratio of less than 3 and a total debt (including undrawn credit lines) to EBITDA ratio of more than 4. A vulnerable company is a heavily indebted company with a liquidity ratio expressed in days below 30.

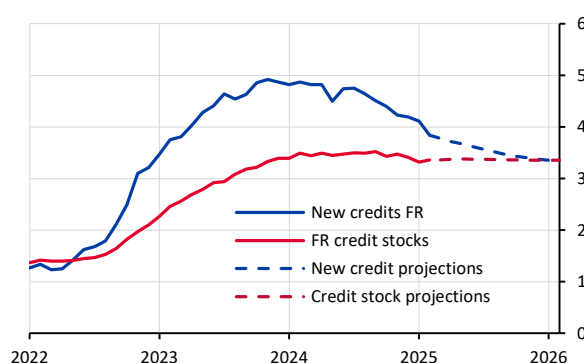
Sample size: Around 4,000 groups.

## In France, non-financial corporations continue to suffer under their interest expense burden but should benefit from further interest rate cuts

Over and above the potential impact of tariff barriers and the climate of severe uncertainty that could weigh on corporate earnings, companies continue to be burdened by interest expenses. However, the cuts in policy rates are being passed on to NFCs in France, as in the other major euro area countries. The average interest rate on new bank loans in France fell by 13 basis points in February 2025 (to 3.92% after 4.05% in January),<sup>41</sup> dropping below 4% for the first time since April 2023. In addition, the reduction in the cost of new bank loans since the end of 2023 has benefited all sizes of companies, particularly small and medium-sized enterprises (SMEs).<sup>42</sup> The gap between the cost of new bank loans for large companies and SMEs has thus narrowed. However, financing costs continue to display significant inertia because financing is largely granted at fixed rates, and older low-rate loans are being replaced by new debt that is more expensive. As a result, the average interest rate on NFC debt stocks remains high compared with previous years (see Chart 1.23).

Chart 1.23: Interest rates on loans to French NFCs

x: time/y: rate in %



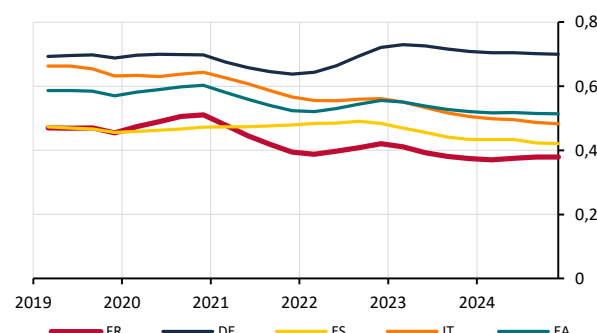
Source: MIR, Banque de France calculations.

Note: Lending rates on new loans and loan stocks are projected based on market forward rates and an econometric estimate of the relationship between market rates and bank lending rates. Repaid loans are assumed to be fully renewed at these new rates. Observed rates (solid line) and projections beyond (dotted line).

Most recent value: February 2026.

Chart 1.24: NFC leverage ratio

x: time/y: total debt to equity ratio



Source: Quarterly Sectoral Accounts (ECB).

Most recent value: Q4 2024.

Since 2023, French companies have reduced their leverage as interest rates have risen; a response echoed by other major euro area countries (see Chart 1.24). However, deleveraging has remained moderate as French NFCs have benefited from stable credit growth rates. In the major euro area countries, interest coverage ratios also deteriorated in 2023 (see Chart 1.25) before stabilising in 2024. The debt service ratio, which measures interest due and repayments as a proportion of income, is stable and slightly above its pre-Covid level (see Chart 1.26). Based on a balance sheet analysis, among NFCs, SMEs appear to cover their interest expenses with a slightly higher EBITDA<sup>43</sup> than the company average.<sup>44</sup>

<sup>41</sup> Webstat, annual interest rate on new loans to NFCs.

<sup>42</sup> Banque de France (2025), "Financing of enterprises", February.

<sup>43</sup> In particular, the cost of consumables as a percentage of net turnover appears to be slightly lower than the total sample average.

<sup>44</sup> Analysis based on the BACH database, which was developed in such a way as to maintain international comparability.

Chart 1.25: NFC interest coverage ratio (ICR)

x: time/y: GOP/Interest expense on financial debt, Q1 2019

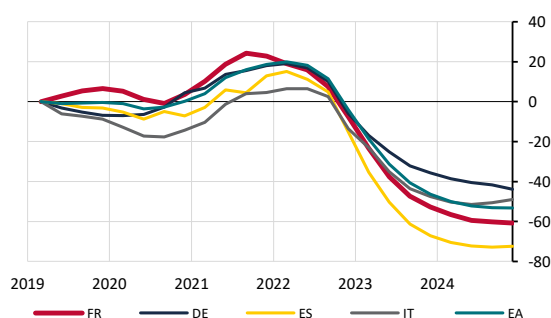
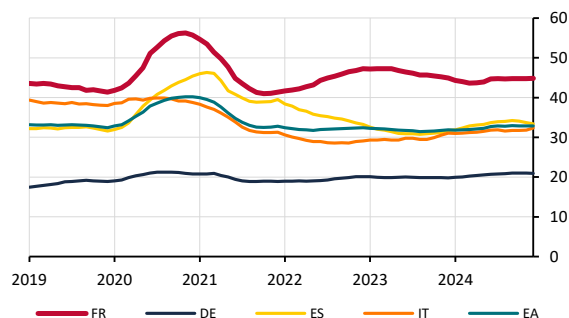


Chart 1.26: NFC debt service ratio (DSR)

basis Interest payments and repayments/income



Source: Quarterly Sectoral Account.

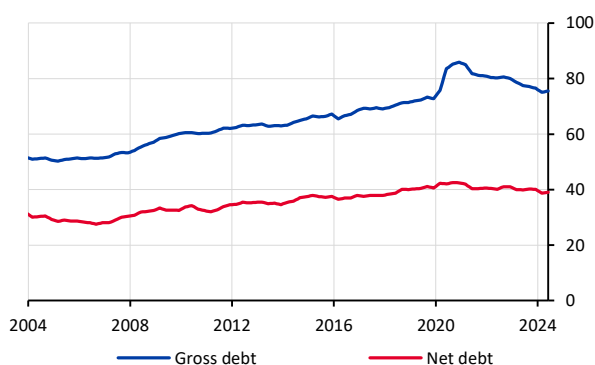
Note: Unlike the ICR, the DSR is calculated on the basis of consolidated debt and takes into account the average maturity of loans to NFCs, which is necessary to assess repayment risk at the macroeconomic level.

Most recent value: December 2024.

**The gross debt ratio as a percentage of GDP of companies in France decreased in 2024, but remains above its pre-Covid level.** The net debt ratio as a percentage of GDP has remained relatively stable at around 40% since the end of 2022 (see Chart 1.27). Outstanding net debt increased in 2024 by an equivalent amount to the previous year (EUR 54.4 billion in 2024 after EUR 56.5 billion in 2023) and at a rate close to GDP growth in value terms. In 2024, as in 2023, companies drew on their cash reserves (around EUR 20 billion between the end of 2023 and the end of 2024). In 2024, companies scaled back their outstanding sight deposits and, to a lesser extent, their outstanding money market fund (CIU) holdings. The substitution of short-term savings for higher-yielding term deposits appears to have stalled since early 2024, as policy rates have fallen (see Chart 1.28).

Chart 1.27: Gross and net debt outstandings

x: time/y: debt in % of GDP

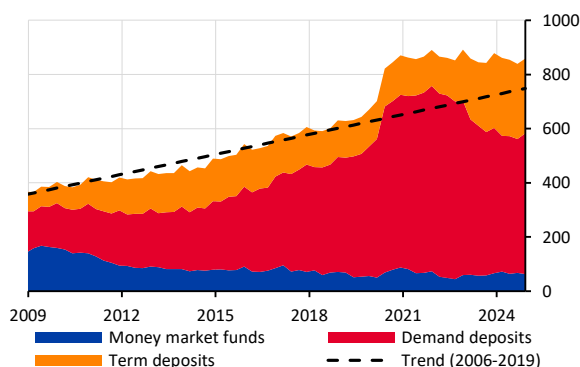


Sources: Webstat, quarterly financial accounts.

Most recent value: Q4 2024.

Chart 1.28: Cash holdings

x: time/y: outstanding amounts in EUR billion



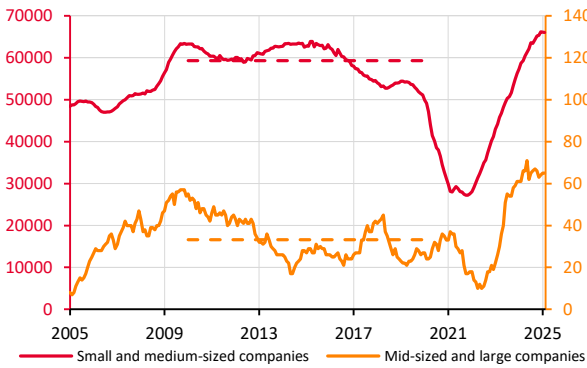
Sources: Webstat, BSI dataset, INSEE national accounts.

Note: Cash holdings include bank deposits and securities held in money market funds.

Most recent value: Q4 2024.

**Lastly, during the first few months of 2025, corporate failure levels stabilised across all sectors and for all company sizes (see Chart 1.29).** This improvement follows a sharp rise in corporate failures in 2024, partly linked to a catch-up effect following the dip observed during the 2020-21 Covid period. Despite the high number of corporate failures, loans to defaulting companies as a share of drawn loans has stabilised at around 0.6% since May 2024 and is now increasing only very slowly. The average size of defaulting companies is tending to increase. In February 2025, SME failures were 11% higher than the average observed during the 2010-19 period. For

medium-sized enterprises (MSEs) and large enterprises (LEs), the rate of corporate failures was double that of the 2010-19 period, but still low (60 in 2024, representing less than 0.06% of SMEs and LEs). Failures in the transport, information and communication, finance and insurance, real estate, and consultancy sectors are up by more than 20% over the average observed during the 2010-19 period. With the exception of real estate activities, where the volume is inflated by loans to real estate companies (SCI), these sectors account for a relatively small share of total drawn and undrawn credit (see Chart 1.30).

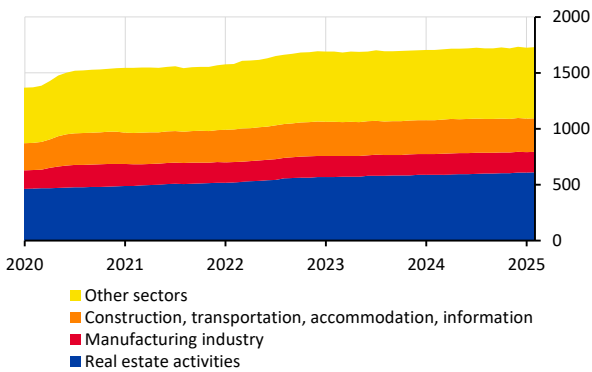
**Chart 1.29: Number of corporate failures**
*x: time/y: total legal-unit failures over one year*


Sources: Webstat, Banque de France.

Note: The dotted bar represents the average between 2010 and 2019.

The number of legal units is 304,609 for SMEs and 97,619 for MSEs and LEs in 2021.

Most recent value: February 2025.

**Chart 1.30: Bank lending to NFCs by sector**
*x: time/y: EUR billion, outstandings*


Source: Banque de France.

Note: Drawn and undrawn credit. Loans to real estate activities include loans to SCI real estate companies.

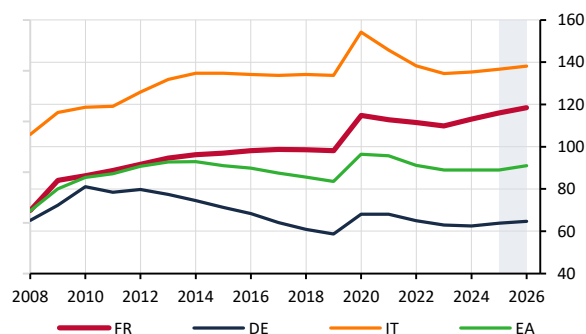
Most recent value: February 2025.

### Public debt must be watched closely in light of rising interest expenses

With public debt at 113.2% of GDP in 2024, according to European Commission data, France has the third highest public debt of all euro area countries, behind Italy (135.3%) and Greece (153.6%), and well above the 88.9% of GDP for the euro area as a whole (see Chart 1.31). The uncertain macroeconomic environment and defence spending requirements could make reducing the government deficit ratio below the threshold of 3% more difficult. The effects on growth prospects and tax revenues of potential new spending are uncertain and will depend in part on its allocation and its local component. The fiscal space available to mitigate an adverse shock therefore appears limited.

**Chart 1.31: Change in the debt-to-GDP ratio in the euro area, France, Germany and Italy**

x: time/y: public debt in % of GDP

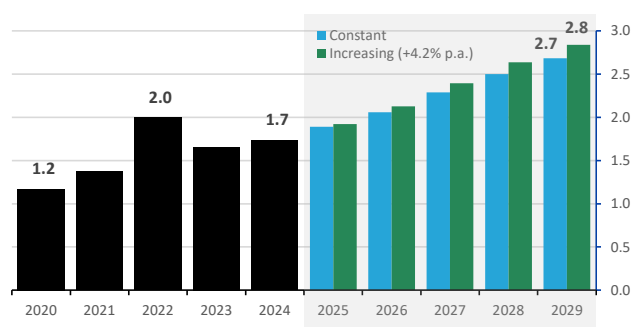


Source: European Commission.

Note: The grey shaded area corresponds to European Commission projections through to 2026.

**Chart 1.32: Five-year projection of the average annual rate on French government debt**

x: year; y: % year-on-year change



Source: Banque de France

Note: Trajectory provided for information purposes only: five-year simulation based on the government's negotiable debt using the internal model of the Analytical Modelling Centre for Financial Stability and the 2025–27 macroeconomic scenario published by the Banque de France in June 2025, extrapolated over two additional years (outstanding amount up 4.2% per year on average, 10-year Treasury bond rate at end-2029 = 3.9%). A theoretical trajectory with constant euro-denominated debt outstanding, using the same interest rate scenario, is also provided for comparison purposes. It is not an official Banque de France projection.

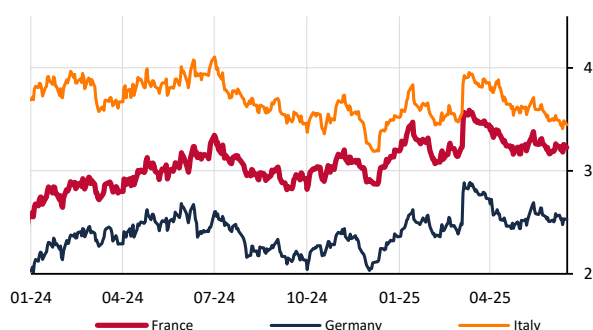
**Such a high level of debt is worrying in the current context of rising average interest rates on French public debt stocks.** The average annual rate (apparent interest rate)<sup>45</sup> paid on French government debt, which was only 1.2% in 2020, rose to 1.7% in 2024, after peaking at 2% in 2022 due to inflation-linked securities (see Chart 1.32). According to an internal simulation model (which does not correspond to official projections by the Banque de France) and in a central scenario (market rates in May 2025, corresponding to a change in the French 10-year sovereign rate from 3.2% in mid-May to 3.9% at the end of 2029), the average French government debt rate is expected to continue rising over the next five years, exceeding the 2% per year threshold in 2026 due to the continued rollover of debt initially subscribed at low interest rates, and approaching the 3% threshold by 2029 if the debt stock increases at an average rate of 4.2% per year.<sup>46</sup> If government debt levels stabilise (scenario of renewal of securities arriving at maturity), the average rate in 2029 would be 2.7%. It therefore appears that the cost of servicing French government debt is likely to rise more between 2025 and 2029 than it did between 2020 and 2024 (see Chart 1.32). Bringing the public deficit-to-GDP ratio back down to below the 3% threshold imposed by the Stability and Growth Pact would only be more complicated in this type of trajectory.

<sup>45</sup> In this case, the average annual rate is calculated as the ratio between the interest expense over the four quarters of the year and the average outstanding amount for those four quarters.

<sup>46</sup> Average assumption used for illustrative purposes over five years.

Chart 1.33: 10Y sovereign yields

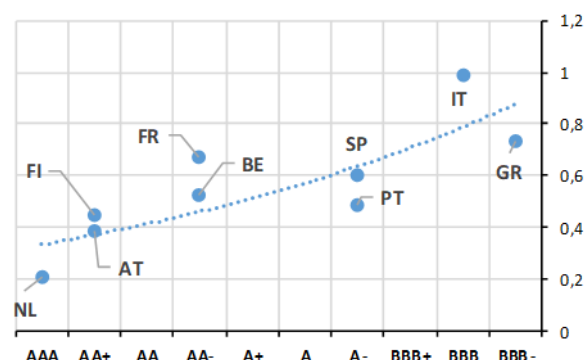
x: time/y: yield (%)



Source: Eikon Refinitiv  
Most recent value: 17 June 2025

Chart 1.34: Spreads relative to Germany on 10-year sovereign bonds based on credit ratings

x: time/y: spread (%)



Source: Eikon Refinitiv, Fitch, S&P, Moody's.  
Note: Ratings correspond to the average of ratings issued by Fitch S&P and Moody's.  
Date observed: 17 June 2025.

The spread between the French Treasury bond (OAT) and German Bund yields remains higher than for certain countries with lower ratings (see Chart 1.34), indicating a change in the status of French sovereign debt. The spread between French and German rates widened from less than 50 basis points at the beginning of June 2024 to 72 basis points on 17 June 2025.

As a result, French 10-year bond yields in June 2025 were still higher than before the dissolution of the National Assembly in June 2024 (3.25% on 17 June 2025 compared with 3.06% on 3 June 2024, see Chart 1.33). After a peak in March 2025 with the announcement of the German recovery plan, French 10-year sovereign yields nevertheless remained contained. The acute political and fiscal uncertainty that prevailed following the dissolution of the National Assembly led investors to demand higher risk premiums for holding French sovereign debt. Sovereign yields therefore rose.

**The depth and diversity of its investor base ensure the proper functioning of the French sovereign debt market.** Investor profiles are geographically diverse, with the share of non-residents in total holdings continuing to grow since quantitative tightening was implemented in 2022 (48.5% in the first quarter of 2022 compared with 54.5% in the second quarter of 2024). This diversity is also reflected at the sectoral level, with sustained activity from official investors and also from banking and non-banking intermediaries domiciled inside and outside the euro area. The French sovereign debt market remains functional and enjoys high levels of liquidity in the primary and secondary markets. Recent primary market auctions have demonstrated sustained demand, with a coverage ratio well above 2. The turbulence observed on the financial markets in April 2025 had no significant impact on French sovereign debt market liquidity levels, while demand at the auctions held between April and June continued to be high, with an average coverage ratio of over 2.5. On the secondary market, liquidity is high with a bid-ask spread that remains very low.

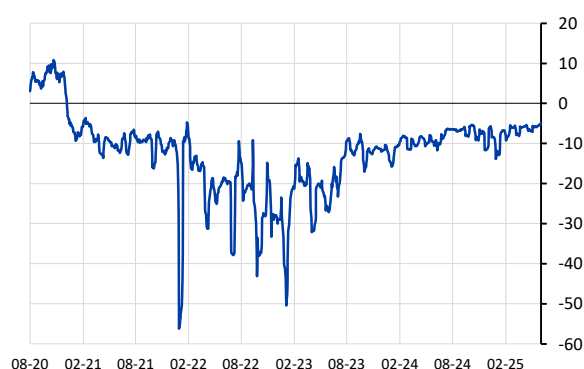
**Furthermore, the French repurchase agreement (repo) market was unaffected by market shocks and demonstrated its resilience.** Rates on French sovereign-backed repo transactions moved broadly in line with German and Italian rates, without any obvious impact from trade tensions. In general, euro area repo rates do not react greatly to idiosyncratic events.

**Moreover, the French repo market is continuing to adapt to the reduction in excess liquidity and the increase in available collateral volumes resulting from monetary policy normalisation.** Until 2021, the Eurosystem's monetary policy favoured large-scale refinancing operations (TLTROs) and asset purchase programmes, which

contributed to an increase in the liquidity surplus and a scarcity of collateral. In this context, investors were ready to accept a high opportunity cost for their cash to obtain collateral, while a discouraging remuneration allowed banks to avoid unnecessarily increasing their deposit base. This resulted in a decrease in repo rates, which fell to levels significantly below the ECB's deposit facility rate (DFR). Nevertheless, the repo rate (vs. DFR) has gradually increased since 2022 with the normalisation of monetary policy (see Chart 1.35).

**Chart 1.35: Differential between French overnight repo rates and the deposit facility rate (DFR)**

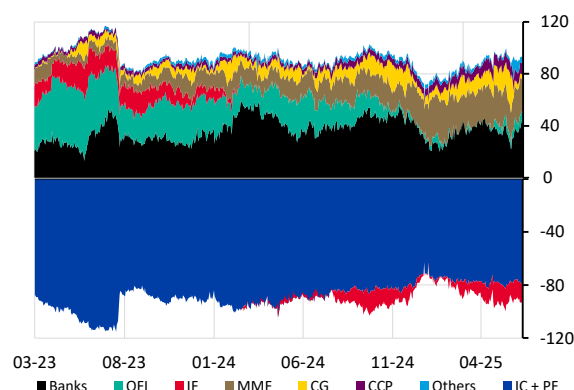
x: time/y: rate (basis points)



Sources: SFTDS, Banque de France  
Note: 10-day moving average.  
Most recent value: 11 June 2025.

**Chart 1.36: Net outstanding amount of French sovereign-backed repo transactions, by sector**

x: time/y: outstanding amounts (EUR billions)



Sources: SFTDS, Banque de France  
Notes: In the first half of 2025, insurance companies and pension funds had a net borrowing position of around EUR 80 billion, while banks had a net lending position of around EUR 40 billion.  
OFI: other financial intermediaries, IF: non-money market funds, MMF: money-market funds, G: general government, CCP: central counterparties, IC+PF: insurance companies and pension funds, Others: NFCs and unidentified sectors.  
Most recent value: 11 June 2025.

**The narrowing of the spread between French sovereign-backed repo rates and ECB policy rates reflects a decline in collateral scarcity.** The relative upward movement in repo rates is likely to continue over the coming months amid the ongoing reduction in the euro area liquidity surplus (down from more than EUR 4,500 billion in 2022 to less than EUR 3,000 billion at the end of 2024) and with sovereign issuance programmes set to remain strong. The decline in the liquidity surplus could push repo rates (median) above the DFR, particularly around regulatory closing dates (quarter-end, year-end), when financial intermediaries tend to reduce their position volumes (and therefore reduce their liquidity supply). However, while the Eurosystem tolerates some volatility on money markets, it keeps a close watch on the transmission of policy rate decisions to repo rates in the Member States.<sup>47</sup>

**Recent evolutions in outstanding amounts point to cyclical adjustments in the liquidity behaviour of sectors rather than a structural change in the repo market.** There has been a notable increase in money market funds among the main net lenders of liquidity, to the detriment of banks. Between 2024 and early 2025, banks' daily average outstanding balances fell by EUR 13.2 billion, while those of money market funds increased by EUR 14.1 billion over the same period (see Chart 1.36). This trend seems to reflect one-off adjustments in cash positions or asset allocations rather than a lasting shift in market roles. As for insurance companies, they continue to account for the bulk of the net cash borrowing position, in line with their substantial holdings of French sovereign debt securities (see below).

<sup>47</sup> To mitigate the risk of volatility on this market and the possibility of one-off spikes, on 18 September 2024 the Eurosystem decided to reduce the difference between the main refinancing operation (MRO) rate and the DFR to 15 basis points. This makes it possible to have a theoretical ceiling for repo rates while maintaining a sufficiently large gap to encourage banks to finance themselves on the money market as well.

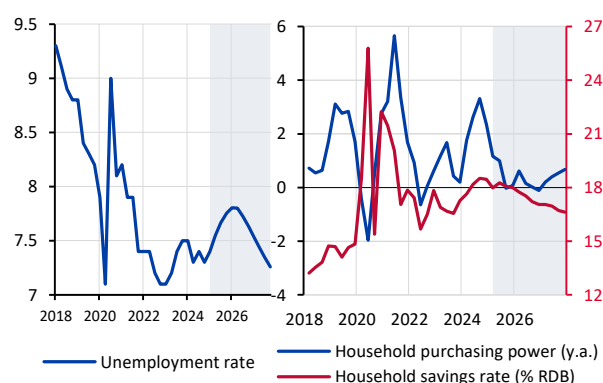
## The residential real estate market is beginning to recover, while risks for commercial real estate are declining, despite remaining vulnerable to structural challenges

**The risks associated with household housing loans seem contained.** Households have accumulated significant financial wealth (EUR 6,356 billion in the fourth quarter of 2024), encouraged by high interest rates for savings.<sup>48</sup> The unemployment rate remains historically low (7.3% in the first quarter of 2025) and a contained increase was forecast in the Banque de France's June 2025 macroeconomic projections. The unemployment rate is expected to peak at 7.8% at the beginning of 2026, before falling back to 7.3% at the end of 2027. The purchasing power of gross disposable household income was up in 2024 by 2.6% (see Chart 1.37), but the increase in the aggregate indicator could mask a certain degree of heterogeneity depending on income levels. Furthermore, household credit standards remain sound. The average debt-service-to-income ratio for new housing loans excluding renegotiations was 30.3% in March 2025, compared with 31% at the beginning of 2024. Furthermore, the standard introduced by the *Haut Conseil de stabilité financière* (HCSF – High Council for Financial Stability)<sup>49</sup> capping the debt-service-to-income ratio at 35% and the credit period for new loans at 25 years<sup>50</sup> will ensure that credit standards do not get out of control and that household debt remains sound and sustainable.

**Households nevertheless remain exposed to a possible intensification of trade and geopolitical tensions.** In May 2025, in line with current severe uncertainty, household confidence deteriorated and thus drifted further from its long-term average (see Chart 1.38).

Chart 1.37: Main indicators of household financial health

x: time/y: %



Sources: INSEE, Banque de France.

Note: Savings rate as a percentage of

gross disposable household income. The grey shaded area corresponds to the horizon

of the Banque de France's June 2025 macroeconomic projections.

Most recent value: Q1 2025 for unemployment, Q4 2025 for the rest.

Chart 1.38: Indicator of household confidence

x: time/y: index



Source: INSEE.

Note: The composite household confidence indicator summarises households' opinions on the economic situation: the higher the value, the more favourable households' assessment of the economic situation. Historical average calculated for January 1987 to December 2024.

Most recent value: May 2025.

**The market for existing residential real estate is recovering.** After an orderly but substantial downturn in prices and transaction volumes following the rise in interest rates that began in early 2022, the market is now showing clear signs of improvement. Seasonally adjusted prices of existing homes in metropolitan France rose by 1% in the first quarter of 2025, compared with a 0.1% decline and 0% in the third and fourth quarters of 2024, respectively. The first quarter of 2025 saw a rebound in the price of existing homes in the Paris region (up 0.9%) after nine

<sup>48</sup> In the fourth quarter of 2024, the household financial savings rate stood at 9.7% of gross disposable income, while the savings rate (including investments in new housing and major renovations) reached 18%.

<sup>49</sup> [Decision D-HCSF-2021-7](#) on housing loan credit standards of 29 September 2021.

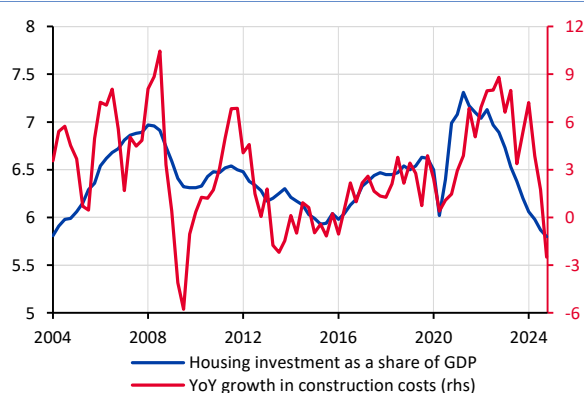
<sup>50</sup> The restrictions on the debt-service-to-income ratio and the credit period allow for flexibility covering 20% of total loan production, within which loans are permitted to not comply with these criteria.

consecutive quarters of decline. At the same time, one-year cumulative transaction volumes have been increasing since September 2024 (see Chart 1.40) and reached 892,000 sales in April 2025, above its historical average of around 860,000 sales since 2001<sup>51</sup> but 28% below its April 2022 peak.

**The conditions are right for a rebound in prices, while demand is being stimulated by lower interest rates for housing loans.** Consequently, housing investment volumes were at their lowest level in 20 years, accounting for around 5.8% of GDP in the first quarter of 2025 (see Chart 1.39). At the same time, construction costs have risen sharply (up 22% between early 2021 and early 2024, partially offset by a subsequent 5% decline), reducing the volume of new housing put on the market. As a result, the total number of building permits issued in one year has stabilised at around 320,000, 38% below its peak in August 2022. These developments impact the price of new housing, which, adjusted for seasonal variations, rose by 0.2% in the fourth quarter of 2024.

**Chart 1.39: Construction cost and housing investment growth**

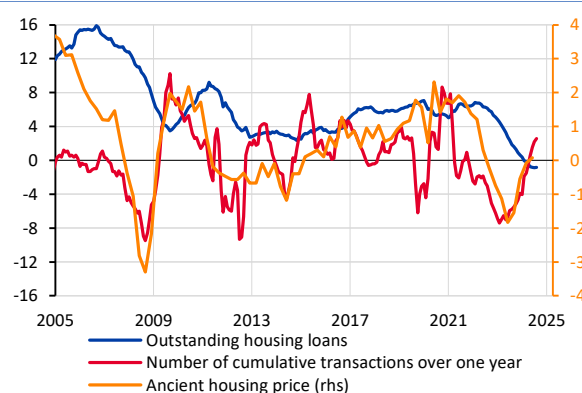
x: time/y: % year-on-year change



Sources: INSEE, ECB, Banque de France. Most recent value: Q1 2025 for investment, Q4 2025 for construction costs.

**Chart 1.40: Existing homes market trend**

x: time/y: % in year-on-year (loan amounts) or quarterly (prices and transactions) change



Sources: INSEE, IGEDD, Banque de France.

Note: Year-on-year growth for outstanding amounts, quarterly for prices and transactions. Scope: France excluding Mayotte for housing, resident individuals for loans.

Most recent value: Q4 2024.

**Housing loan production continued to recover, backed by gradually declining interest rates.** The volume of new loans to consumers, excluding renegotiations and adjusted for seasonal variations, reached EUR 12 billion in March 2025, compared with EUR 10.8 billion in February. These figures should be considered in the context of the February 2024 low of EUR 6.9 billion. The annual growth rate of outstanding housing loans to consumers remains negative but is gradually picking up (-0.3% in March 2025 from -0.5% in February). This lending trend is linked to a further reduction in interest rates on new housing loans, excluding renegotiations, to consumers, which stood at 3.2% in March 2025 compared with 3.27% in February. The housing loan rate has thus returned to a level equivalent to that seen in June 2023 and 97 basis points below its January 2024 peak.

**The main indicators for the commercial real estate market are showing signs of improvement, suggesting that the sector's correction phase is gradually coming to a close.** The sector had been directly affected by rising interest rates and had recorded a severe decline marked by a sharp drop in prices and investment from the third quarter of 2022. The outlook now appears more favourable. The valuation prices<sup>52</sup> for all asset classes fell by only 3.3% in 2024, compared with 11% in 2023. At the same time, investment in commercial real estate began an upturn towards the end of 2024 to reach EUR 4.8 billion in the final quarter – 22% higher than in the fourth quarter of 2023. For 2024 as a whole, investment was maintained at around EUR 15 billion, which is similar to the 2023 level but 40% below the historical average observed between 2004 and 2022.

<sup>51</sup>

<sup>52</sup> Transaction prices are observed during sales and must be distinguished from valuation prices based on expert appraisals of existing properties.

However, commercial real estate is vulnerable to current macroeconomic and geopolitical uncertainty, as it is particularly exposed to international flows. In 2024, investors based in the United States accounted for 21% of investment volume in commercial real estate located in France.<sup>53</sup> A drop in US-based investments could directly drive down valuations.

**The sector is still exposed to structural risks despite lower interest rates.** The sector's relative recovery is very uneven across market segments. While the outlook is improving particularly for industry and hotels, certain changes, such as remote working and transforming consumer habits, continue to weigh on the office sector and, to a lesser extent, on retail outlets (see Chart 1.41). Cumulative office take-up<sup>54</sup> in the Île-de-France region over one year, which is a reliable indicator of the property cycle, remains sluggish, despite gradually stabilising. Similarly, transaction prices for offices in the Île-de-France region fell by 11.7% year-on-year in the first quarter of 2025, compared with a maximum decline of 21% in the second quarter of 2024 (see Chart 1.42). The high proportion of offices in the French commercial real estate stock partly explains why the sector is slow to recover compared with other major European countries.<sup>55</sup> It can also be explained by the predominance of fixed rates in France, which are still relatively prevalent compared with other European countries and which push down property valuations. At the end of 2023, variable-rate loans granted by the main French banks for commercial properties located in France accounted for 18% of the total, compared with 49% for properties located in the rest of the European Union.<sup>56</sup>

**Chart 1.41: Growth in investment prices and value by market segment**

x: time/y: % year-on-year change

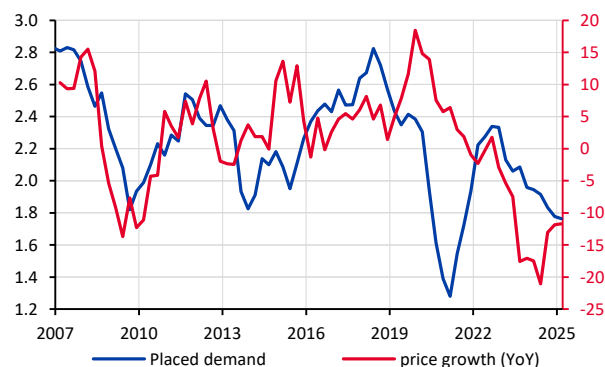


Source: MSCI, BNP Paribas Real Estate

Note: Prices and investment value at current prices.

**Chart 1.42: Île-de-France office take-up and transaction price growth**

x: time/y: millions of m<sup>2</sup> [LHS], % year-on-year change [RHS]



Source: Immostat, Banque de France.

Note: Total office take-up over one year. Price per m<sup>2</sup>, including all fees and costs, expressed in euro.

Most recent value: Q1 2025.

**Liquidity risk appears to be declining.** Net open-end retail real estate fund flows are still negative but appear to have stabilised. They represented outflows of EUR 346 billion in the first quarter of 2025, well above the low point of EUR 2,114 billion in outflows in the fourth quarter of 2023. Conversely, inflows into real estate investment companies (SCPIs), which are closed-end funds in practice,<sup>57</sup> rose sharply to EUR 1,000 billion in the first quarter of 2025, up 31% compared with first-quarter 2024. Pending redemption requests for closed-end retail real estate funds (around 70% of retail fund assets under management at the end of 2023)<sup>58</sup> reached 2.6% of total

<sup>53</sup> Source: BNP Paribas Real Estate.

<sup>54</sup> Office take-up corresponds to all rentals or sales to occupants (as opposed to sales to investors) of premises used as offices.

<sup>55</sup> At the end of 2024, offices represented around 54% of the value of commercial real estate in France, compared with 46% in Germany and 50% in Italy, but only 29% in Spain and 22% in England (MSCI annual property index).

<sup>56</sup> Autorité de contrôle prudentiel et de résolution (ACPR – Prudential Supervision and Resolution Authority) (2024), [“Le financement de l’immobilier commercial par les banques françaises en 2023”, Analyses et synthèses, No. 164](#). Extended scope covering exposures to real estate professionals, loans using commercial real estate as collateral, bank investments in commercial real estate.

<sup>57</sup> A partner may leave an SCPI by requesting to withdraw or by selling their shares to a third party. In the event of a withdrawal request, the management company will redeem the shares by offsetting them against funds from new subscriptions. Unlike a sell order, this does not have a validity period.

<sup>58</sup> AMF, [2024 Markets and Risks Outlook](#).

capitalisation in the first quarter of 2025 (compared with up to 2.9% in the second quarter of 2024). However, this risk remains highly concentrated: out of a total of 221 SCPIs, 10 accounted for two-thirds of the volume of units pending redemption at the end of 2024.<sup>59</sup>

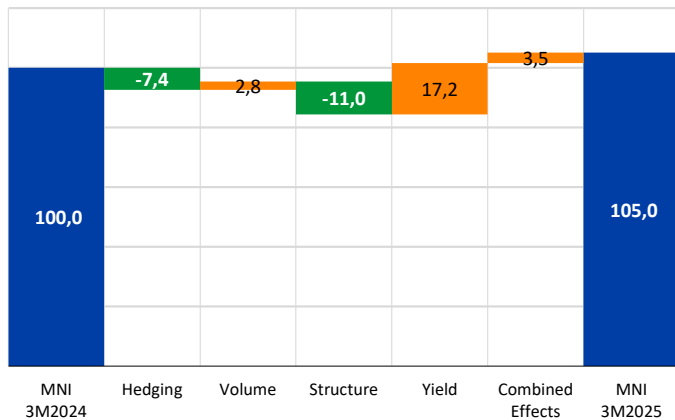
### 1.3 Financial intermediaries confirm their resilience

**Banks were bolstered by the strength of their business models and the improvement in financing conditions.**

In 2024, the six main French banking groups<sup>60</sup> reported historically high income, driven by their diversified business models. First quarter 2025 data confirm this trend and also show a recovery in the net interest margin (NIM). After a decline in 2023, net banking income (NBI) rose significantly in 2024<sup>61</sup> by 8% to reach a record high (EUR 158.7 billion), driven by commission income (up 5.5% to EUR 57.7 billion), market activities (up 6.5% to EUR 21.5 billion) and other banking income.<sup>62</sup> The NIM remained stable in 2024 (-0.5% to EUR 63.6 billion). The figures for the first quarter of 2025 show a further increase in quarterly NBI (up 8.8% compared with the first quarter of 2024), underpinned in particular by growth in the NIM (up 5% compared with the first quarter of 2024), mainly buoyed by the interest rate effect<sup>63</sup> and, to a lesser extent, the volume effect, which confirms the recovery in lending in response to stronger demand (Chart 1.43). Furthermore, a comparative analysis of French banks and their euro area peers<sup>64</sup> shows that their increase in the NIM was mainly driven by a sharp rise in the average return on assets, while the average cost of liabilities was comparable (Chart 1.44).

**Chart 1.43: Factors explaining the change in the net interest margin (first quarter of 2025 vs. first quarter of 2024)**

*x: factors explaining changes in the NIM / y: contribution of explanatory factors to changes in the quarterly NIM*



Sources: ACPR.

Note: Most recent value, March 2025 compared to March 2024.

In 2024, French banking groups benefited from a positive scissor effect, with income growth outpacing operating expenses (up 2.3%), thanks in particular to a sharp decline in contributions to guarantee funds (down 86%). Despite a significant increase in the cost of risk (20.7%), net income rose to EUR 36.1 billion (11.7%).

<sup>59</sup> Source: Association française des sociétés de placement immobilier (ASPIM – French Association of Property Investment Companies).

<sup>60</sup> BNP Paribas, Société Générale, Groupe Crédit Agricole, Groupe BPCE, Groupe Crédit Mutuel and La Banque Postale.

<sup>61</sup> For further details, see the ACPR publication, *l'Analyses et synthèses sur la situation des 6 groupes français à fin 2024*.

<sup>62</sup> Other net banking income rose sharply in 2024 (up 94% to EUR 16 billion) and accounted for a significant portion of the total increase in net banking income.

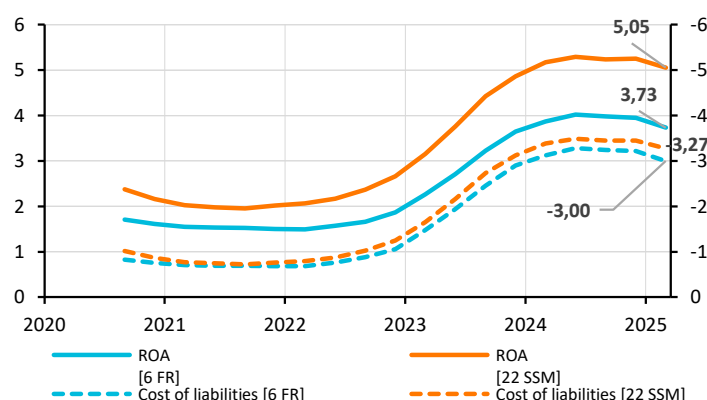
<sup>63</sup> The decline in interest rates between 24 March and 25 March led to a greater reduction in the cost of funding liabilities, while changes in interest income on assets were driven by inertia and the slower decline due to the share of fixed-rate loans.

<sup>64</sup> There are 22 banks in the euro area peer group. Austria: Erste Group Bank, Raiffeisen Bank International; Belgium: Belfius Bank, KBC Group; Germany: Bayerische Landesbank, Commerzbank Aktiengesellschaft, Deutsche Bank, DZ Bank, Landesbank Baden-Württemberg, Landesbank Hessen-Thüringen Girozentrale; Spain: Banco Bilbao Vizcaya Argentaria, Banco de Sabadell, Banco Santander, CaixaBank; Finland: Nordea Bank Abp; Italy: Banco BPM, ICRCA Banca, Intesa Sanpaolo, UniCredit; Netherlands: ABN AMRO Bank, Coöperatieve Rabobank, ING.

Operational efficiency and profitability indicators improved: the cost to income ratio stood at 68.1% (-3.8 points), return on assets (RoA) rose by 4 basis points to 0.42% and return on equity (RoE) rose by 51 basis points to 6.73%. The situation in the first quarter of 2025 was in line with 2024: quarterly net income rose (5.2%) despite higher operating expenses (5.2% compared with the first quarter of 2024) and cost of risk (18.9% compared with the first quarter of 2024).

**Chart 1.44: Average annual return on assets and average annual cost of liabilities**

*x: quarters / y: average return on assets vs. average cost of liabilities, year-on-year*



Sources: ACPR

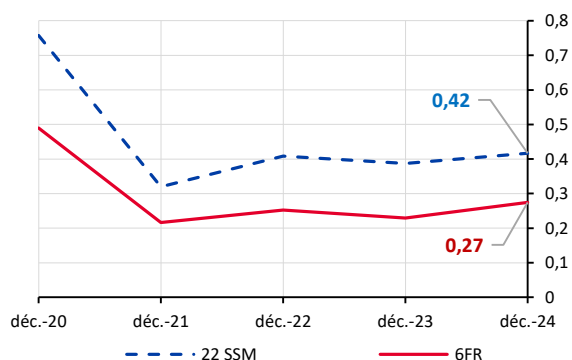
Note: Most recent value, December 2024

In 2024, the rise in the cost of risk (EUR 12.1 billion) was concentrated in the first half of the year and mainly resulted from the portfolio of loans to non-financial corporations, in particular in connection with the provisioning of non-performing loans (more than 85%), including a few specific operations.<sup>65</sup> The situation changed in the first quarter of 2025, with an increase in the cost of risk on the household portfolio, confirming the heterogeneous financial situation within this sector despite its overall robust financial position (see above). At the end of March 2025, the cost of risk stood at 33 basis points of the NPL portfolio (unchanged from the fourth quarter of 2024) and 40 basis points of the household portfolio (up 10 basis points from the fourth quarter of 2024, Chart 1.46). The cost of risk for French banks, which stood at 28 basis points, remains lower than that of their euro area peers, at 36 basis points (see Chart 1.45). The provisioning levels of French banks are also higher than those of their European peers.

<sup>65</sup> In particular, ATOS and GIFL.

Chart 1.45: Change in annualised quarterly cost of risk

x: years / y: % of average outstanding loans

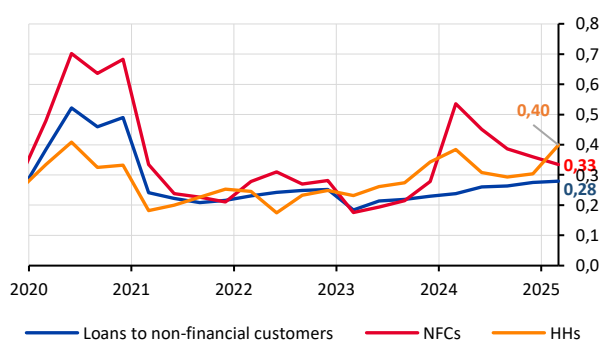


Sources: ACPR

Note: Most recent value, December 2024.

Chart 1.46: Change in the cost of risk for the NFC and household portfolios of the six French banking groups

x: years / y: % of outstandings (loans and securities at amortised cost and fair value in OCI)



Sources: ACPR.

Note: Most recent value, December 2024.

The higher cost of risk in 2024 and early 2025 stems from an increase in credit risk, reflected in the change in the share of loans classified as Level 2 under IFRS 9 (indicating a significant increase in credit risk) and, to a lesser extent, Level 3 under IFRS 9 (loans in default). Between December 2023 and March 2025, the share of loans to NFCs increased by 85 basis points, and that of loans to households by 52 basis points (see Table 1.1). A comparison with euro area peers shows a broadly similar situation, but with a different trend in the first quarter of 2025. We observe a decline in the share of Level 2 loans to NFCs (27 basis points) and Level 3 loans (11 basis points), and a similar trend for loans to households, with a decline in the share of Level 2 loans (29 basis points) and Level 3 loans (4 basis points). This is due to a twofold impact on the numerator (improvement in the quality of outstanding loans) and the denominator (increase in total outstanding loans) (see Charts 1.47 and 1.48).

Table 1.1: Portfolio credit quality – Share of outstanding loans according to IFRS standards

| Portfolio credit quality | IFRS level | Dec. 23 | Dec. 24 | Mar. 25 | Mar. 25 vs Dec. 23 |
|--------------------------|------------|---------|---------|---------|--------------------|
| Loans to NFCs            | Level 2    | 12.50%  | 13.25%  | 13.35%  | +85 basis points   |
|                          | Level 3    | 3.46%   | 3.52%   | 3.55%   | +9 basis points    |
| Loans to households      | Level 2    | 9.32%   | 9.28%   | 9.84%   | 52 basis points    |
|                          | Level 3    | 2.05%   | 2.16%   | 2.20%   | 15 basis points    |

Sources: ACPR.

Note: Most recent value, March 2025.

The deterioration in asset quality was more pronounced in the SME loan portfolio (see Chart 1.49), which accounts for just under half of total loans to NFCs, with a notable increase in the share of Level 2 loans between December 2023 and March 2025 (207 basis points to 15.24%) and a rise in the share of Level 3 loans (42 basis points to 4.61%). Comparisons with euro area peers show different trends: the share of Level 2 loans in their total loans declined quite sharply (-152 basis points to 15.40%) but remained higher than that of French banks, while the share of Level 3 loans increased slightly (7 basis points to 4.53%) and fell below that of French banks.

Chart 1.47: Share of Stage 2 and Stage 3 loans to NFCs

x: years: % share outstanding loans (%)

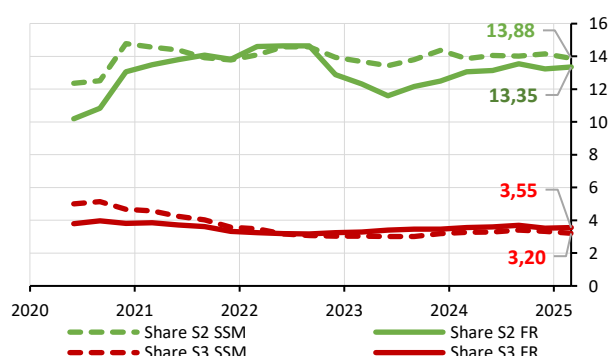


Chart 1.48: Share of Stage 2 and Stage 3 loans to households

x: years: % share outstanding loans (%)

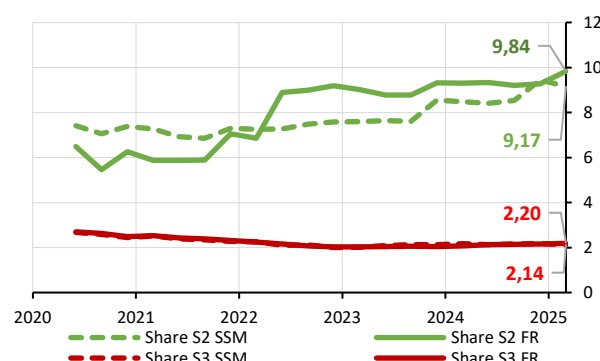
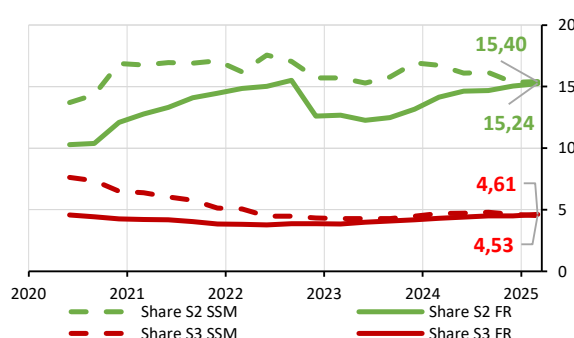


Chart 1.49: Share of Stage 2 and Stage 3 loans to SMEs

x: years: % share outstanding loans (%)



Sources: ACPR

Note: Most recent value, December 2024.

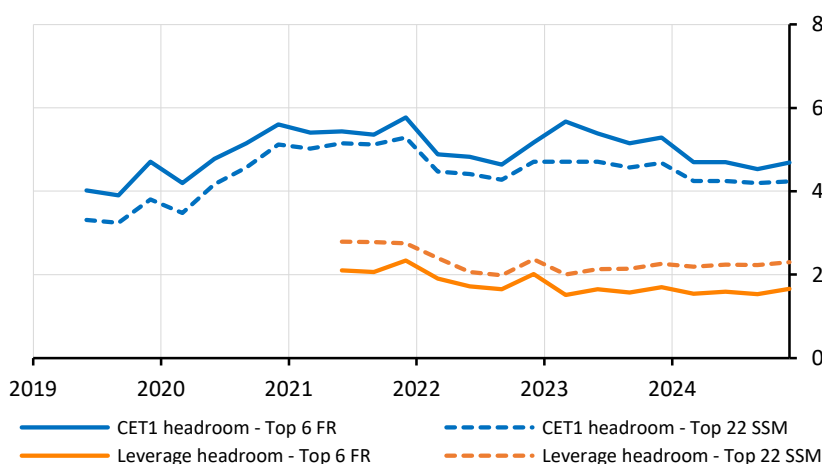
**Lastly, on the asset side, French banks' exposure to US counterparties was slightly below 10%**, consisting mainly of loans to non-bank financial intermediaries (NBFIs) (around 20%), sovereign bonds (around 20%), loans to non-financial corporations (15%), shares in NFCs (12%) and derivatives (10%).

**The capital of the six largest French banking groups remained at high levels at the end of 2024 (see Chart 1.50).** Capital headroom reflected banks' ability to increase their capital instruments (Common Equity Tier 1 [CET1], Additional Tier 1 [AT1] and Tier 2 [T2]) in 2024, despite the stricter requirements scheduled for that year: Individual Pillar 2 requirements, French countercyclical buffer (CCyB) increasing from 0.5% since 7 April 2023 to 1% since 2 January 2024, and CCyB rates in other countries where French banks have relevant exposures. At the aggregate level, the CET1 capital headroom of French banks (4.8 percentage points in December 2024) was structurally higher than that of their European peers (4.2 percentage points). The least capital headroom for a French bank was 2.5 percentage points, compared with 2.2 percentage points for the sample of euro area peers.

**The leverage headroom of the six French banking groups was 1.7 percentage points.** Despite the strengthening of minimum leverage requirements, with the addition of a leverage buffer for global systemic institutions and the introduction of "Pillar 2" requirements as of 2024, we expect to see an increase in the leverage ratio at the end of 2024, linked to the growth in Tier 1 capital. The leverage headroom of euro area peers stood at 2.3 percentage points.

**Chart 1.50: CET1 capital headroom in the risk-based solvency framework and T1 capital requirements in the regulatory leverage framework**

x: date / y: Requirement headroom in percentage points



Sources: ACPR

Note: CET1 capital requirements under the risk-based solvency framework correspond to the distance to the maximum distributable amount (MDA), comprising individual Pillar 1 and Pillar 2 requirements, the capital conservation buffer, the buffer for global systemically important banks (G-SIBs or O-SIBs) and the countercyclical buffer (CCyB), as well as the amounts of CET1 used to cover Tier 1 and overall capital requirements.

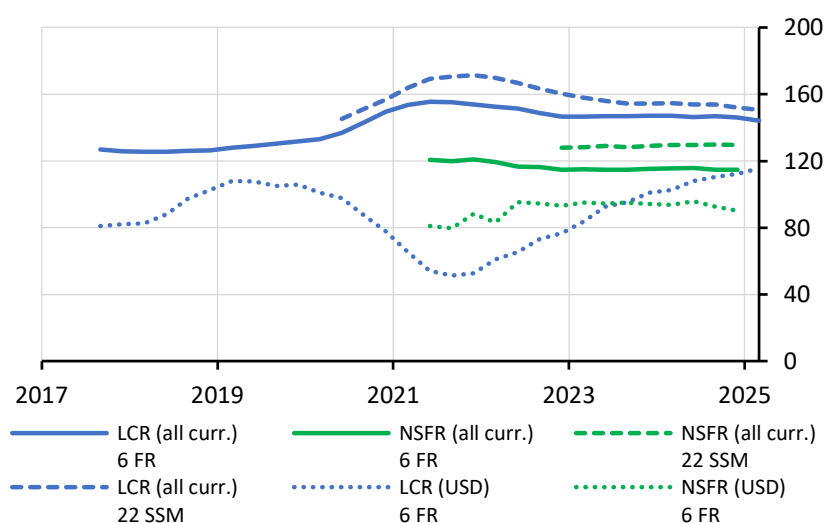
T1 capital requirements for leveraged positions include Pillar 1 requirements, individual Pillar 2 requirements and the capital buffer for global systemically important institutions (GSIBs).

**Liquidity headroom also remained high (see Chart 1.51).** In aggregate terms, the average 12-month liquidity coverage ratio, LCR, 144.0% in March 2025) and the net stable funding ratio (NSFR, 114.6% in December 2024) of the six largest French banking groups has remained stable over the last three years (with a slight decline in recent quarters), particularly following the repayment of TLTROs. With regard to dollar liquidity ratios, the regulations do not impose any binding requirements, but require banks to ensure that they hold sufficient assets to meet their liabilities in each major currency. The USD LCR has steadily improved over the past four years, reaching 115.6% at the end of March 2025. At the end of March 2025, an analysis of the maturity schedule showed a positive aggregate net liquidity position for the next twelve months. Although the US NSFR declined slightly to 90.3%, the unadjusted data<sup>66</sup> showed an excess of available stable funding of USD 121 billion. Lastly, the USD liquidity ratios only provide a consolidated view at group level, but the situation of French banks' US subsidiaries did not present any particular risk following the change of administration in the United States at the end of January 2025, including from the point of view of their significant exposure to the US money market segment, which is considered particularly volatile (see Box 1.4).

<sup>66</sup>Excluding regulatory weightings used to calculate the NSFR and funding requirements for high-quality liquid assets (HQLA).

Chart 1.51: Regulatory liquidity ratios in all currencies and USD liquidity ratios

x: date / y: liquidity ratios



Sources: ACPR

Note: Most recent values available as of March 2025 for the LCR, as of December 2024 for the NSFR.

**Box 1.4: Dollar funding of French banks by US money market funds***By Tarik Mouakil and Alice Schwenninger.*

**In December 2024, the aggregate exposure of French banks to money market funds stood at USD 241 billion, or around 10% of their short-term dollar funding.** The funds were mainly counterparties in repo transactions (76% of exposure to French banks) and, to a lesser extent, holders of commercial paper issued by French banks (see Chart 1). This breakdown reflects changes in the structure of the US money market fund industry: in 2016, a reform of money market funds by the US Securities and Exchange Commission (SEC) reduced the liquidity of prime funds, significantly lowering their market share in favour of government funds (now 82% of assets under management) and reducing the investor base for commercial paper. Government funds, mainly invested in cash, repos and government debt securities, now account for 67% of exposure to French banks, compared with 33% for prime funds, which are invested in private debt securities.

**The behaviour of US money market funds varies depending on the US Federal Reserve's monetary policy.** During periods of high interest rates (2021–23), funds made greater use of the Fed's Overnight Reverse Repo Facility (ON RPP), which offers an alternative to the private repo market. Funds therefore preferred to place their cash with the Fed, causing a relative decline in US MMF repos with French banks (see Chart 2).

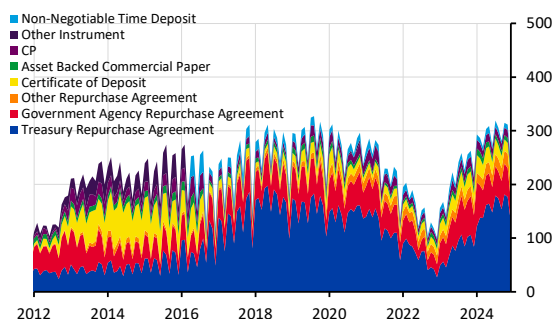
**French banks' activity in these markets consists mainly of intermediation between short-term dollar supply and demand, rather than being driven by a need to finance dollar-denominated assets or portfolios (as was the case before the global financial crisis), thereby reducing the risks associated with significant maturity transformation.** European banks' subsidiaries in the United States, mainly New York branches in the case of French banks, participate in repo transactions. They borrow cash from money market funds through repurchase agreements and lend it, through reverse repurchase agreements, to hedge funds and other financial institutions that use their securities as collateral.

**French bank branches established in the United States also have access to the Fed's discount window.** French banks operate mainly in the United States through their branches, which gives them access to refinancing from

the Fed in the event of sudden market stress. In March 2020, when the US money market briefly seized up due to the pandemic and funding from US MMFs halved, some French banks used the Fed's primary credit facility.

**Chart 1: Exposure of US money market funds to French banks by type of instrument**

X: date / y: USD billions

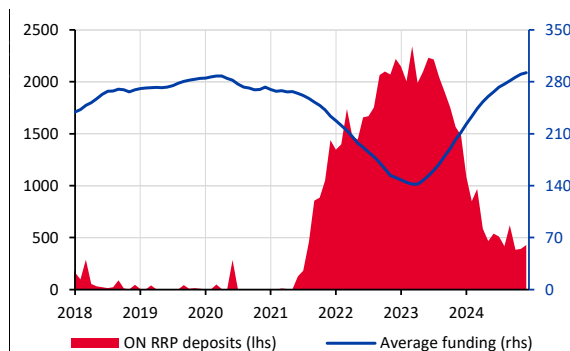


Sources: Aggregated data from the Office of Financial Research, based on SEC Form N-MFP

Note: Most recent value, December 2024.

**Chart 2: Holdings of US money market funds and deposits with the Fed RRP**

X: date / y (RHS): USD billions; (LHS): USD billions



RRP deposits (LHS) Average funding (RHS)

Sources: Fed, Office of Financial Research.

Note: financing of US MMFs corresponds to the 12-month rolling average of debt securities held by MMFs and issued by French banks. Most recent value: January 2025

**According to their financial statements, French banks' financing programmes for 2024 were implemented smoothly and enabled them to prepare in advance for their planned issuance programmes for 2025.** Forecasts point to a general continuation of this trend in 2025, a move towards more diversified issuance, and attractive and sustainable financing costs for some institutions. The bulk of financing is expected to be in EUR, with a portion in USD and less significant amounts in other foreign currencies (e.g., GBP, JPY). In March 2025, between 30% and 50% of the total financing programmes of the main French banking groups had already been completed, with some of them having already issued in USD, enabling them to hedge against the volatility risk associated with the change of administration in the United States, which took effect in January 2025.

### 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 2024. In the non-life insurance sector, higher rates led to an improvement in underwriting profitability, which nevertheless remained below its pre-inflation peak level of 2022. Asset allocation was diversified and exposure to the US dollar was limited.

**The average solvency of insurers remained high, but declined in the last quarter of 2024.** Insurers hold significant surplus capital to cover capital requirements.<sup>67</sup> At end-June 2024 (see Chart 1.52), the average solvency capital requirement (SCR) coverage ratio<sup>68</sup> stood at 238%, compared with 249% at the end of 2023. This decline is more pronounced for bancassurers, whose solvency ratio fell by 20 percentage points in one year. This decrease was mainly due to significant reversals of provisions for profit sharing at year-end to fund non-unit-linked life insurance

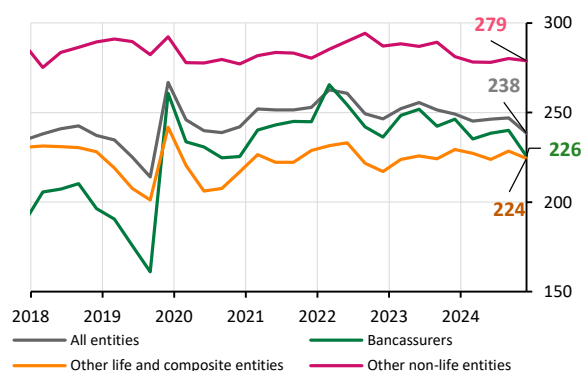
<sup>67</sup>It is worth noting that capital requirements stood at USD 190 billion at the end of December 2024.

<sup>68</sup> 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%.

contracts. For all insurers, own funds levels exceeded the regulatory minimum: 75% of them displayed a ratio above 170%, while 25% a ratio above 291% (see Chart 1.53). Other non-life insurers showed very significant disparities, but their average ratio was close to 280%, whereas bancassurers, which nevertheless need to be analysed in the context of the conglomerate structure of their group, displayed an average ratio of below 226%.

**Chart 1.52: Solvency capital requirement coverage ratio**

x: time/y: rate (%)



Source: ACPR – quarterly scope.  
Note: Most recent value: Q1 2024.

**Chart 1.53: Distribution of the required SCR coverage ratio, end-December 2024**

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



Insurers Source: ACPR.

**After increases in 2022 and 2023, the revaluation of individual life insurance contracts stabilised at 2.6% in 2024** (preliminary figure, see Chart 1.59). 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 4.3% of technical provisions at the end of 2024, compared with 4.9% at the end of 2023 and 5.4% at the end of 2022 (Chart 1.60).

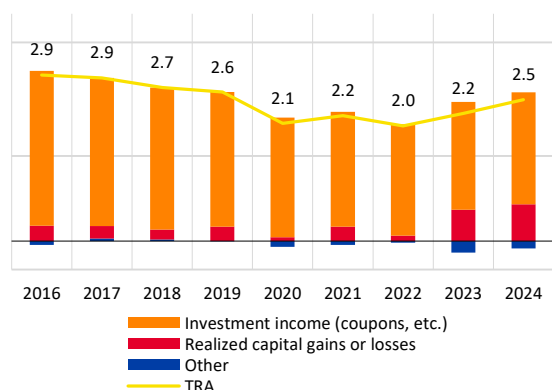
**This remuneration was also made possible thanks to higher returns on the investment portfolio, with unrealised losses on bonds remaining stable.** The low interest rate environment of recent years put major constraints on the financial income of insurers, particularly bond coupons. Indeed, bonds account for around 60% of insurers' investments,<sup>69</sup> ahead of equities holdings (22%). Today's higher levels of interest rates result in improved portfolio returns for insurers, which can reinvest maturing bonds in higher-yielding securities. These gradual improvements are reflected in an increase in the average return on assets of life insurers, which stood at 2.5% in 2024 compared with 2.2% in 2023 and 2% in 2022, ending the almost steady decline observed during the period of low interest rates.

The bonds were still showing an unrealised capital loss at the end of 2024. These unrealised capital losses represented 3% of the total investment portfolio, a share that remained stable compared with the end of 2023. However, unrealised capital gains were still recognised on equities, CIUs and real estate, resulting in an overall unrealised capital gain of 3%, which was also stable compared with the end of 2023 (see Chart 1.55).

<sup>69</sup> After applying the look-through approach to the assets of CIUs.

Chart 1.54: RoA, life insurers

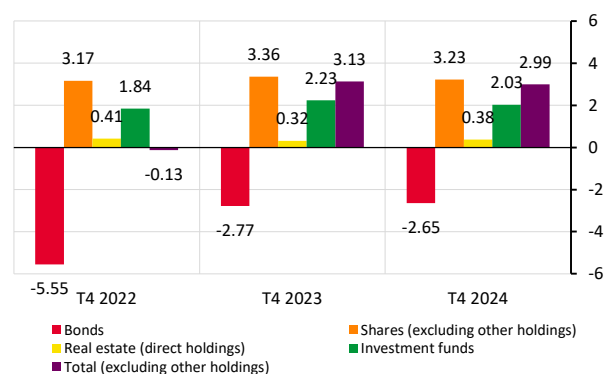
x: time/y: %



Source: ACPR

Chart 1.55: Unrealised capital gain/loss ratio as a % of the acquisition value of total investments

x: time/y: %

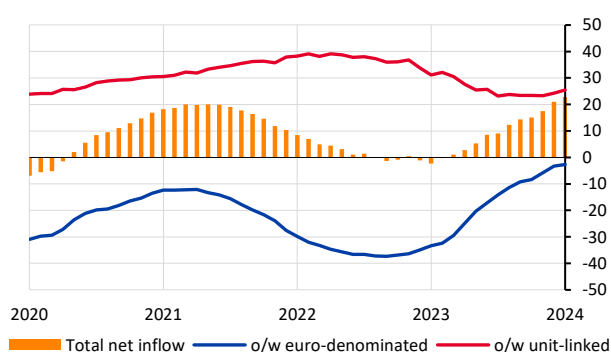


Source: ACPR

**Thanks to the competitive levels of remuneration, net and gross inflows into life insurance stood at historically elevated levels.** In recent years, insurers have encouraged investment in unit-linked funds, where the market risk is essentially borne by retail investors, to offset the decline in returns on euro-denominated funds during the period of low interest rates. While euro-denominated products experienced virtually uninterrupted net outflows from the end of 2019 to the end of 2023, these products underpinned life insurance with net inflows throughout the period. However, this trend slowed significantly in 2024. Net inflows reached a record high of EUR 25 billion (see Chart 1.56), reflecting the combined effects of an increase in gross inflows, particularly for non-unit-linked products, and a decrease in surrenders of these products (Chart 1.68). It should be noted that since 2022, the rise in interest rates on bank savings products and the increase in the cost of financing housing loans had led to an increase in the surrender of life insurance policies.

Chart 1.56: Net flows into/out of - life insurance (12-month cumulative)

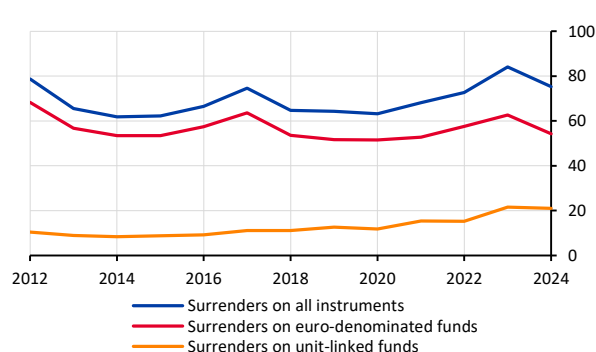
x: time in months/y: EUR billions



Source: ACPR

Chart 1.57: Life insurance surrenders (12-month cumulative)

x: time / y EUR billions



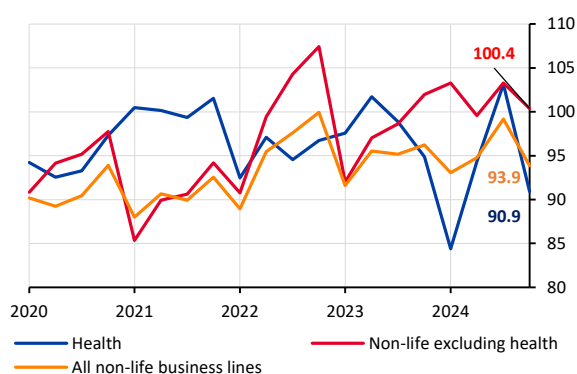
Source: ACPR

**The underwriting profitability of non-life insurers improved slightly in 2024 but remained subdued.** After a sharp deterioration in 2022, the combined ratio for all non-life business lines has improved since 2023, albeit to a lower level than before 2022, reaching 97% at the end of 2024, compared with 98% at the end of 2023 and 100% at the end of 2022 (chart 1.58). These changes mainly concern non-life activities excluding healthcare, which were severely affected in 2022 and early 2023 by the increase in the cost of automotive spare parts, home repair services and reinsurance. Price increases for insurance services for individuals, particularly motor insurance, were therefore well below general inflation in 2022 and 2023, before rising at a faster pace in 2024. However, the impact of inflation can also be observed in the longer terms for long-term guarantees whose prices are not always revised annually. This is particularly true in construction, liability, and death & disability insurance.

**Natural catastrophes represent one of the main risks facing the non-life insurance sector.** After rising sharply in 2023, the loss ratio for natural catastrophes fell by 45% in 2024. The combined ratio remained high but improved to 126% from 193% in 2023. However, underwriting income is less volatile and smoothed over several years, as a significant share of claims is absorbed by reinsurers. In France, reinsurance for natural catastrophe 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 two consecutive years of increases, the reinsurance balance declined in 2024, while remaining positive (see Chart 1.60). The increase in the additional premium for natural catastrophes that came into effect on 1 January 2025<sup>70</sup> will contribute to the sustainability of the CCR's reinsurance regime. For other risks (storms, hail, snow), the increase in such climate events could eventually make it difficult for institutions to obtain reinsurance from private players, which would then weigh on their bottom line.

**Chart 1.58: Combined ratios**

x: time/y: rate (%)

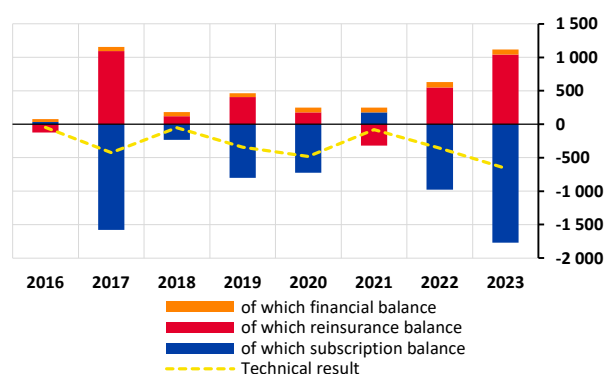


Source: ACPR

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.

**Chart 1.59: Underwriting result components of the natural catastrophe segment**

x: time / y EUR billions



Source: ACPR

Note: The natural catastrophe segment is typically loss-making because claims and expenses exceed premium income (negative underwriting balance). Reinsurance (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.

Insurers' asset allocation is diversified, with holdings mainly consisting of corporate bonds (27%), sovereign bonds (19%) and non-financial corporations (10%). French sovereign bonds have accounted for between 19% and 11% of insurers' investments since 2016 (chart 1.60), and the value of insurers' investment portfolios remains highly sensitive to interest rate fluctuations such as those seen since 2022. Between the end of 2023 and the end of 2024, long-term rates rose slightly due to the widening of the yield spread between France and Germany.

As regards currency risk, a **limited share of French insurers' assets is invested in currencies other than the euro** (8% at end-2024, see Chart 1.61). Around two-thirds of this foreign currency exposure (EUR 144.2 billion) corresponds to dollar-denominated investments. A large share of this investment was either in the form of investments in affiliated companies (EUR 30 billion) or investments held as unit-linked assets (EUR 59.3 billion), which provide a natural match between assets and liabilities, with the currency risk borne by the contract holders.

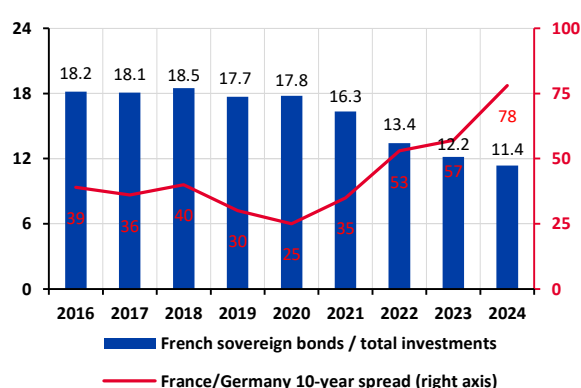
Out of the remaining EUR 54.9 billion, insurers may be exposed to currency risk on the part of these exposures not hedged by derivatives. However, for life and composite insurers, which account for most of these exposures

<sup>70</sup> The proportion of property insurance premiums earmarked to fund the natural catastrophe insurance regime will increase starting on 1 January 2025: the additional premium rate applied to home and business property insurance policies will rise from 12% to 20%, while for auto policies it will go up from 6% to 9%.

(EUR 43.7 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 residual risk for the insurer is covered by the Solvency II, which requires an entity to calculate currency risk by applying 25% up or down shock to the foreign currency that would result in loss in basic own funds. Before diversification (and including entities using internal models), life and composite institutions thus ring-fenced EUR 5.6 billion against currency risk for an exposure of EUR 43.7 billion, while non-life insurers ring-fenced EUR 2.2 billion of capital for an exposure of EUR 7.4 billion. In comparison, the total capital requirement for life, composite and non-life institutions amounted to EUR 144 billion. The lower amounts of capital ring fenced by life insurance companies for their foreign currency exposure reflected this partial matching of assets and liabilities inherent in profit-sharing mechanisms. These capital requirements associated with currency risk reflect the role of foreign currency investments as diversification assets in the asset management strategy of insurers, which can thus retain part of this risk without necessarily having to resort to a hedging strategy to protect themselves against it.

**Chart 1.60: Share of French sovereign bonds in insurers' investments**

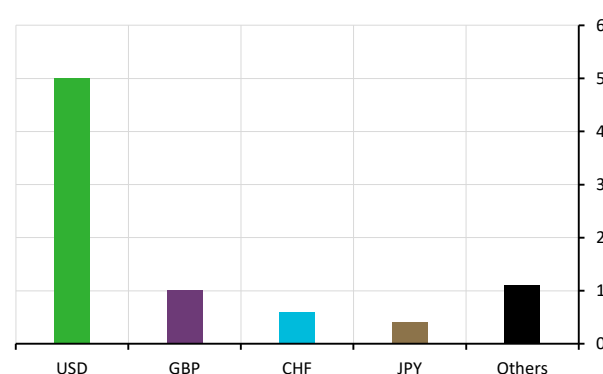
x: time/y [lhs]: share (%); [rhs]: France/German 10yr spread (basis points)



Source: ACPR

**Chart 1.61: Share of insurers' foreign currency investments**

x: foreign currencies / y: share (%)



Source: ACPR

## French non-bank financial intermediaries have limited exposure to dollar-denominated assets.

**French investment funds' exposure to dollar-denominated securities is limited, although it varies across fund types and asset classes.** Among French funds, equity funds are the most exposed: portfolio data show that their exposure to dollar-denominated assets represents 22.9% of their assets under management (EUR 89.4 billion), the majority of which is in equities (EUR 82.3 billion, or 21.05% of their assets under management), with the remainder in fund units (EUR 6.5 billion, or 1.67%). Composite funds have an aggregate exposure of 12% of their assets under management (EUR 36 billion), broken down into EUR 17 billion in equities (5.66%), EUR 10 billion in fund units (3.3%) and EUR 7.8 billion in corporate and financial bonds (2.57%). Lastly, the aggregate exposure of bond funds is more moderate (7.24% of their assets, or EUR 24 billion), but concentrated in US government debt (EUR 5.9 billion, or 1.72%) and corporate and financial bonds (EUR 17.9 billion, or 5.22%).

**Direct interconnections between banks and funds, through holdings of bank securities in portfolios, are set to strengthen slightly in the short term.** Money market funds have a significant impact on short-term financing markets, such as commercial paper, as the maturity of these securities matches the regulatory requirements for the average maturity of fund portfolios. In the fourth quarter of 2024, money market funds held 71% of French banks' outstanding<sup>71</sup> short-term debt securities (compared to 69% in the second quarter of 2024), with a

<sup>71</sup> Sectoral holding data may be revised in subsequent quarters.

significant domestic bias. The impact of funds (mainly non-monetary) on long-term bank debt fell slightly to 11.7% (14.09% in the second quarter of 2024).

### Risks of a macroeconomic slowdown are weighing on private equity and private debt markets

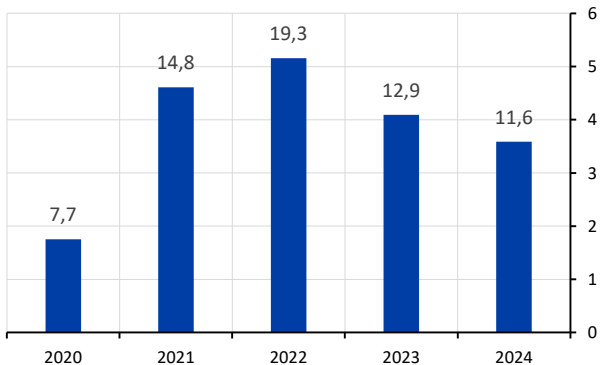
**The growth of private markets (private equity and private debt) in France slowed amid a deterioration in the favourable macrofinancial environment that had prevailed up to 2022**, when the search for yield in a low interest rate environment had boosted the development of this asset class. While, at the beginning of the year, observers expected the market to pick up again in 2025 thanks to a gradual fall in interest rates, the new macrofinancial environment, characterised by a proliferation of protectionist barriers and extreme uncertainty, could encourage investors to adopt a wait-and-see approach in the short term and slow down mergers and acquisitions (M&A) and leveraged buyouts (LBOs). The recent fall in equity markets is also likely to weigh on fundraising in unlisted markets, as the relative share of unlisted assets increases automatically and may exceed the risk threshold of some institutional investors (denominator effect).

**This slowdown is particularly noticeable in the private debt market in France.** Corporate debt funds managed in France raised EUR 5.4 billion in 2024, compared with EUR 6.9 billion in 2023 and EUR 10.8 billion in 2022.<sup>72</sup> This trend is also reflected in the amounts invested: in 2024, resident and non-resident corporate debt funds invested EUR 11.6 billion in France, compared with EUR 12.9 billion in 2023 and EUR 19.3 billion in 2022 (see Chart 1.62). In 73% of cases, these transactions were carried out with the participation of an equity investor, confirming the close links between private debt and private equity.

**The funds' ability to refinance themselves and their exposure to credit risk remain major areas of concern.** Cash distributions to private equity investors reached a global low in 2024 (11% of net asset value, compared with an average of 29% between 2014 and 2017). Sell-offs proved more difficult in a deteriorating macro-financial environment, which encouraged investors to adopt a wait-and-see approach and weighed on company valuations. Under these circumstances, investors increasingly turned to mechanisms other than sell-offs to generate liquidity, such as net asset value (NAV) financing or transfers to continuation funds. Faced with these heightened risks to the macroeconomic environment, European private equity firms have tended to underperform on equity markets since the beginning of 2025 (see Chart 1.63). At the same time, the pressure exerted by the trade war on corporate earnings and financing conditions is likely to increase the credit risk to which private debt investors are exposed.

**Chart 1.62: Investments in corporate debt by private debt funds**

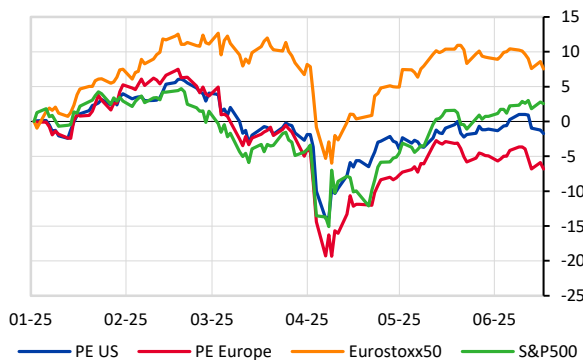
x: time / y: share (% of new bank loans - volume in EUR billion)



Sources: France Invest, MIR1

**Chart 1.63: Equity market performance of private equity (PE) companies**

x: time/y: equity market performance (%)



Source: Bloomberg

Note: Most recent value: 01 June 2025.

<sup>72</sup>Data from the 8th edition of the [France Invest and Deloitte study](#) on private debt funds in France

**For financial intermediaries, stablecoins pose a risk of contagion to the financial sector.** The main stablecoins on the market are crypto assets backed by a reserve of mainly conventional assets. Stablecoins vary depending on the type of asset they are pegged to, including official currencies (such as the dollar or euro), other cryptoassets, or commodities (such as precious metals or oil). There are also algorithmic stablecoins that maintain their parity without collateral, using algorithms to regulate their supply on the market.<sup>73</sup>

The stablecoin market mainly consists of stablecoins pegged to the US dollar, with the two largest issuers holding reserves comprised mainly of US Treasury securities. In this respect, they are similar to money market funds: stable, liquid assets that allow investors to enter or exit at any time at a guaranteed value. However, stablecoins do not offer a return when held, and the regulatory framework is different for stablecoin reserve assets and money market fund assets. The stablecoin market has grown by 19% since the beginning of 2025 and is now worth USD 237 billion, representing 7% of the crypto asset market. Their exposure to liquidity and investor flight risks, as well as the concentration of this market, raise questions about the potential contagion risk to traditional financial markets that these cryptoassets may pose (see Box 1.5).

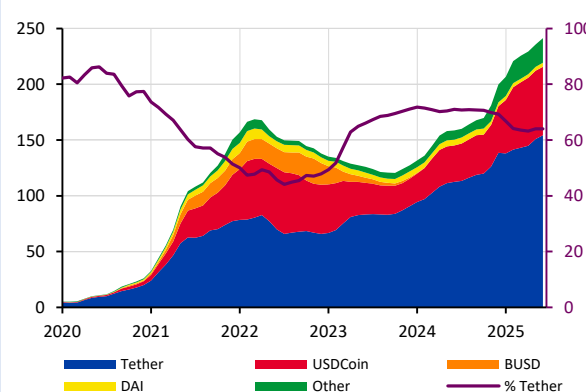
### Box 1.5: Risks associated with stablecoins

By Claire Brousse and Déborah Zribi

The market for stablecoins remains concentrated around dollar-backed stablecoins, which account for 99% of market capitalisation. The market is highly concentrated around the two main stablecoins, Tether, which accounts for nearly 64% of the stablecoin market, and USD Coin, which accounts for 25% of the market. To date, they remain primarily used as settlement assets in the cryptoasset universe, as a store of value for investors seeking to secure their investment without leaving the cryptoasset ecosystem, and as collateral in decentralised finance (DeFi). Their use as a retail settlement asset remains limited, but this could change if they are widely adopted by merchants and consumers. The current project to establish a legal framework for stablecoins in the United States could lead to faster adoption.

**Chart 1: Market valuation of stablecoins and Tether's share**

x: time/y [LHS]: USD billions; y [RHS]: %

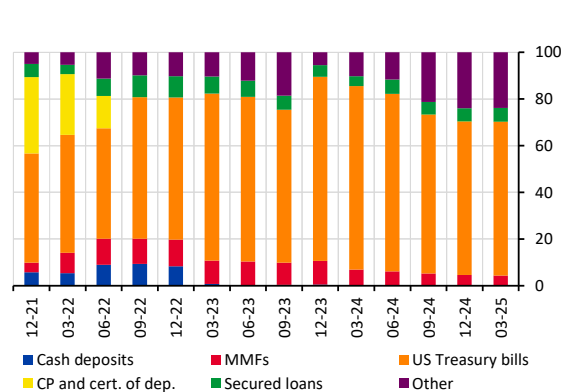


Source : IntoTheBlock

Note: Most recent value: June 2025

**Chart 2: Breakdown of Tether reserves**

x: time/y: %



Source : Tether Transparency

**The main risk associated with stablecoins is a loss of parity in the event of investor flight, creating a liquidity risk for financial markets.** In the event of a loss of parity, the issuer may be forced to sell off large amounts of its reserve assets in order to restore parity with the fiat currency, which could impact the liquidity of the reserve asset market. If the reserves consist of illiquid assets, the impact could be significant. The reserves of the two

<sup>73</sup> CoinMarketCap, "Algorithmic Stablecoin Definition".

main stablecoins are currently made up mostly of US Treasury securities (70% for Tether and over 80% for USD Coin). Nevertheless, Tether's reserves are more diversified, also consisting of Bitcoin and precious metals, which accounted for 5% and 4% of reserves in March 2025, respectively. In 2022, Tether's reserves included a significant share of commercial paper (approximately 32%), which has lower liquidity and could pose risks to the commercial paper market and affect the financing of the real economy.<sup>74</sup> Tether's reserves currently contain almost none due to their low liquidity (less than 0.01% of reserves). At this stage, stablecoin reserves are reported by issuers but are not audited by independent bodies.

**The size of the stablecoin market (USD 241 billion) remains significantly smaller than the size of the US Treasury bill market (USD 6.2 trillion),<sup>75</sup> but its share of this market is growing.** The development of this market should lead to a higher proportion of US Treasury securities in stablecoin reserves and encourage the government to keep a high proportion of short-term Treasury securities in its overall issuance to meet this demand. A study by the BIS finds that the impact of stablecoins on the US T-bill market is asymmetrical: sales by stablecoins tend to increase yields two to three times more than purchases reduce them.<sup>76</sup> Furthermore, strong market growth could potentially lead to an erosion of banks' deposit bases, which could cause them to turn to more expensive and potentially more volatile sources of funding.

**In the United States, the regulatory framework for cryptoassets currently varies significantly from state to state.** The new administration is prioritising federal harmonisation of the regulatory framework applicable to stablecoins, in order to facilitate the growth of stablecoins pegged to the US dollar, while banning the introduction of a retail central bank digital currency (Executive Order of 23 January 2025 aimed at "Strengthening American Leadership in Digital Financial Technology"). The new administration is prioritising harmonisation of the regulatory framework at the federal level. As a result, conflicting regulatory proposals on stablecoins were recently adopted by the House of Representatives (the STABLE Act, 2 April 2025) and the Senate (the Genius Act, 13 March 2025).

In particular, the Guiding and Establishing National Innovation for U.S. Stablecoins Act (Genius Act) of 2025, presented as the result of bipartisan discussions, was adopted by the Senate on 17 June 2025. In order for this bill to be passed into law, the House of Representatives must now adopt the text unamended in plenary session. This text would clarify regulation for payment stablecoins at the federal level, covering a range of requirements (e.g. a 1:1 asset reserve requirement, prudential requirements, consumer rights, and opening up issuance to banking and non-banking entities).

**However, the latest version of the Genius Act currently awaiting approval appears to be more lenient than the European Markets in Crypto-Assets Regulation (MiCA), which came into force on 29 June 2023** and has been fully applicable since 30 December 2024. The MiCA Regulation provides a harmonised European framework for issuers and service providers of cryptoassets, in particular stablecoins (stablecoins of the e-money token (EMT) type pegged to a single currency, and asset-referenced tokens (ARTs) pegged to a basket of assets).

One of the major differences concerns the redemption terms. While the MiCA regulation is extremely strict regarding the obligation to redeem stablecoins at par value, without commission or fees and in a timely manner, the Genius Act is less stringent:<sup>77</sup> although the draft indicates a 1:1 redemption obligation, the conditions are not specified. The Genius Act allows for a wider range of asset categories to be included in the stablecoin issuer's asset reserve and leaves the definition of liquidity and capital requirements to be defined in subsequent texts by the authorities: unlike the Genius Act, MiCA requires that a proportion of the asset reserve be held in the form of bank deposits. Furthermore, the Genius Act stresses the principle of

<sup>74</sup> [Stablecoins and the Financing of the Real Economy | Banque de France 2023](#)

<sup>75</sup> For a total of USD 28 trillion for the entire US Treasury securities market.

<sup>76</sup> [Stablecoins and safe asset prices](#)

<sup>77</sup> [US digital asset strategy and the European response - European Parliament June 2025](#) [US digital asset strategy and the European response - European Parliament June 2025](#)

proportionality of capital requirements, with no minimum capital requirements, in order to take into account the level of risk and ensure that these requirements do not hinder the operator's business model. Under MiCA, stablecoin issuers referencing an official currency (electronic money token – EMT) are subject to the prudential rules applicable to electronic money institutions (EMIs) or to the rules applicable to credit institutions (CIs), depending on whether the EMT issuer is licensed as a CI or an EMI, which are calculated based on the size of their business, but also on a minimum level of own funds.

**This clarification of the US regulatory framework for stablecoins could result in accelerated market growth, strengthening dollar demand,** particularly in emerging countries and more broadly around the world, through equivalence regimes or other bilateral agreements.

**The rapid growth of dollar-backed stablecoins, promoted by the new US administration, must not come at the expense of European monetary sovereignty.** Against this backdrop, the Eurosystem is prioritising the interbank digital currency (IDC) and digital euro projects. At the same time, the emergence of initiatives based on distributed ledger technologies (DLT) in euro, including stablecoin issuances and tokenisation projects, calls for close monitoring, in close cooperation with market participants, particularly with regard to their potential cross-border applications.

## 1.4 Cyber and climate risks remain significant, compounded by the decline in multilateral initiatives

### Changes in the geopolitical context could lead to a resurgence of cyberattacks

**The number of cyberattacks appears to have stabilised in 2024, but the threat remains present.** Increasing digitalisation, with the use of outsourced services and changes in the geopolitical environment, could lead to a resurgence of cyberattacks. Indeed, between 2021 and the start of Russia's invasion of Ukraine in 2022, the number of publicly reported cyber incidents recorded annually worldwide, across all sectors,<sup>78</sup> illustrates the positive correlation between heightened geopolitical tensions and increased threat levels.

**On 28 April 2025, a major power outage hit the Iberian Peninsula, causing a widespread cyber incident.** The main cause of the power outage was a cascading failure, exacerbated by structural weaknesses in the grid, limitations on energy storage, and lower inertia due to the increasing integration of renewable energy. This power outage had consequences for all sectors, including disruption to transport, telecommunications, industry (automotive, chemical) and trade. The financial losses are difficult to quantify and are estimated at between EUR 400 million<sup>79</sup> and EUR 1.6 billion.<sup>80</sup> The entire financial sector shut down: digital payment systems, ATMs and online banking became inoperable. The outage led to a 55% drop in credit card purchases, representing a loss of around EUR 400 million according to the Spanish Ministry of Economy, which estimates that the total economic impact of the outage could reach EUR 800 million.<sup>81</sup> Spanish insurers suffered financial losses of between EUR 100 million and EUR 300 million,<sup>82</sup> but they also faced heavy operational pressure due to the exceptional volume of claims. However, the power supply was quickly restored, with more than 99% of the network back up and running by the following morning. This event highlights the need for the financial system to be prepared (emergency power supply, connectivity of critical infrastructure, business continuity plan) in order to strengthen its resilience to a systemic event.

**European banks were reportedly affected by nearly half of all cyberattacks targeting the European financial sector between 2023 and 2024.** European Union Agency for Cybersecurity (ENISA) analysed 432 publicly disclosed

<sup>78</sup> Cyber Events Database - Center for International Security Studies at Maryland

<sup>79</sup> [Valoración del impacto económico del apagón del día 28 de abril | CaixaBank Research](#)

<sup>80</sup> [Garamendi \(CEOE\) cifra en el 0,1 % del PIB el impacto del apagón](#)

<sup>81</sup> [Economía cifra en 400 millones el impacto directo del apagón en compras - EFE](#)

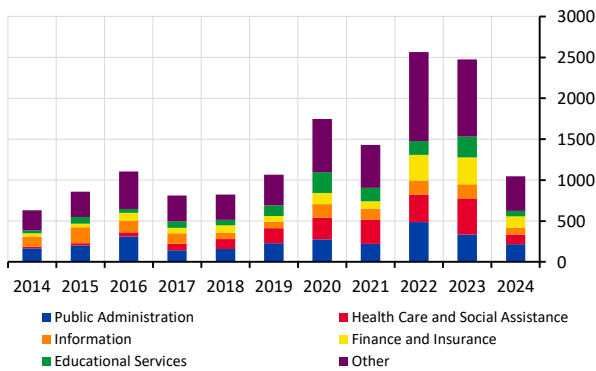
<sup>82</sup> [Panne géante en Espagne : quelles leçons pour les paiements par carte et sur mobile ? | Les Echos](#)

cyberattacks targeting the financial sector, mainly in Europe, between January 2023 and June 2024.<sup>83</sup> Banks were the most frequently targeted, accounting for 46% of all cyberattacks observed, followed by finance-related public organisations (13%) and customers of financial entities (10%), who were generally victims of financial-themed social engineering campaigns. In terms of the types of cyberattack, 46% were distributed denial-of-service (DDoS) attacks, followed by data exfiltration (15%). Ransomware attacks accounted for 10% of cyberattacks and mainly affected service providers (29%) and insurance organisations (17%), with impacts including financial loss (38%), data exposure (35%) and operational disruption (20%). In France, 144 cyberattacks involving ransomware were reported by ANSSI in 2024, across all sectors of activity.<sup>84</sup>

**The entry into force of the European DORA<sup>85</sup> Regulation in January 2025 constituted a significant regulatory step towards strengthening the resilience of the European financial system to cyber threats.** This regulation requires financial entities to report the major incidents they encounter, including cyber incidents, to conduct operational resilience testing, including advanced penetration testing for the most critical entities, and introduces a mechanism to monitor the most widely used IT service providers of European financial entities. This initiative supplements coordination mechanisms at the national level (Paris Resilience Group, spearheaded by the Banque de France), European level (development of a pan-European cyber incident management framework, EU-SCICF) and international level (CIRP coordination protocol of the G7 Cyber Expert Group), aimed at improving information sharing, training in crisis management through joint exercises and increasing the cyber resilience of the financial sector. With a view to strengthening resilience and preparedness in the face of cyber risk, rigorous stress tests are essential. In order to develop these tests, we need to define clear objectives, map the channels through which risks spread throughout the system, prioritise worst-case scenarios, take into account the complexity of the interconnections between players, and combine microeconomic and macroeconomic analyses to obtain a comprehensive view of the financial sector's resilience to cyber threats.

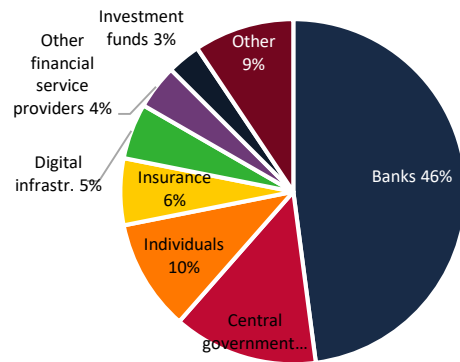
**Chart 1.64: Number of cyber incidents that have impacted the financial sector in the European Union or neighbouring countries**

*x: time/y: number of cyber incidents*



Source: ENISA Threat landscape: Finance sector

**Chart 1.65: Breakdown of cyberattacks by type of entity in the European financial sector**



Source: ENISA Threat landscape: Finance sector

Note: Cyberattacks targeting the financial sector that were disclosed between January 2023 and June 2024.

<sup>83</sup> ENISA Threat landscape: Finance sector

<sup>84</sup> ANSSI 2024

<sup>85</sup> Digital Operational Resilience Act (DORA)

**The assessment of the consequences of climate change and nature loss confirms the high materiality of the risks associated with inertia.**

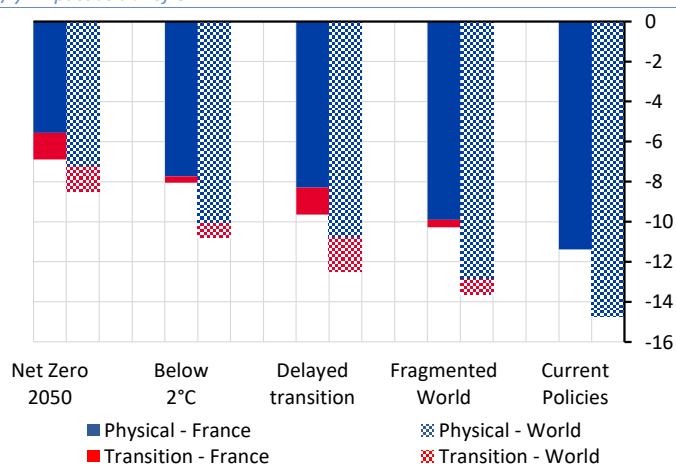
In November 2024, the Network for Greening the Financial System (NGFS) updated its long-term scenarios (Phase V), allowing for a more detailed assessment of the impacts of climate change on the economy. By incorporating the effects of a wider variety of climate phenomena, as well as their persistence, the scenarios multiply the economic impacts associated with climate change by two to four times, depending on the scenario.

**The latest projections thus confirm the importance of climate change mitigation policies.** Without additional mitigation efforts beyond current policies, climate change would cause a 15% loss in global GDP by 2050 and an 11% loss in GDP in France.<sup>86</sup> This economic cost is higher than that of all mitigation pathways modelled by the NGFS, even disorderly ones.<sup>87</sup> In the case of an orderly transition scenario ("net zero 2050"), global GDP losses would thus be reduced to a decline of 8.5 percentage points. This decline breaks down into 7.3 percentage points associated with the physical impacts of climate change already underway, and only 1.2 percentage points linked to transition policies. At the global level, transition policies would therefore cost 1.2 percentage points of GDP, but will save (15-8.5) 6.5 percentage points, a difference that is set to increase in the second half of the century.

The latest long-term scenarios show that less coordination of transition policies at the international level and delays in their implementation increase the costs and risks associated with the transition and physical risks.<sup>88</sup> Diverging ambitions across countries also entail additional costs, but remain preferable from a global perspective to continuing with current policies.<sup>89</sup>

**Chart 1.66 – Impacts on GDP of physical and transition risks in five long-term NGFS scenarios**

x: scenario by geographical area / y: impact as a % of GDP



Sources : NGFS, Banque de France.

Note: "In 2050, under a Current Policies scenario, global GDP would be nearly 15% lower than it would have been in a baseline scenario with no physical risks or transition risks."

**The NGFS's short-term scenarios, published in May 2025, show that a delay of a few years in climate action could, even in the short term, increase the costs of the transition and the associated financial risks.** The Sudden Wake-Up Call scenario shows that delaying the implementation of ambitious transition policies by just three years, then implementing them in a sudden and disorderly manner, would lead to a fall of 1.3 percentage points of global

<sup>86</sup>The impact of gradual changes associated with climate change on the economy (chronic physical risks) has been significantly revised upwards (impacts doubled). They are measured against a theoretical scenario with no warming and no transition policies.

<sup>87</sup> All transition scenarios, even disorderly ones, contribute to reducing these impacts, and even more so beyond 2050.

<sup>88</sup>In the delayed transition scenario, the cost of the transition at global and French levels is nearly 1 percentage point of GDP higher than in a scenario with comparable ambition but where the transition occurs gradually and in a coordinated manner (below 2°C, see Chart 1.71).

<sup>89</sup> In the long-term fragmented world scenario, countries with carbon neutrality targets achieve 80% of these targets, while those without targets continue to follow their current policies. Technological progress is also slower and more fragmented. This results in a level of warming close to the Current Policies Scenario, but still lower, as are the impacts on GDP (Chart 1.71).

GDP. A gradual and immediate transition, reallocating carbon tax revenues to green investments, would limit the impact to -0.5% of GDP. (*Highway to Paris*).<sup>90</sup>

The current state of the climate already poses significant risks in the short term, as illustrated by the Disasters and Policy Stagnation scenario, which models the impact of extreme climate events at the regional level. In the regional scenario for Europe, an extreme combination of heat waves, drought and forest fires (dry hazards) would lead to a decline in GDP in the European Union of 4.8% (7.4% in the case of France, which is particularly vulnerable to dry hazards), combined with an increase in inflation of 0.5 percentage point. If a combination of storms and floods (wet hazards) were to occur the following year, the loss would be smaller, but European GDP would still be 3.3 percentage points below its baseline level. The regions most severely affected – in their respective regional scenarios – would be Africa for "dry" hazards (-12.5 GDP percentage points) and Asia for "wet" hazards (-6.3 percentage points). The sectoral and financial impact would vary depending on the hazard (see Chapter 2, Box 2).

**The Diverging Realities scenario also emphasises that physical risks can increase transition risks, particularly through disruption to value chains.**<sup>91</sup> Indeed, disruptions in the supply chains for critical raw materials would increase the cost of the transition globally.<sup>92</sup>

**In addition to assessments of the consequences of climate change, recent studies also show that the degradation of nature<sup>93</sup> poses risks to the economy and financial stability.** The presence of such risks can be deduced from the strong dependence of economic players (and therefore those who finance them) on the services provided by nature.<sup>94</sup> As regards water stress, for example, the ECB<sup>95</sup> shows that, in the event of an extreme but plausible drought (with a return period of 25 years), nearly 15% of European economic output would be at risk. This figure rises to around 25% in France in agriculture, for example. The ECB study also shows that more than 34% of the total nominal outstanding loans granted by 2,500 banks in the euro area to non-financial corporations<sup>96</sup> – i.e. more than EUR 1,300 billion – are currently granted to sectors exposed to high risk of water scarcity

**Further research is needed to better understand the impact of nature degradation and to develop financial scenarios equivalent to the NGFS climate scenarios.** This is why the Banque de France recently announced the launch of a modelling consortium<sup>97</sup> dedicated to strengthening the modelling capabilities of French academic and economic institutions, with the aim of better assessing the effects of environmental degradation on economic activity and financial stability, as well as the impact of economic activity on this degradation. The consortium will draw heavily on the pioneering work of the NGFS. The latter has already published a report laying the foundations for the development of nature scenarios and is continuing its efforts in this area, focusing on the development of concrete solutions to overcome the limitations of currently available climate modelling tools.<sup>98</sup>

<sup>90</sup>These shocks shouldn't be seen as a deviation from a baseline scenario that includes policies already established in law, if they are backed by effective public policy instruments. Therefore, in Europe and France, the 55% emissions reduction target set by the Fit for 55 package is incorporated into the baseline scenario, resulting in fewer adverse impacts in the scenarios: up to -0.15 GDP percentage points for the Sudden Wake-Up Call scenario in 2027, and +0.21 percentage points for the Highway to Paris scenario.

<sup>91</sup>The NGFS's Diverging Realities short-term scenario thus assumes that several regions of the world – South America, Africa and part of Asia – are affected by a series of extreme climate events, whose effects spread throughout the world via trade and financial linkages.

<sup>92</sup>While the original shock differs in its origin and intensity from the trade measures observed today, this scenario can be used to illustrate the consequences. In 2029, US GDP would be 0.75 percentage point lower in the Diverging Realities scenario than in the Orderly Transition (Highway to Paris) scenario, with the impact mainly driven by a trade shock reflecting difficulties in exporting critical minerals from emerging markets.

<sup>93</sup>Term defined by IPBES, the equivalent of the IPCC on this subject, as "the natural world, including the diversity of living organisms, their interactions with each other and with their environment". Nature includes biodiversity and climate, but is not limited to them.

<sup>94</sup>These services, known as 'ecosystem services', include food and raw material supply services, as well as regulatory services (soil erosion control, carbon dioxide sequestration, etc.), cultural services and support services (soil formation, pollination, etc.). Millenium Ecosystem Assessment (2005), repris par [NGFS \(2024\), Nature-related Financial risks : A Conceptual framework to guide action by central banks and supervisors](#)

<sup>95</sup>ECB (2025). [The European economy is not drought-proof](#)

<sup>96</sup> Analysis conducted at sector level, ECB (2025), id.

<sup>97</sup>Multi-year research project resulting from a partnership between the Banque de France and the Crest, Polytechnique, Cired and PSE (i-MIP) laboratories, as well as the Foundation for Research on Biodiversity.

<sup>98</sup>Limitations to be understood in the context of the specific characteristics of nature (absence of a single metric such as CO2 equivalence, non-substitutability of natural capital, etc.).

## 2. Repricing risk of the portfolios of French financial institutions under low-carbon transition scenarios

*Authors<sup>99</sup>: Tristan Jourde, Sofia Ruiz Romanos, Dilyara Salakhova, Fulvio Pegoraro, Paul Champey, Léopold Gosset, Xavier Jacquemier, Pierre Sola*

**Climate change is not only an environmental challenge, but also a risk to economic and financial stability.** Given the acceleration of global warming, whose signs are now tangible,<sup>100</sup> and the insufficient international efforts to reduce greenhouse gas (GHG) emissions,<sup>101</sup> the economic and financial system is exposed to increased physical and transition climate risks. Physical risk may stem from more frequent and severe natural disasters, and transition risk from the accelerated or piecemeal implementation of climate policies aimed at reducing GHG emissions, the emergence of technological breakthroughs or a sudden change in the environmental preferences of economic agents (consumers, businesses or investors). Such developments could lead to sharp corrections on financial markets and a devaluation of the portfolios held by financial institutions.

**The political uncertainty surrounding the climate transition reinforces this financial risk.** Despite the scientific consensus and the worsening physical impacts of climate change, the future direction of climate policies remains uncertain. This ambiguity hampers companies' strategic planning and increases the instability of financial institutions' sustainable investment frameworks. In the United States, the federal government has reversed its programme to combat climate change, favouring investment in fossil fuels at the expense of low-emission technologies.<sup>102</sup> In Europe, ambitious climate regulations are being reassessed in the face of increased industrial competitiveness, creating uncertainty as to the real speed and cost of the transition.<sup>103</sup> While the aim of simplification is welcome, the right balance needs to be struck, in particular to preserve the advances made by the Corporate Sustainability Reporting Directive (CSRD).<sup>104</sup> In addition, recent geopolitical events have led to persistent volatility in energy prices, causing some countries to temporarily prioritise their energy security over immediate climate action.<sup>105</sup> While a rise in fossil fuel prices may, in the short term, strengthen the price signal to foster transition, its abruptness and instability generate uncertainty for investors. These uncertainties may raise the cost of capital for green projects and hinder the necessary transition to a low-carbon economy, thereby increasing the risk to financial stability.<sup>106</sup>

**Against this backdrop, it is essential for supervisory authorities and financial institutions to anticipate the effects of climate-related risks on financial markets and asset portfolios.** To achieve this, forward-looking climate risk indicators are invaluable tools. Traditional climate indicators, which often focus on the exposure

<sup>99</sup> This chapter was enriched with the suggestions and contributions of Agnès Bénassy-Quéré, Jean Boissinot, Clémence Charavel, Frédéric Guével, François Haas, Jonas Heipertz, Lisa Kerdelhué, Rémy Lecat, Etienne de L'Estoile, Yann Marin, Tarik Mouakil, David Nefzi, Thibaut Piquard and Floris Van Dijk.

<sup>100</sup> The average temperature of the Earth's surface during in January-September 2024 reached the threshold of 1.5°C above the pre-industrial average, and the decade 2015-24 was the warmest on record. World Meteorological Organisation (2024), [State of the Climate Report](#).

<sup>101</sup> Estimates indicate only a 4% reduction in global GHG emissions by 2030 compared to 2019 levels, well below the 28% and 42% reductions needed to align with the 2°C and 1.5°C scenarios respectively. United Nations Environment Programme (2024), [Emissions Gap Report](#), October.

<sup>102</sup> See, for example, "[Trump's 100 days of upending climate policy](#)", *The New York Times*.

<sup>103</sup> [European Union omnibus legislation](#)

<sup>104</sup> [Banque de France \(2025\)](#), "A European approach to simplification: avoiding three misconceptions, and suggesting concrete milestones", April.

<sup>105</sup> A number of EU countries, including Germany, Finland, the Netherlands, Italy, the Czech Republic and Hungary, are extending the lifetime of coal-fired power plants, restarting closed plants or lifting existing caps on generation. [International Energy Agency \(2022\)](#), *Coal 2022*, December.

<sup>106</sup> [Calthrop \(E.\) \(2022\)](#), "Energy crises makes public banks even more important", European Investment Bank, November.

of financial institutions to carbon-intensive assets in terms of transition risk,<sup>107</sup> give an estimate of the risk at a given date, which may change over time. They do not provide a direct monetary quantification of the repricing risk for financial portfolios.<sup>108</sup> Yet climate risk is only just beginning to materialise and its effects will only intensify in the coming years. To develop forward-looking indicators, it is necessary to use climate scenarios incorporating different trajectories of climate policies, emissions and temperature, in order to evaluate the potential impact of the low-carbon transition or climate change on asset values and financial stability as a whole. Such indicators could facilitate proactive risk management and informed decision-making by public authorities.<sup>109</sup>

**This chapter presents a new forward-looking indicator of transition risk for market portfolios in the French financial sector.** This indicator is based on the modelled trajectory of sectoral revenue derived from the scenarios of the Central Banks and Supervisors Network for Greening the Financial System (NGFS).<sup>110</sup> By projecting changes in companies' revenue using the sectoral breakdown of their turnover, this approach makes it possible to identify climate vulnerabilities on a microeconomic scale. The analysis is based on granular data at company level, enabling a detailed assessment of the potential impacts of the transition (excluding physical risk) on income, valuations and, ultimately, the portfolios of financial institutions. This revenue-based approach supplements existing cost-based approaches, which model the impact of a higher carbon price on company margins,<sup>111</sup> by incorporating changes in sectoral production caused by shifts in consumer preferences, technological breakthroughs and political interventions. Overall, the revenue-based approach developed in this chapter provides a more comprehensive view of the risks and opportunities associated with the low-carbon transition. However, it should be noted that the approach presented here only includes the repricing risk (equities and bonds) and does not take into account other potential transmission channels of climate shocks in the financial sector, such as credit or underwriting risks.

**An analysis of this indicator shows that the transition to a low-carbon economy constitutes a financial risk if it is delayed or implemented too suddenly.** Equity markets appear to be more sensitive to climate shocks than bond markets, due to the more volatile nature of their valuations. While repricing risk remains moderate on average, some sectors, notably the fossil fuels sector, are exposed to significant capital losses and could become stranded assets. For financial intermediaries, the level of risk depends heavily on the sectoral, geographical and asset class allocation of their portfolios. Investment funds concentrate a significant proportion of this risk, due to their high exposure to equities and, in some cases, their uneven sectoral concentration. These shocks can then spread to other financial players, particularly insurance companies,

<sup>107</sup> For example, transition risk climate indicators published by the European Central Bank, such as weighted average carbon intensity (WACI), exposure concentration, etc. Banque de France (2023), "[ECB publishes new climate-related statistical indicators to narrow climate data gap](#)", January.

<sup>108</sup> For example, [Jourde \(T.\) and Kone \(K.\) \(2023\)](#), "The exposure of French investment funds to transition climate risks", *Banque de France Bulletin*, No.248, October.

<sup>109</sup> For example, the transition dimension of the Banque de France's [climate indicator](#) for companies, already deployed in five sectors and having covered more than 1,000 legal units in France by 2024, assesses a company's alignment with a low-carbon trajectory consistent with the Paris Agreement. The climate indicator is also intended to cover adaptation to the physical risk associated with climate change and assesses the exposure of all companies in mainland France to climate hazards in all sectors of activity. Although it could potentially be used by financial institutions or supervisors to assess the financial risk associated with climate change, this indicator is not used in this analysis.

<sup>110</sup> For a presentation of these scenarios, see "Cross-sectional chapter".

<sup>111</sup> For example, the European Central Bank's climate stress tests (Alogoskoufis et al. 2021; Emambakhsh et al. 2023) and the EU's Fit-for-55 package (European Supervisory Authorities and European Central Bank, 2024). This approach, based on companies' operating costs, has the advantage of incorporating more granular data in order to better reflect the economic reality of companies and their exposure to transition risk. However, it is based on additional assumptions, in particular the company's decarbonisation trajectory, which depends on the level of the carbon tax, and the price elasticity of demand, which determines companies' ability pass on the tax to their clients.

[Alogoskoufis \(S.\), Dunz \(N.\), Emambakhsh \(T.\), Hennig \(T.\), Kaijser \(M.\), Kouratzoglou \(C.\), Muñoz \(M. A.\), Parisi \(L.\) and Salleo \(C.\) \(2021\)](#), "ECB economy-wide climate stress test: Methodology and results", *ECB Occasional Paper*, No.281, September.

[Emambakhsh \(T.\), Fuchs \(M.\), Kordel \(S.\), Kouratzoglou \(C.\), Lelli \(C.\), Pizzeghello \(R.\), Salleo \(C.\) and Spaggiari \(M.\) \(2023\)](#), "The road to Paris: stress testing the transition towards a net-zero economy", *ECB Occasional Paper*, No 328.

[European Supervisory Authorities and European Central Bank \(2024\)](#), "One-off Fit-for-55 climate risk scenario analysis".

through their holdings of fund units. In addition, amplification effects can occur if investors react to the initial shock by reassessing the magnitude of climate risks and closing out certain positions, triggering a cascade of sales that further depress prices and impair market liquidity.

**The delay in implementing transition policies in line with the objectives of the Paris Agreement is exposing the financial sector to increasing physical climate risk.** Although physical risk will mainly materialise in the medium term, its potential to destabilise the financial system is significant. This is shown in particular by the NGFS' short-term scenarios, which explore, among other things, the impacts of extreme but plausible climate events on the financial markets. Physical risk will particularly affect certain sectors, such as agriculture, construction, electricity production and distribution and land transport, with very different consequences across regions.<sup>112</sup> Delays in the transition will exacerbate physical risk, underlining the urgent need to strengthen climate risk assessment and management frameworks within financial institutions. While the size of potential losses associated with a disorderly transition may appear limited, if they occur alongside other climatic or economic shocks, this may constitute a major vulnerability for the financial system.

## 2.1. Repricing risk of financial assets

### Construction of the forward-looking climate transition risk indicator

**The forward-looking climate transition risk indicator uses sectoral economic estimates derived from long-term climate scenarios developed by the NGFS.** These scenarios, which are hypothetical in nature, provide a common reference framework for analysing possible trajectories for climate policy changes and low-carbon technologies, as well as their potential effects on the economy. We consider three scenarios, covering a range of more or less risky futures in terms of transition (Chart 2.1);<sup>113</sup>

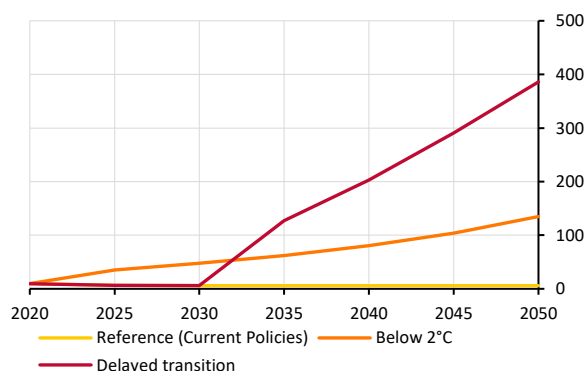
- **A reference scenario**, which only reflects current climate policies and does not model any increase in their stringency (no transition risk). Such a scenario would lead to a warming of 3.2°C on average. However, the estimates used in this exercise do not take into account the economic and financial impacts of the associated physical risk.
- **A Below 2°C scenario**, characterised by an orderly transition during which the stringency of climate policies gradually increases, corresponding to a two-thirds probability of limiting global warming to less than 2°C (moderate transition risk). This scenario leads to a loss of global gross domestic product (GDP) of 0.7% compared with the reference scenario by 2045.
- **A Delayed Transition scenario**, in which drastic measures are taken late to limit warming to less than 2°C (high transition risk), implying a significant rise in carbon prices over a short period. This scenario leads to a loss of global GDP of 1.8% compared with the reference scenario by 2045.

**Chart 2.1: Estimation of the implicit price of a tonne of CO<sub>2</sub> in USD**

*x : time axis / y : US\$2010/t CO<sub>2</sub>*

<sup>112</sup> The Disasters and Policy Stagnation scenario predicts that physical shocks could lead to losses of gross domestic product (GDP) of around 5% in Europe, 6% in Asia and 12.5% in Africa. For more details on these scenarios, see Box 2.1.

<sup>113</sup> The BloombergNEF data on sectoral demand changes used in this exercise are based on [Phase III](#) of the NGFS scenarios of September 2022. They therefore do not take into account the latest reported contributions or the state of progress since 2022. In comparison, [Phase V](#) (published in December 2024) shows greater temperature increases and narrower transition windows for most scenarios. However, given the progress made by businesses and governments between 2022 and 2024 (e.g. the Inflation Reduction Act in the United States, whose main component is climate, and the Fit-for-55 package in the European Union), the relative impacts of the transition on GDP appear slightly smaller in Phase V than in Phase III.



Source: NGFS Phase III <sup>15</sup>

Note: The implicit price of a tonne of carbon is a global weighted average of the prices in the different regions. It represents the marginal cost of reducing greenhouse gas (GHG) emissions, and is an indicator of the ambition and effectiveness of climate policies for each scenario.

The transition scenarios used in this exercise estimate the impact of certain climate shocks on the non-financial sectors, in particular on future sectoral revenue as well as on a range of macroeconomic variables such as growth and inflation. The estimation of revenues of the different economic sectors are then combined with companies' turnover segmentation data. This generates, for each scenario, specific income growth trajectories for a large number of companies, based on their sectoral breakdown.

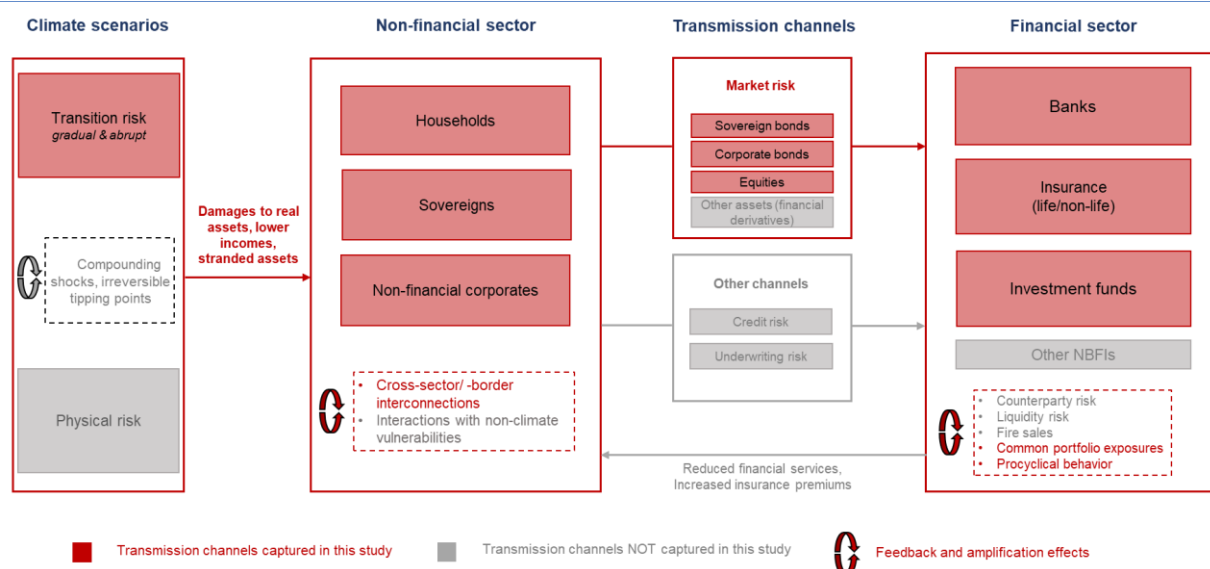
The companies' turnover trajectories are then incorporated into a set of financial models (see methodological appendix), in order to estimate the repricing risk of the financial instruments they issue, both equities and bonds. For equities, potential losses are estimated using a dividend discount model. It is assumed that investors base their expectations of dividend growth on the turnover trajectories of the reference scenario. The model then assesses the impact of adjusting these expectations if investors suddenly realign with the turnover trajectories estimated in a transition scenario. The model also incorporates a revision of the discount rate, through an increase in the risk premium specific to each company, proportional to the magnitude of the shock. For corporate bonds, the credit spread is modelled using three key financial variables: leverage, profitability and revenue. The sensitivity of these variables to turnover growth is estimated empirically using historical data. This is used to estimate the expected change in the credit spread for each scenario. The repricing risk is then deduced from the difference between the transition scenario and the reference scenario. For sovereign bonds, the sensitivity of interest rates to GDP and price growth is estimated using an econometric model based on historical data. Macroeconomic growth and inflation forecasts from the NGFS scenarios are then used as model inputs to assess the impact of the transition on yields and bond prices. All results are expressed in terms of relative valuation differences compared with the reference scenario, so as to isolate the specific effect of a climate transition shock.

The exposure of the bond portfolios of French financial institutions to repricing risk is assessed using Banque de France and Eurosystem databases. Asset holders are grouped into three main categories: credit institutions, insurance companies and investment funds. The repricing risk of a portfolio is calculated as the weighted average of the risk associated with each asset held. Financial assets other than equities and bonds, in particular derivatives, are not included in the scope of this exercise.

This exercise does not cover all of the channels through which climate shocks are transmitted to the financial sector. Firstly, only transition risk is taken into account; physical risk is not modelled here, although it is discussed in a specific box below. Secondly, only channels involving financial markets are considered. Credit risk associated with bank loan portfolios and underwriting risk affecting the insurance sector are not

included.<sup>114</sup> Lastly, amplification effects within the financial system, as well as feedback effects between the financial and non-financial sectors (e.g. contraction in the supply of financial services or increase in insurance premiums) are only partially or not included at all. Chart 2.2 summarises all these transmission channels, highlighting in red those that are taken into account in this exercise.

Chart 2.2: Framework for assessing climate-related economic and financial vulnerabilities



Sources: FSB,<sup>115</sup> Banque de France

Note: This Financial Stability Board (FSB) diagram has been adapted to reflect the transmission channels of climate shocks taken into account by this exercise (in red) and those that have not been modelled (in grey).

## Assessment of market risk

The risk of a correction in the financial markets, estimated globally for each asset, appears highly heterogeneous, both between asset classes and within each class, depending in particular on firms' sectoral affiliation (see Chart 2.3):

- **Equities are the most exposed to repricing risk.** As a weighted average, potential stock market corrections stand at -6.8% in the Delayed Transition scenario and -4.2% in the Below 2°C scenario for all 26,000 Tier 1 companies in the sample, covering most countries and sectors worldwide (see methodological appendix). This represents an estimated loss of EUR 2,900 billion in market capitalisation in the first scenario, and EUR 1,700 billion in the second. However, the dispersion of losses is significant: in the Delayed Transition scenario, 80% of companies display a price variation of between -31% and +14.5%; in the Below 2°C scenario, this range is between -22.5% and +14%. Some extreme cases show losses of up to -75% (Delayed Transition) and -72% (Below 2°C). These potential losses could materialise quickly if investors suddenly adjust their expectations to include these transition scenarios. Conversely, prolonged uncertainty could lead to a period of sustained market volatility.
- **Corporate bonds have a more limited repricing risk.** On average, the downside is -1.5% in the Delayed Transition scenario and -0.5% in the Below 2°C scenario, corresponding to a fall in outstandings of EUR

<sup>114</sup> For an analysis of credit risk, see the European Central Bank stress tests (Alogoskoufis et al. 2021; Emambakhsh et al. 2023) and the European [Fit-for-55](#) exercise (2024). For an analysis of the insurance sector, see the stress test of the *Autorité de contrôle prudentiel et de résolution* (ACPR) (2024).

<sup>115</sup> [Financial Stability Board](#) (2025), "Assessment of Climate-related Vulnerabilities: Analytical framework and toolkit", January.

69 billion and EUR 24 billion respectively.<sup>116</sup> Nevertheless, the bonds of certain issuers could experience losses of up to -11.5% in the Delayed Transition scenario and -4.5% in the Below 2°C scenario.

- **Sovereign bonds are the least affected, with a downside of no more than -2.1%.** On a weighted average basis, sovereign bonds show a potential loss of 0.25% under the Delayed Transition scenario, i.e. a loss in value of EUR 171 billion. This repricing is mainly due to the effect of inflationary pressures in the context of a disorderly transition, leading to a rise in yields and a consequent fall in bond prices. However, the channel of deterioration of public finances and the risk to the solvency of sovereign debt are not included in this exercise.

**Chart 2.3: Distribution of estimated repricing by asset class**

*x: scenarios / y: repricing (%)*



Sources: NGFS Phase III <sup>15</sup>, BloombergNEF, Eikon Refinitiv, SHS-S; Banque de France calculations; data at end-June 2024.

Note: The chart shows only the 26,000 Tier 1 companies with a sectoral segmentation of turnover (see methodological appendix) and the repricing of sovereign bonds in 18 countries. Estimated price adjustments are based on the 2023-45 projection horizon of the NGFS scenarios. The horizontal line in the box represents the average weighted by market capitalisation (equities) or by outstandings (bonds). The edges of the box represent deciles 1 and 9, and the extension lines represent percentiles 1 and 99.

**The transition to a low-carbon economy will affect the main economic sectors to different degrees.** Charts 2.4 and 2.5 show the distribution of repricing risk for equities and corporate bonds, according to the Climate Policy Relevant Sectors (CPRS) classification,<sup>117</sup> which identifies the sectors most exposed to climate policies:

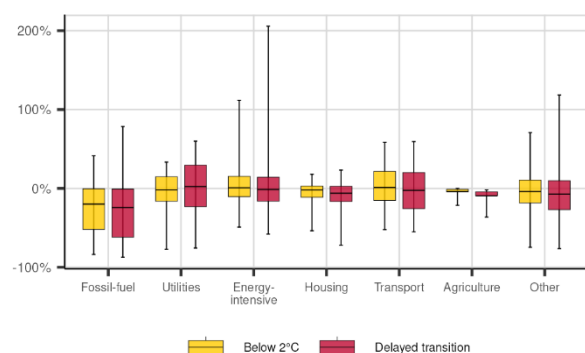
<sup>116</sup> The estimated losses on corporate bonds appear to be in line with or lower than those forecast in the short-term transition scenarios of the NGFS (-1.5% in the sudden wake-up call scenario) or the ECB (-3% in the late-push transition scenario). In addition to differences related to the nature and time horizon of the shocks considered, this difference could also be explained by the fact that the estimate presented here takes into account the possibility that some companies will benefit from the transition, which the other exercises do not take into account due to methodological differences.

<sup>117</sup> The CPRS classification corresponds to groupings of economic sectors selected based on their exposure to non-renewable energy and electricity, as suppliers or consumers, and therefore their potential exposure to transition risk. Battiston (S.), Mandel (A.), Monasterolo (I.), Schütze (F.), and Visentin (G.) (2017), "A climate stress-test of the financial system", *Nature Climate Change*, No.7 (4), pages 283-288.

- **The fossil fuel sector is the most vulnerable in both scenarios.** The average potential repricing for equities in this sector would be -24% in the Delayed Transition scenario and -20% in the Below 2°C scenario.<sup>118</sup> 90% of companies in the sector are exposed to a depreciation, with extreme repricing of up to 87%. Conversely, a minority of companies (less than 10%) could benefit from the transition and see the value of their shares rise by up to 78%. This result highlights the value of examining the segmentation of company turnover, as a minority of companies in the fossil fuel sector have already been able to begin the transition to low-emission activities. Other sectors - utilities<sup>119</sup>, transport, agriculture,<sup>120</sup> construction, energy-intensive mining and manufacturing industries, and sectors with low exposure to the transition according to the CPRS classification - also have significant exposure. However, variations in valuations are more balanced.
- **As regards corporate bonds, the estimated repricing remains moderate in most sectors, with the notable exception of fossil fuels,** where some companies could record losses of up to -34.5% under the Delayed Transition scenario, and -6.7% in the Below 2°C scenario.

**Chart 2.4: Distribution of estimated repricing of equities by CPRS sector**

x: CPRS sector / y: repricing (%)

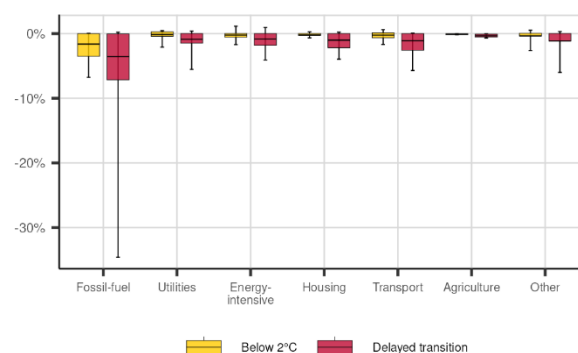


Sources: NGFS phase III,<sup>15</sup> BloombergNEF, Eikon Refinitiv, SHS-S; Banque de France calculations; data as at end-June 2024.

Note: The chart shows only the 26,000 Tier 1 companies for which a sectoral segmentation of turnover is available (see methodological appendix). They are grouped according to the Climate Policy Relevant Sectors (CPRS) classification. The estimated repricing is based on the 2023-45 projection horizon of the NGFS scenarios. The horizontal line in the box represents the average weighted by the market capitalisation of the issuing company. The edges of the box represent deciles 1 and 9, and the extension lines represent percentiles 1 and 99.

**Chart 2.5: Distribution by CPRS sector of the estimated repricing of corporate bonds**

x: CPRS sector / y: repricing (%)



Sources: NGFS phase III,<sup>15</sup> BloombergNEF, Eikon Refinitiv, SHS-S; Banque de France calculations; data as at end-June 2024.

Note: The chart shows only the 26,000 Tier 1 companies with a sectoral segmentation of turnover (see methodological appendix). They are grouped together according to the Climate Policy Relevant Sectors (CPRS) classification. The estimated repricing is based on the 2023-45 projection horizon of the NGFS scenarios. The horizontal line in the box represents the average weighted by bond outstandings. The edges of the box represent deciles 1 and 9, and the extension lines represent percentiles 1 and 99.

**Sovereign bond repricing risk appears to be limited overall, not exceeding -1% on average, but varying across geographical areas.** Ireland, Canada and Austria are among the most sensitive countries in a disorderly transition scenario, followed by Germany, Spain and Italy (see Chart 2.15 in the appendix). This result can largely be attributed to the different inflation paths forecast in the NGFS scenarios, which vary according to

<sup>118</sup> In comparison, Allen (T.) et al. (2024) estimate the magnitude of capital losses for oil stocks at over 50%, while BoC-OSFI (2022) believes that oil, gas and coal stocks could become stranded assets.

Allen (T.), Déès (S.), Caicedo Graciano (C. M.), Clerc (L.), de Gaye (A.), Lisack (N.), Pegoraro (F.) and Rabaté (M.) (2024), "An analytical framework for assessing climate transition risks: an application to France", *Review of World Economics*, July, pages 1-57.

Bank of Canada and Office of the superintendent of financial institutions (2022), "Using Scenario Analysis to Assess Climate Transition Risk", Final Report of the BoC-OSFI Climate Scenario Analysis Pilot.

<sup>119</sup> This sector includes electricity production, water treatment and waste management.

<sup>120</sup> The results for the agriculture sector are not very representative because it is mainly financed by bank loans, which are not taken into account in this exercise.

country and time horizon. In particular, these differences reflect varying levels of exposure to transition risk, linked to the carbon intensity of the economies and the progress already made in decarbonisation. Nevertheless, a sudden transition could lead to temporary inflation spikes, which could increase bond market volatility in the short term. Furthermore, while the magnitude of the repricing of sovereign debt remains small compared to other asset classes, the risk of deterioration of public finances and solvency is not included in this exercise. Taking them into account could, in some cases, significantly increase the repricing risk, particularly for countries already facing fiscal constraints or high debt.

### Box 2.1: Short-term scenarios, physical risk and market repricing

**Long-term climate scenarios are a necessary but insufficient tool for taking into account the effects of climate risk on the financial sector.** As climate change is a gradual phenomenon, taking place over several decades, numerous models have been developed to simulate emissions trajectories, economic transformations and physical impacts over a long term horizon. The scenarios of the Intergovernmental Panel on Climate Change (IPCC), the International Energy Agency (IEA) and the NGFS are among the most widely used references for guiding public policy, technological and financial choices under the Paris Agreement. In particular, the NGFS long-term scenarios were developed for the needs of central banks and supervisory authorities. They focus on the macroeconomic effects of different transition trajectories (gradual or disorderly), as well as the associated levels of physical risk. However, these scenarios have certain limitations when it comes to analysing the vulnerabilities of the financial system in the short term. Their extended time horizon tends to smooth out certain transition dynamics or physical shocks likely to have immediate effects on macrofinancial stability.

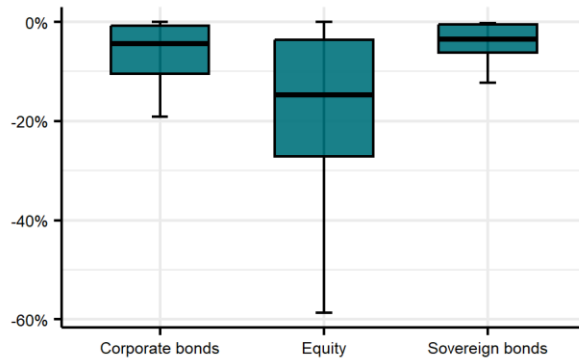
**To address this limitation, in May 2025 the NGFS published a first set of short-term climate scenarios, built on a five-year time horizon.<sup>121</sup>** These scenarios are specifically calibrated for the needs of financial supervision, with more adverse scenarios, including a set of transition and physical risk shocks on economic variables. They make it possible to explore plausible stress situations for markets and financial institutions, in addition to long-term trajectories. The modelling of physical risk provides a good illustration of this difference in approach. In the long-term scenarios, the physical risk is mainly determined by the gradual rise in global average temperature, which leads to a limited impact at the start of the simulation. In contrast, short-term scenarios assume the occurrence of extreme natural disasters, calibrated using historical statistics (for example, climate events occurring on average every fifty years). These shocks are introduced at specific dates in certain regions in order to assess the reaction of socio-economic systems and financial markets to acute climate events.

**Estimates based on the short-term physical risk scenario, “Disasters and Policy Stagnation”, (all regions combined) suggest that extreme physical shocks have a greater impact on asset prices than transition shocks.** On average, global equity markets could fall by 15% in the event of an acute physical shock over the next five years (see Chart 2.6), compared with an average of 3.3% in the short-term transition scenario of a Sudden Wake-Up Call. The impacts vary considerably across sectors (see Chart 2.7) and countries. In particular, agriculture (-41%), biofuels (-37%) and construction (-23%) would be hard hit on average. Bond markets are also vulnerable. Corporate bond prices could fall by an average of 4% (compared with 1.5% in the Sudden Wake-Up Call scenario), with wide variations across countries and sectors. Sovereign bonds would be relatively less exposed, with average impacts of -3.4% (versus -0.8% in the Sudden Wake-Up Call scenario), although in some jurisdictions losses could reach 12%.

<sup>121</sup> [NGFS \(2025\)](#), “NGFS Short-term Climate Scenarios for central banks and supervisors”, May.

**Chart 2.6: Distribution by asset class of the estimated repricing under a physical risk scenario**

x: asset classes / y: repricing(%)

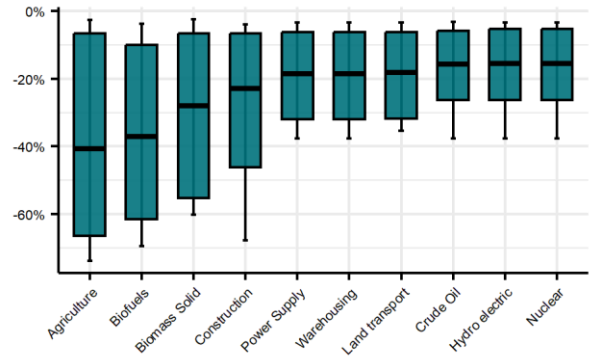


Source: NGFS short-term scenarios "Disasters and Policy Stagnation", data from May 2025.

Note: The chart shows the distribution of market shocks by asset class for all countries and sectors covered by the NGFS data. The NGFS scenarios model the combined impacts of droughts, heat waves and fires in 2026, followed by floods and storms in 2027. The results presented correspond to the maximum impact observed in either of these two years. The horizontal line in the box represents the average of the distribution. The edges of the box represent deciles 1 and 9, and the extension lines the percentiles 1 and 99.

**Chart 2.7: Distribution by sector of the estimated repricing of equities under a physical risk scenario**

x: sectors / y: repricing (%)



Source: NGFS short-term scenarios "Disasters and Policy Stagnation", data from May 2025.

Note: The chart illustrates the distribution of equity shocks within each sector of the GEM-E3 macrosectoral model of the NGFS scenarios for all the countries covered. The NGFS scenarios model the combined effects of droughts, heat waves and fires in 2026, followed by floods and storms in 2027. The results presented correspond to the maximum impact observed in either of these two years. The horizontal line in the box represents the average of the distribution. The edges of the box represent deciles 1 and 9, and the extension lines represent percentiles 1 and 99. The ten countries with the highest repricing risk are shown.

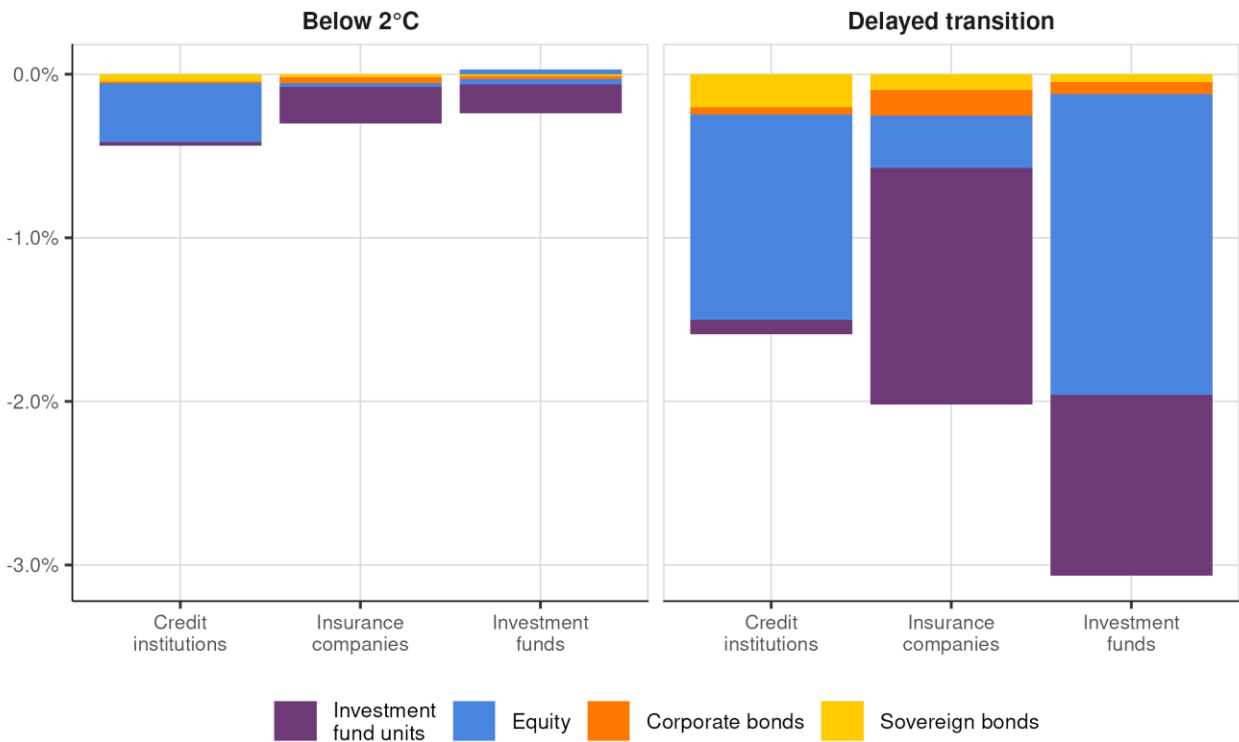
**The short-term and long-term scenarios are complementary.** Short-term scenarios offer better visibility of the immediate risk associated with a disorderly transition or acute physical shocks. They are particularly useful for stress testing and financial supervision. However, at this stage they do not provide a granular estimate of the repricing risk for each financial asset (see BloombergNEF data), nor do they allow us to assess the structural change in physical risk as a function of the transition policies implemented, a dimension that only long-term scenarios can capture. An integrated approach, combining these two time scales, is therefore essential if climate risk in the financial sector is to be taken into account in a systemic and consistent manner.

## 2.2. Reassessing the current portfolios of French financial institutions in the context of low-carbon transition scenarios

**At the aggregate level, French investors are exposed to a moderate but not negligible repricing risk under the disorderly transition scenario.**<sup>122</sup> However, some categories are more vulnerable than others (see Chart 2.8). Investment funds show the largest average losses (around -3% under the disorderly transition scenario compared with the reference scenario), mainly because of the high proportion of equities in their portfolios (see Chart 2.12 in the appendix), representing an estimated depreciation of EUR 29 billion in assets under management. Conversely, credit institutions (-1.5%, or EUR 14 billion) and insurers (-2%, or EUR 28 billion) are less exposed as their portfolios consist mainly of sovereign and corporate bonds (see Charts 2.13 and 2.14 in the appendix), which are asset classes for which the estimated transition risk is more limited. However, the potential repricing of insurers' securities portfolios is amplified by their indirect exposure, linked to their large holdings in investment fund units.<sup>123</sup> Nevertheless, this risk does not necessarily translate into a net loss, as it may be partially offset by a decline in liabilities, particularly technical provisions for unit-linked life insurance policies (see Chart 2.11).

**Chart 2.8: Projected average repricing of French financial intermediaries' securities portfolios**

*x: investor category / y: contribution to portfolio repricing (%)*



Sources: NGFS phase III <sup>15</sup>, BloombergNEF, Eikon Refinitiv, SHS-S, OPC titres, Lipper; Banque de France calculations; data at end-June 2024.

Note: Average repricing is calculated as the weighted average of potential losses on more than 94,000 securities held, based on their weight in the aggregate portfolio of each investor category. Estimated repricing is based on the 2023-45 projection horizon of the NGFS scenarios. The chart breaks down the main sources of repricing by asset class: fund units, equities, corporate bonds and sovereign bonds.

<sup>122</sup> This risk is calculated as the weighted average of potential losses on securities held, according to their weight in the overall portfolio of each investor category.

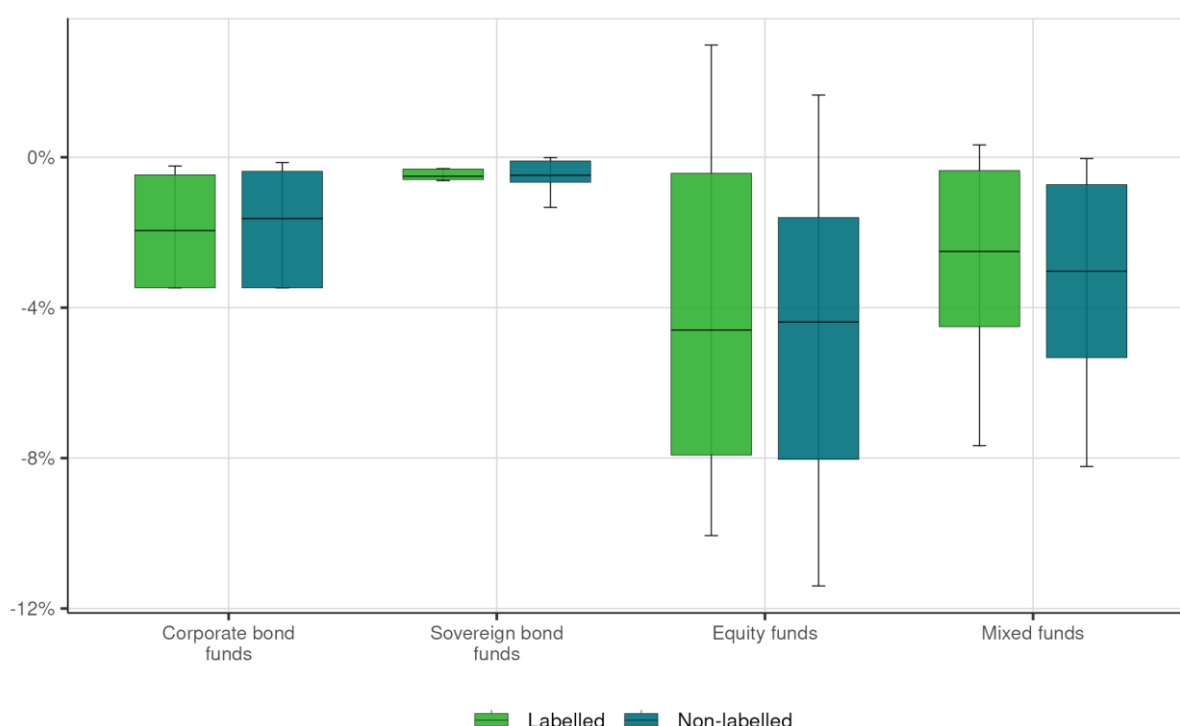
<sup>123</sup> It should be noted that this assessment relates only to securities portfolios, and does not include the credit risk associated with bank loans or the underwriting risk in the insurance sector.

## Investment funds

Although the average potential aggregate repricing remains moderate, it masks significant heterogeneity across institutions, particularly among investment funds. Chart 2.9 illustrates, for the Delayed Transition climate scenario, the potential repricing associated with each French investment fund, distinguishing between the type of fund (equity, mixed, bond) and whether or not it has a green label. This repricing is measured as the weighted average of potential losses on the securities held in each portfolio. Unsurprisingly, equity and mixed funds have the highest exposure to transition risk, while bond funds (sovereign and corporate) are much less exposed. Furthermore, labelled funds show a lower average potential loss than non-labelled funds, and a higher proportion of them could even outperform in a disorderly transition scenario. The dispersion of results remains significant, although essentially to the downside, even within the same fund category: for equity funds, the repricing ranges from -11.4% to 2.9%; for mixed funds, from -8.2% to 0.3%; for corporate bond funds, between -3.4% and -0.15%; and for sovereign bond funds, between -1.3% and 0%. These differences reflect a greater or lesser concentration of climate-sensitive assets in certain portfolios, reflecting differences in exposure depending on the management strategies implemented.

**Chart 2.9: Distribution of the estimated repricing by type of French investment fund under a disorderly transition scenario**

x: types of investment funds / y: repricing (%)



Sources: NGFS phase III (Delayed Transition),<sup>15</sup> BloombergNEF, Eikon Refinitiv, OPC titres; Banque de France calculations.

Note: 5,331 French investment funds are considered. Real estate, money market and hedge funds are not represented. Repricing is calculated as the weighted average of potential losses on securities held, based on their weight in the overall portfolio of each investor category. Estimated repricing is based on the 2023-45 projection horizon of the NGFS scenarios. The labels considered are: CIES, Finansol, Greenfin, SRI and Relance. Mixed funds are an intermediate category of funds that hold both equities and bonds. The distinction between sovereign and corporate bond funds is made on the basis of the respective proportions of these two asset classes in the funds' portfolios. The horizontal line in the box represents the average weighted by the assets under management of the investment funds. The edges of the box represent deciles 1 and 9, and the extension lines represent percentiles 1 and 99.

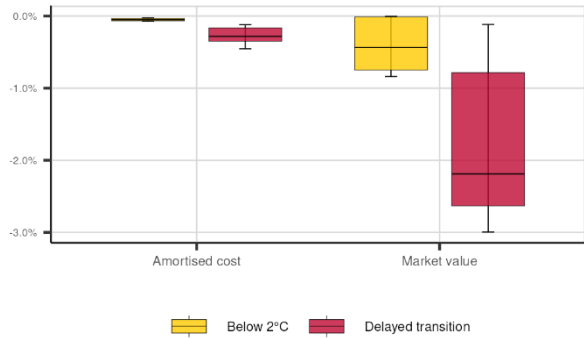
## Banks and insurers

**A granular analysis of the securities portfolios held by French banks and insurers reveals relatively limited losses, mainly because assets are sufficiently diversified by sector.** For banks, a distinction needs to be made between exposures recognised at amortised cost and those at market value, the latter being directly sensitive to repricing generated by climate shocks. For example, the part of the portfolio booked at market value shows an average potential loss linked to transition risk of -2.1% in a Delayed Transition scenario, with a high degree of dispersion between institutions: some banks appear to have little exposure, while others could record losses of up to 3% (see Chart 2.10). Assets recognised at amortised cost, particularly bonds, have a lower potential repricing. However, these losses would not be recognised in the financial statements, except in the event of early sale.

As regards insurers, the results are presented by distinguishing between unit-linked portfolios, where the risk is borne by policyholders, and non-unit-linked portfolios, where losses are absorbed by the insurer itself. The analysis shows that transition risk is mainly concentrated in unit-linked portfolios, and is therefore largely transferred to policyholders (see Chart 2.11). Conversely, portfolios under the direct responsibility of insurers show a more moderate estimated repricing (-1.2% on average) and a relatively contained dispersion between institutions. This breakdown by accounting treatment and nature of liabilities allows us to identify more accurately the transmission channels of climate risk in the financial sector, as well as the players actually exposed to potential losses.

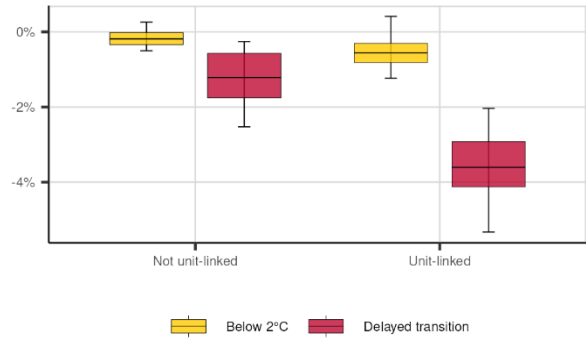
**Chart 2.10: Distribution of the average estimated repricing of French banks' portfolios**

x: type of accounting / y: repricing (%)



**Chart 2.11: Distribution of the average estimated repricing of French insurance portfolios**

x: type of portfolio / y: repricing (%)



Sources: NGFS phase III, <sup>15</sup> BloombergNEF, Eikon Refinitiv, SHS-G, OPC titres, Lipper; Banque de France calculations; data at end-June 2024

Note: 11 French banks are assessed. The chart distinguishes between assets recognised at amortised cost and those at market value, the latter being directly sensitive to price repricing induced by climatic shocks. The estimated repricing is based on the 2023-45 projection horizon of the NGFS scenarios. The horizontal line in the box represents the average of the distribution. The edges of the box represent deciles 1 and 9, and the extension lines represent percentiles 1 and 99.

Sources: NGFS phase III <sup>15</sup>, BloombergNEF, Eikon Refinitiv, Solva2, OPC titres, Lipper; Banque de France calculations; data at end-June 2024.

Note: 152 French insurance companies are assessed. The chart distinguishes between assets held to represent unit-linked or index-linked contracts and non-unit-linked portfolios, whose losses are absorbed by the insurer itself. The estimated repricing is based on the 2023-45 projection horizon of the NGFS scenarios. The horizontal line in the box represents the average of the distribution. The edges of the box represent deciles 1 and 9, and the extension lines represent percentiles 1 and 99.

## 2.3 Model assumptions and limitations

**The results presented provide an initial order of magnitude of the potential repricing of financial assets associated with the low-carbon transition.** However, they are based on sometimes simplistic assumptions, particularly in terms of the nature of the scenarios considered, the static composition of portfolios, the adjustment behaviour of market expectations and the potential amplification effects of shocks. These limitations cannot portray the full complexity of the dynamics that could be triggered in the event of a climate shock. In this context, several factors could lead to a more severe correction than anticipated:

- **The conservative nature of the scenarios used.** Although the estimated losses would be much greater in the event of a disorderly and late transition, the estimates used are based on the long-term scenarios of the NGFS (phase III,<sup>124</sup>), whose assumptions remain relatively conservative. The long-term horizon of these scenarios tends to smooth out short-term shocks, which may mask transitional dynamics that could potentially destabilise macroeconomic and financial stability. As a comparison, the NGFS short-term scenarios linked to transition risk, which are more closely calibrated for stress test exercises, suggest repricing of a similar order of magnitude, but concentrated over a five-year horizon, reaching -3.3% for equities, -1.5% for corporate bonds and -0.8% for sovereign bonds. Some exercises, such as the European Fit for 55 stress test, go further by evaluating hybrid scenarios which combine climate and macroeconomic shocks, leading to an amplified impact on asset prices. This highlights the sensitivity of the results to the intensity, speed and nature of the climate shocks simulated, and calls for a wide range of approaches to capture a realistic range of repricing outcomes.
- **Uncertainty surrounding market expectations.** The magnitude of the potential repricing depends on the extent to which climate risk is currently factored into the pricing of financial assets. The model assumes that prices currently reflect only the economic impact of current climate policies, without anticipating any future tightening.<sup>124</sup> Furthermore, the shock modelled corresponds to a sudden adjustment in investor expectations towards an alternative climate transition scenario. In reality, expectations may change more slowly and in different ways for different investor categories or, conversely, deteriorate more sharply in response to extreme climate events in a context of political uncertainty. For example, a large initial loss on assets exposed to climate change could act as a warning signal and trigger a sudden change in investor expectations, risk assessment and environmental preferences, leading to a new market equilibrium. These dynamics make the repricing trajectory particularly uncertain.
- **Not sufficiently taking account of contagion effects and the dynamic composition of portfolios.** The models used do not incorporate (or only partially incorporate) the potential amplification effects that can go hand in hand with a transition climate shock. These financial feedback loops can accentuate the fall in prices beyond the initial impact of the shock. For example, an extreme weather event can trigger a sudden change in the financial markets' perception of risk, leading to a sharp fall in the prices of exposed assets, particularly in the case of "brown" assets. This in turn can trigger fire sales, due to portfolio risk management constraints or environmental preferences. These sales then exacerbate the downward pressure on prices, amplifying losses for other investors, and contributing to a vicious circle

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<sup>124</sup> A recent [survey conducted by MSCI](#) sheds light on investor expectations. They appear to be in line with the reference scenario as far as the temperature trajectory is concerned. Investors expect a rise of 2.8°C, while the NGFS estimates for the same scenario predict a warming of 3.2°C in phase III, 2.85°C in phase IV and 3.0°C in phase V. However, their expectations diverge sharply when it comes to emissions trajectories.

of sell offs and a general decline in valuations. The European stress test Fit for 55<sup>125</sup> shows that such effects can amplify the initial impact of transition shocks on asset portfolios by almost 30%. In order to make a more comprehensive assessment of climate risk in the financial system, it is a priority to incorporate these contagion channels. Furthermore, financial intermediaries are considered here to be passive investors who do not adjust their portfolio composition according to changes in their expectations.

## 2.4 Conclusion

**Overall, the transition to a low-carbon economy is a risk that the financial sector can absorb, provided that markets do not overreact and amplification mechanisms are contained.** Above all, the transition would constitute a financial risk if it were implemented late and in a disorderly fashion. Conversely, a gradual transition, giving economic players time to adapt, would limit the potential losses to financial portfolios. However, these estimates do not take account of the physical risk associated with climate change. The work of the European Central Bank (Alogoskoufis *et al.*, 2021) stresses that this risk, although it will materialise more in the medium term, could generate much greater losses. The short-term scenarios of the NGFS also illustrate the impact of extreme physical events, which are likely to significantly weigh on market valuations (see Box 2.1). In addition, such climate events can combine with macroeconomic shocks and interact with a range of vulnerabilities specific to financial institutions, reducing their ability to absorb the effects of climatic shocks.

**A lack of ambition or delay in the implementation of transitional climate policies is not neutral:** it accentuates both physical and transition risks, increasing the fragility of financial stability. The current uncertainty and the challenges to the regulatory framework may also create difficulties for players already involved in the transition, making it more difficult to coordinate expectations in the medium term. These dynamics also increase the risk of global fragmentation, in which the low-carbon transition is delayed, uneven and uncoordinated. Only some countries are implementing sufficiently ambitious climate policies, which does not allow physical risk to be mitigated. Against this backdrop of uncertainty, it is vital that financial players strengthen the framework for assessing and managing climate risk.

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<sup>125</sup>[European Supervisory Authorities and European Central Bank \(2024\)](#), "One-off Fit for 55 climate risk scenario analysis".

## Methodological appendix - Construction of the forward-looking transition climate risk indicator

### Granular approach to estimating corporate income

The assessment of the effects of the climate transition on financial markets and portfolios is based on an estimate of companies' future income trajectories. To do this, BloombergNEF applies a three-tier approach, based on the degree of availability of sectoral turnover segmentation data:<sup>126</sup>

- **Tier 1 (companies with detailed segmentation):** The sectoral demand estimates in the NGFS scenarios are directly applied to the shares of turnover of 26,000 companies worldwide, based on their sectoral exposure.
- **Tier 2 (companies with partial segmentation):** For approximately 32,000 companies, Bloomberg identifies subcontracting relationships with Tier 1 companies. Unallocated revenue is assumed to grow in line with regional GDP.
- **Tier 3 (companies with no available segmentation):** For 14,000 companies, whose revenue structure is unknown, future growth is assumed to be aligned with regional GDP.

**Methodological limitation** - this approach assumes that a company's growth trajectory is a weighted average of the trajectories of the sectors in which it operates. This assumption does not take into account the specific characteristics of each company. Going forward, this could be improved by integrating additional microeconomic data to better reflect their economic reality and their exposure to transition risk. For example, the transition dimension of the corporate climate indicator developed by the Banque de France assesses a company's alignment with a low-carbon trajectory consistent with the Paris Agreement. This indicator is also intended to cover adaptation to the physical risk associated with climate change.

### Modelling the repricing risk for sovereign bonds

For sovereign bonds, repricing is computed using estimates of macroeconomic variables (GDP growth rate and inflation rate) derived from NGFS scenarios, taking into account their impact on estimates of nominal interest rates obtained using the procedure presented below. These changes are then translated into bond price adjustments using a standard formula based on their modified duration and convexity.

The procedure adopted to forecast (at several horizons), for each country and each NGFS scenario, the sovereign yield curve is as follows:

- a. A Gaussian-smoothed yield curve model is considered, with macro-financial variables (main components of yields, economic activity and inflation), inspired by Joslin, Pribsch and Singleton (2014).<sup>127</sup> The model is estimated using the methodology of Adrian, Crump and Moench (2013),<sup>128</sup> and macroeconomic variables and rates (for maturities from one year to ten years) are observed up to December 2024. These data are downloaded from Bloomberg and the Fred database.

<sup>126</sup> The dividend discounting model is applicable to level 1, 2 and 3 companies, but the accuracy of the estimates will be much lower for level 3 companies.

<sup>127</sup> Joslin (S.), Pribsch (M.), and Singleton (K.) (2014), "Risk premiums in dynamic term structure models with unspanned macro risks", *The Journal of Finance* n° 69 (3), June, pages 1197-1233.

<sup>128</sup> Adrian (T.), Crump (R.), and Moench (E.) (2013), "Pricing the term structure with linear regressions", *Journal of Financial Economics*, n° 110 (01), pages 110-138.

- b. The historical dynamics of the state variables, represented by a Gaussian VAR (1) model, and the smoothed nature of the yield curve formula, mean that this pricing model (due to the absence of arbitrage opportunities) can be represented as a linear Gaussian state-space model.
- c. This representation is then used to calculate the expected yield curve (at several forecast horizons), conditional on the future trajectories of the two macroeconomic variables, according to the relevant NGFS scenario and set between 2025 and 2050. These "conditional" forecasts are obtained using the methodology of Waggoner and Zha (1999)<sup>129</sup>, based on Kalman filtering and smoothing.
- d. Given a country of interest  $i$  and a projection horizon  $h$ , the conditional forecast of the yield curve for the reference scenario ( $RF_{i,t+h}^{ref} = RF_{i,t+h}^{ref}(1y), \dots, RF_{i,t+h}^{ref}(10y)'$ ) and for an alternative scenario  $s$  ( $RF_{i,t+h}^s$ ) is calculated, as well as the difference ( $\Delta RF_{i,t+h}^s$ ), to estimate the distortion of the yield curve caused by the transition from one scenario to the other. See Pegoraro (2025)<sup>130</sup> for a detailed presentation of the methodology.

For each country and each scenario, the shock to yields corresponds to the maximum impact of the transition observed for the entire 2023-45 period. Generally speaking, the transition generates an inflationary shock, resulting in a rise in interest rates followed by a gradual return to equilibrium. This approach is based on the assumption that investor expectations focus on the peak of the shock, leading to an anticipated repricing of sovereign bond prices.

### Modelling the repricing risk of corporate bonds

A regression on historical panel data (2010-2024), downloaded from Eikon Refinitiv, is used to estimate the sensitivity of credit spreads to corporate financial characteristics:

$$Spread_{i,t} = \alpha_t + \beta_1 Leverage_{i,t} + \beta_2 Profitability_{i,t} + \beta_3 Revenue_{i,t} + \beta_4 Controls_{i,t} + \varepsilon_{i,t} \quad (1)$$

With  $Leverage = \frac{Debt_{i,t}}{Assets_{i,t}}$  the company's financial leverage,  $Profitability = \frac{EBITDA_{i,t}}{Assets_{i,t}}$  its profitability and  $Revenue$  its turnover. Controls correspond to the characteristics of the bond (size, maturity, coupon, seniority, early redemption).

The NGFS scenarios provide estimates of revenue, but not directly of leverage or profitability. Two additional empirical relationships are therefore estimated:

$$\frac{\Delta Leverage_{i,t:t+h}}{Leverage_{i,t}} = \alpha_{i,t} + \gamma_1 \frac{\Delta Revenue_{i,t:t+h}}{Revenue_{i,t}} + \varepsilon_{i,t} \quad (2)$$

$$\frac{\Delta Profitability_{i,t:t+h}}{Profitability_{i,t}} = \alpha_{i,t} + \gamma_2 \frac{\Delta Revenue_{i,t:t+h}}{Revenue_{i,t}} + \varepsilon_{i,t} \quad (3)$$

<sup>129</sup> [Waggoner \(D. F.\) and Zha \(T.\) \(1999\)](#), "Conditional forecasts in dynamic multivariate models", *Review of Economics and Statistics*, no 81 (4), pages 639-651.

<sup>130</sup> Pegoraro (F.) (2025), "Regulatory yield curves and climate-related scenarios" *Handbook of Climate Change and Financial Markets*, forthcoming.

Growth in leverage is negatively correlated with revenue growth, as  $\gamma_1 = -0,2$  and growth in profitability is positively correlated with revenue growth, as  $\gamma_2 = 0,7$

For each company  $i$  and each climate scenario, the variation in the spread with respect to the reference scenario is estimated:

$$\begin{aligned} \Delta Spread_{i,t+h}^S &= (1 + \delta) (Spread_{i,t+h}^S - Spread_{i,t+h}^{ref}) = \\ (1 + \delta) &[\beta_1 (Leverage_{i,t+h}^S - Leverage_{i,t+h}^{ref}) \\ &+ \beta_2 (Profitability_{i,t+h}^S - Profitability_{i,t+h}^{ref}) \\ &+ \beta_3 (Revenue_{i,t+h}^S - Revenue_{i,t+h}^{ref})] \end{aligned} \quad (4)$$

The parameter  $\delta$  captures an additional effect linked to changes in investors' environmental preferences, a loss of confidence in brown assets, or portfolio reallocation effects giving rise to a further deterioration in the risk premium by investors. In line with the European stress test Fit for 55, this parameter is set at 0.58.<sup>131</sup>

The change in the price of corporate bonds is then estimated using the adjustment formula related to the duration and convexity of the financial asset in question (taken from Eikon Refinitiv and the *Centralised Securities Database*, CSDB):

$$\frac{\Delta P_{i,t+h}^S}{P_{i,t+h}^{ref}} = -MD_{i,t} \Delta YTM_{i,t+h}^S + \frac{1}{2} C_{i,t} (\Delta YTM_{i,t+h}^S)^2 \quad (5)$$

where  $\Delta P_{i,t+h}^S = P_{i,t+h}^S - P_{i,t+h}^{ref}$  corresponds to the price variation between the transition scenario and the reference scenario and  $\Delta YTM_{i,t+h}^S = \Delta Spread_{i,t+h}^S + \Delta RF_{i,t+h}^S$  represents the variation in the yield to maturity of the security.  $MD$  is the modified duration of the bond and  $C$  is its convexity. In this exercise, the time horizon considered is 2045. However, asset prices may be repriced before this horizon if investors factor into their prices the future deterioration in the economic and financial conditions of companies exposed to transition risk.

### Modelling the repricing risk of equities

Stock market valuations are estimated using the H-Model of Fuller and Hsia (1984)<sup>132</sup>, an extension of the method of Gordon and Shapiro (1966), which introduces a gradual convergence of the dividend growth rate towards its long-term value.

$$P_{i,t+h}^S = \frac{D_{i,t} [(1 + g_{LT,i}^S) + H (g_{CT,i}^S - g_{LT,i}^S)]}{r_{i,t+h}^S - g_{LT,i}^S} \quad (6)$$

With  $P^S$  the value of the stock in each period,  $D$  the dividend paid over the last twelve rolling months,<sup>133</sup>  $g_{CT}^S$  and  $g_{LT}^S$  the short-term and long-term dividend growth rates, estimated from projected revenue:

$$g_{CT,i}^S = \left( \frac{Revenue_{i,2030}^S}{Revenue_{i,2023}^S} \right)^{1/7} - 1 ; g_{LT,i}^S = \left( \frac{Revenue_{i,2045}^S}{Revenue_{i,2030}^S} \right)^{1/15} - 1 \quad (7)$$

<sup>131</sup> Expressed as a simple multiplier, the dynamics of fire sales increase first-round losses by a factor of 0.58. Although modelling second-round effects is complex and the multiplier is in fact unlikely to scale linearly, it gives an idea of the relative magnitude of amplifications due to fire sales.

<sup>132</sup> Fuller (R. J.), Hsia (C.) (1984), "A simplified common stock valuation model", *Financial Analysts Journal*, n°40 (5), pages 49-56.

<sup>133</sup> Earnings per share (EPS) are used instead of dividends because some companies do not pay dividends and we have better coverage for this variable. Prices and EPS are downloaded from Eikon Refinitiv.

The parameter  $H$  in equation (6) corresponds to half of the convergence time to the long-term growth rate (in years). We consider a value of  $H = 3,5$  in this exercise. Lastly,  $r_i^s$  is the discount rate (*cost of equity*), which can be broken down into a risk-free rate and a risk premium:

$$r_{i,t+h}^s = r_{i,t}^{ref} + RP_{i,t+h}^s \quad (9)$$

where  $RP_{i,t+h}^s$  is the additional risk premium for scenario  $s$ , proxied in this exercise by  $RP_{i,t+h}^s = \Delta Spread_{i,t+h}^s + \Delta RF_{i,t+h}^s$ <sup>134</sup>

$r_{i,t}^{ref}$  represents the reference discount rate which is deduced from the current price by an inversion of the H-Model assuming that investor expectations are currently anchored in the reference scenario:

$$r_{i,t}^{ref} = \frac{D_{i,t}}{P_{i,t}} [(1 + g_{LT,i}^{ref}) + H (g_{CT,i}^{ref} - g_{LT,i}^{ref})] + g_{LT,i}^{ref} \quad (10)$$

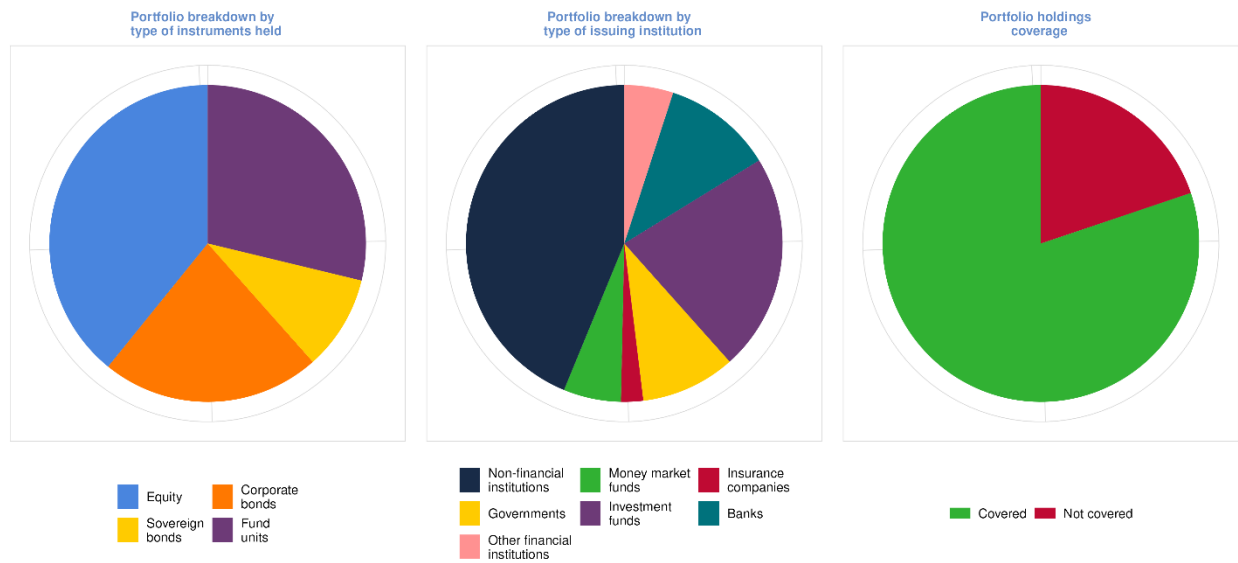
Lastly, the equity repricing between the transition scenarios and the reference scenario is given by  $\frac{\Delta P_{i,t+h}^s}{P_{i,t+h}^{ref}}$ ,

with  $\Delta P_{i,t+h}^s = P_{i,t+h}^s - P_{i,t+h}^{ref}$ .

<sup>134</sup> This approach is inspired by the work of [Allen \(T.\)](#), [Dées \(S.\)](#), [Caicedo Graciano \(C. M.\)](#), [Clerc \(L.\)](#), [de Gaye \(A.\)](#), [Lisack \(N.\)](#), [Pegoraro \(F.\)](#) and [Rabaté \(M.\)](#) (2024), "An analytical framework for assessing climate transition risks: an application to France", *Review of World Economics*, July, pages 1-57.

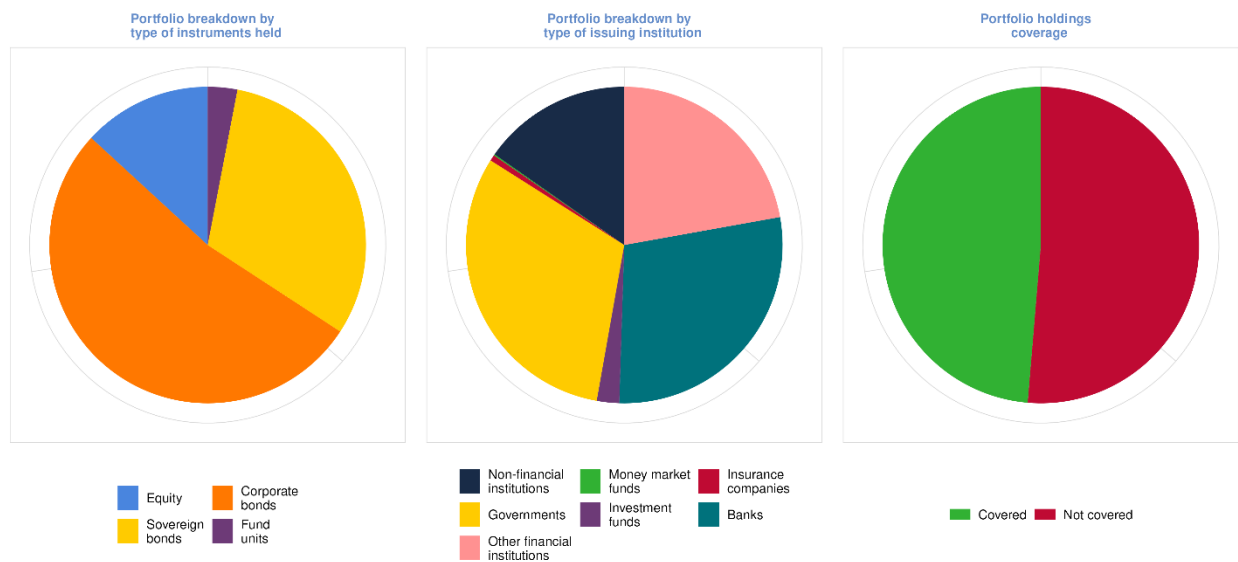
## Appendix - Additional charts

Chart 2.12: Breakdown of French investment fund portfolios



Note: This series of charts shows the breakdown of the investment fund portfolio by (i) type of instrument held, (ii) type of issuing institution, and (iii) the percentage of the portfolio for which repricing risk is estimated before imputation.

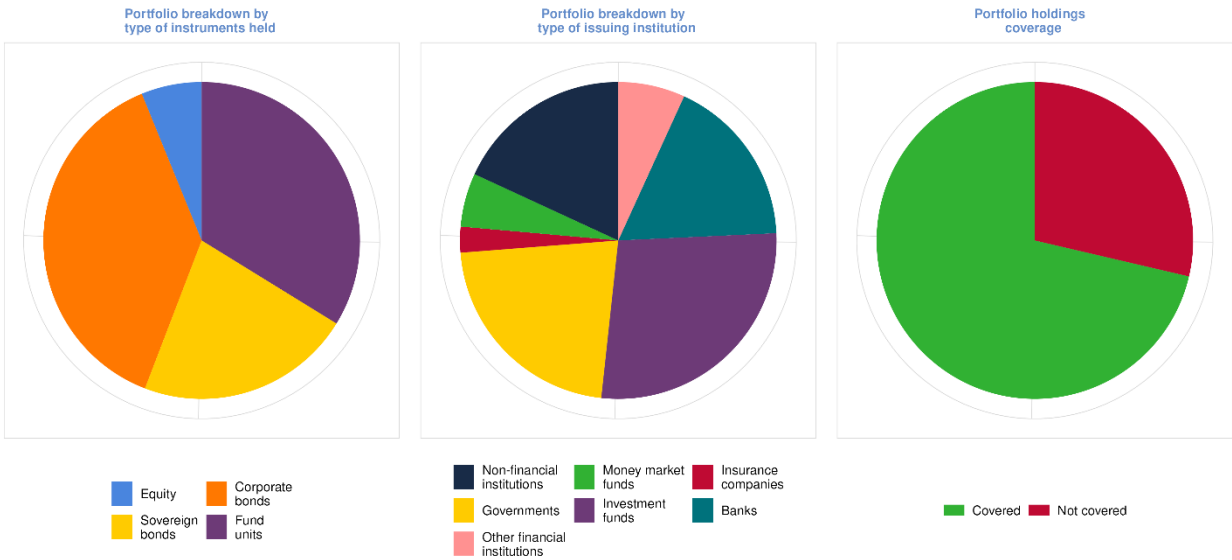
Chart 2.13: Breakdown of the portfolio of French banks



Sources: NGFS Phase III, BloombergNEF, Eikon Refinitiv, SHS-S; Banque de France calculations; data at end-June 2024.

This series of charts shows the breakdown of banks' portfolios by (i) type of instrument held, (ii) type of issuing institution, and (iii) the percentage of the portfolio for which repricing risk is estimated before imputation. The large proportion of unhedged assets stems from the majority share of securities issued by financial institutions in the portfolio.

Chart 2.14: Breakdown of French insurers' portfolios



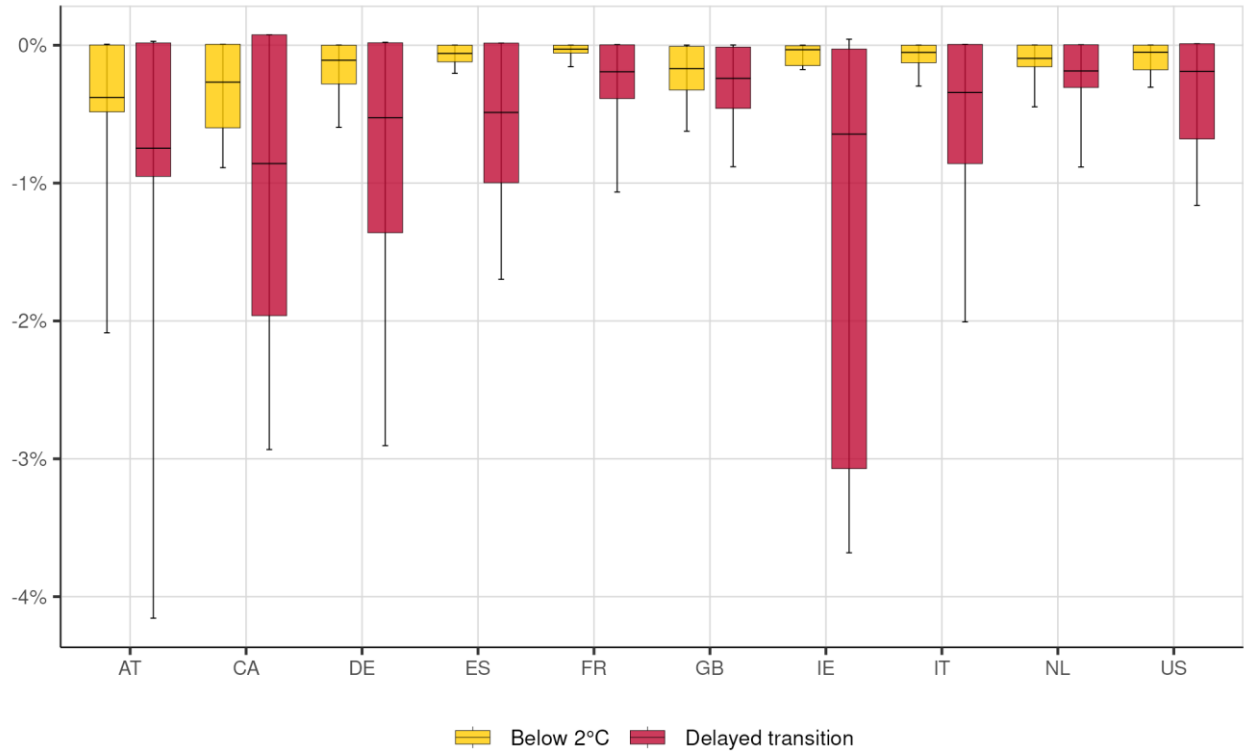
Sources: NGFS Phase III, BloombergNEF, Eikon Refinitiv, SHS-S; Banque de France calculations; data as at end-June 2024.

Data: end June 2024

Note: This series of charts shows the breakdown of the portfolio of insurance companies by (i) type of instrument held, (ii) type of issuing institution, and (iii) the percentage of the portfolio for which repricing risk is estimated before imputation. The relatively high proportion of unhedged assets is mainly due to the presence of securities issued by financial institutions in the portfolio.

Chart 2.15: Distribution of estimated repricing for sovereign bonds

x: issuing country / y: repricing (%)



Sources: NGFS phase III <sup>15</sup>, BloombergNEF, Eikon Refinitiv, SHS-S; Banque de France calculations; data as at end-June 2024.

Note: Austria (AT), Canada (CA), Germany (DE), Spain (ES), France (FR), United Kingdom (GB), Ireland (IE), Italy (IT), Netherlands (NL), United States (US). The countries represented are the ten largest bond issuers in the database (SHS-S). The estimated repricing is based on the 2023-45 projection horizon of the NGFS scenarios. For each country and each scenario, the shock to interest rates corresponds to the maximum impact of the transition observed over the entire period. The horizontal line in the box represents the average weighted by outstanding sovereign bonds. The edges of the box represent deciles 1 and 9, and the extension lines the percentiles 1 and 99.

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