

Why has the saving ratio remained historically high in France since the end of the pandemic?

The sudden rise in France’s saving ratio during the pandemic can be explained by shop closures and the fact that income levels remained largely stable thanks to public support. At the end of the pandemic, a portion of these forced savings was reabsorbed, yet the saving ratio remained higher than in 2019 and even rose in 2023-24. We identify four explanatory factors: consumption smoothing, income composition effects (strong growth in financial income with the rise in interest rates), inflation-linked losses and the impact of uncertainty. Disinflation and monetary policy normalisation should mitigate composition and inflation effects. However, domestic and global uncertainty could continue to support France’s saving ratio.

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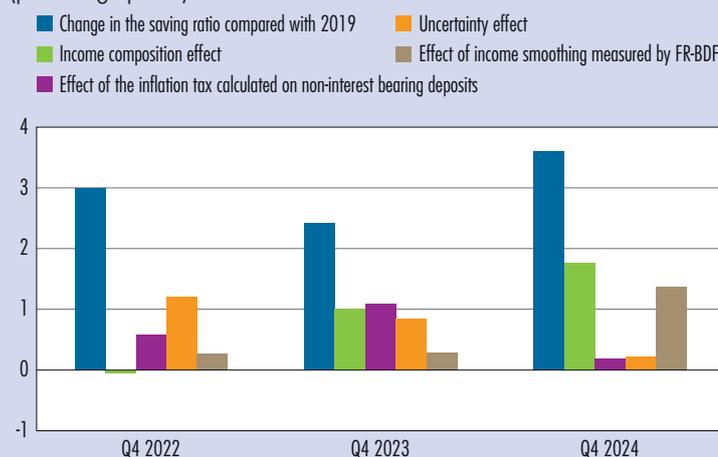
+3.6 percentage points
 increase in the saving ratio between
 end-2019 and end-2024

+1.8 percentage points
 increase explained by income
 composition effects

+1.4 percentage points
 increase explained by consumption
 smoothing

Cumulative impact over the period (2022-24) of the different determinants of the change in the saving ratio between end-2019 and end-2024

(percentage points)



Source: *Institut national de la statistique et des études économiques* (INSEE; quarterly national accounts); authors’ calculations.

Note: Income composition effects are estimated to have contributed 1.8 percentage points to the rise in the French household saving ratio between the fourth quarter of 2019 and the fourth quarter of 2024. The different contributions are not necessarily cumulative.

France’s household saving ratio reached historical highs during the Covid crisis. While “forced savings” declined once public health restrictions were lifted, the saving ratio has still not returned to its pre-crisis level. At the end of 2024, it remained 3.5 percentage points higher than at the end of 2019.

We study several possible causes for France’s persistently high saving ratio. First, we look at “fundamental” factors linked to consumer behaviour – specifically, consumption smoothing by households in response to income fluctuations and intertemporal substitution between savings and consumption. Second, we assess the impact of the structure of household disposable income, which was strongly influenced by rapid growth in investment income between 2022 and 2024. We then examine the inflation-related losses incurred on household wealth in 2022 and 2023, which can also affect saving behaviour. Lastly, we analyse how uncertainty may have increased precautionary savings.

We quantify these factors separately, but they may share common determinants (inflation, monetary policy response, etc.) and are not necessarily cumulative. Taken together, however, they help to form a comprehensive macroeconomic view of household consumption, which has implications for the Banque de France’s medium-term projections.

1 The recent divergence between permanent income and current income may have prompted households to increase their saving ratio

The smoothing of income fluctuations and intertemporal substitution between present and future consumption may have contributed to the rise in the saving ratio. We estimate this effect with the FR-BDF model (Lemoine et al., 2019), which the Banque de France uses for its medium-term projections and to simulate macroeconomic policies or shocks.

In this model, households seek to optimise their consumption over time according to their expectations of future income – or permanent income – and the real interest rate gap (versus a long-term target). In the short run, the path of

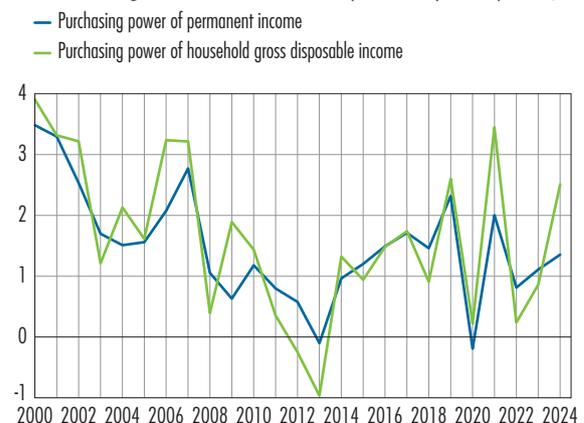
consumption also depends on changes in the output gap and in the real interest rate gap (see Appendix 1).

The modelling reveals two phenomena. The first is that households respond to income fluctuations by smoothing their consumption over time. When current income rises unexpectedly, or when households regard current rises in purchasing power to be temporary, their consumption remains stable and their savings rise. The second effect is the intertemporal substitution between present and future consumption through savings, which depends on the real interest rate.

Chart 1 compares the purchasing power of permanent income calculated using the FR-BDF model with the purchasing power of household gross disposable income. Over the long run, fluctuations in household purchasing power are mainly concentrated in permanent income. However, between 2020 and 2024, effective purchasing power grew more rapidly than the purchasing power of permanent income, which may have led households to smooth their consumption. They may have regarded recent increases in their income, and notably in income from wealth – which is largely influenced by inflation and the concomitant rise in interest rates – as temporary.¹

C1 Change in the purchasing power of household gross disposable income and permanent income

(annual % change, chained volumes at previous year’s prices)

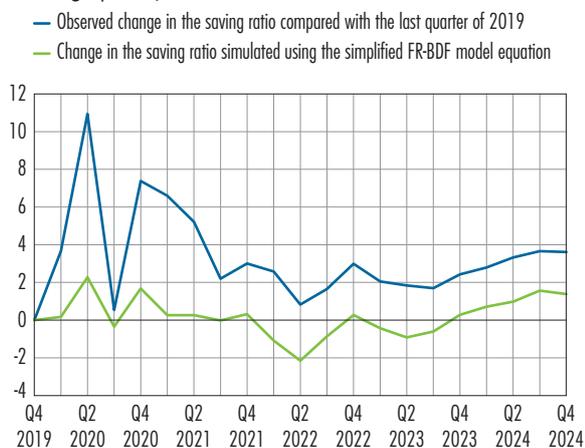


Sources: Institut national de la statistique et des études économiques (INSEE); Banque de France calculations.

¹ According to Deutsche Bank (Winkler and Schattenberg, 2024), German households’ weak expectations for future income may have weighed on consumption, despite an improvement in real current income.

C2 Impact of FR-BDF determinants on the cumulative change in the saving ratio

(percentage points)



Sources: *Institut national de la statistique et des études économiques* (INSEE); authors' calculations.

Note: The determinants of the FR-BDF household consumption equation are estimated to have contributed 1.4 percentage points to the rise in the French household saving ratio between the fourth quarter of 2019 and the fourth quarter of 2024.

To quantify the effect of these determinants on the saving ratio, we simulate the FR-BDF equation on the period 2020-24. We then interpret the simulated deviation of the saving ratio from its level in the last quarter of 2019 as the contribution of the FR-BDF equation determinants to the rise in the saving ratio. According to our simulation, these determinants account for a 1.4-percentage-point rise in the fourth quarter of 2024 (see Chart 2). The rise stems primarily from the difference in growth rates between household current income and permanent income – with the latter rising more slowly – whereas the intertemporal substitution effect is marginal.

2 Income composition effects, linked notably to strong growth in financial income in 2023 and 2024, may have encouraged saving

Changes in the composition of household disposable income also contributed to the rise in the saving ratio over the recent period, as different components of disposable income (labour income, investment income, transfers) are not saved to the same extent.

Between 2020 and the end of 2024, the components of household income grew at different rates. Income from investments grew markedly in 2023 and 2024 with the rise in inflation and monetary policy response. Indeed, European Central Bank (ECB) rate hikes were passed through to returns on term deposits and euro-denominated life insurance products, while the interest households pay on their loans, most of which carry fixed rates, increased more moderately. Interest rates on some passbook savings accounts, which are inflation-based, also increased, as did other forms of financial income, including dividends. As a result, the share of investment income in household income expanded by 2 percentage points compared with 2019.

These changes in the composition of household income may have pushed up savings.² The tendency to save investment income, especially financial income, is higher than the average for other types of income. A large share of financial income, such as income from life insurance products, is immediately reinvested and recorded as both household income and savings in the national accounts. Moreover, financial income is generally earned by wealthier households who have a greater marginal propensity to save (Beatriz, Billot and Laboureau, 2019). In the recent period, the rise in the nominal value of financial income also reflects compensation for losses in real value caused by high inflation in 2022 and 2023. As a result, households did not perceive these increases as genuine gains that could be consumed.

To quantify this effect, we rely on a consumption equation similar to that of Ouvrard and Thubin (2020), in which income composition effects are captured by the shares in total income of investment income (including net financial income), taxes and social security contributions, and the gross operating surplus of the self-employed.

In this framework, an increase in the share of investment income or decrease in the share of taxes and social security contributions raises the saving ratio. Conversely, a higher share of gross operating surplus of the self-employed has

2. Two other factors linked to composition effects may have played a role in 2024. Retirement pensions also rose in 2024: according to Cupillard et al. (2025), retirees only consumed a limited portion of this additional income, helping to drive the saving ratio upwards.

a positive impact on consumption (see the equation's response functions in Appendix 1).

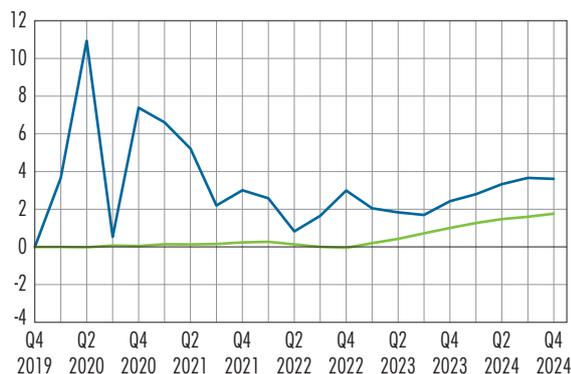
We simulate two scenarios over the period 2020-24. In the first, we use the weights of each income component as observed in data from the *Institut national de la statistique et des études économiques* (National Institute of Statistics and Economic Studies, hereafter INSEE). In the second scenario, we fix the weights at their level in the fourth quarter of 2019. The change in total income is identical in both scenarios. We interpret the difference between the saving ratios in the two simulations as being the contribution of composition effects to the rise in the saving ratio compared with its pre-Covid level.

According to our estimates, composition effects began to play a role as of 2023 (see Chart 3), when household interest rates began to rise following the monetary policy decisions. Changes in the composition of income are estimated to have pushed the saving ratio up by 1.8 percentage points in the fourth quarter of 2024 compared with the fourth quarter of 2019.

C3 Impact of changes in the composition of household income on the cumulative change in the saving ratio

(percentage points)

- Change in the saving ratio compared with the fourth quarter of 2019
- Income composition effect



Sources: *Institut national de la statistique et des études économiques* (INSEE); Banque de France calculations.

Note: Changes in the composition of household income are estimated to have contributed 1.8 percentage points to the rise in the French household saving ratio between the fourth quarter of 2019 and the fourth quarter of 2024.

3 Households may have saved more to compensate for the erosion in real wealth in 2022 and 2023

The third factor we examine – which we already mentioned for financial income – is the erosion of households' real wealth caused by the spike in inflation in 2022 and 2023. During this period, households may have saved more to offset inflation-related losses.³ Appendix 2 shows that the annual change in households' real net worth partly depends on the erosion in the real value of their net assets caused by inflation ("inflation-related" losses).

However, not all components of household wealth are affected equally; some assets are revalued in line with inflation. For instance, the value of real estate assets and equities is more or less correlated with inflation. In contrast, currency and deposits are only revalued marginally or not at all. The value of other assets (such as fixed-income bonds) may even fall, in addition to incurring inflation-related losses.

Based on these characteristics, inflation-related losses can be calculated using only items that earn little or no interest or whose returns are below inflation, namely deposits and medium and long-term fixed income products. The inflation-related losses on the real value of currency and sight deposits (the narrowest category of currency and deposits) are estimated to be EUR 9.0 billion in 2021 for average annual inflation of 1.4%. This rises sharply to EUR 50 billion in 2023, with inflation of 7%, before coming back to EUR 13 billion in 2024 with inflation at 2.2% (see table).

Using the FR-BDF consumption equation (described in section 1), we attempt to capture the effect of economic agents' behaviour in response to these inflation-related losses.

We run two simulations from end-2019 to end-2024. In the first, we take into account real household gross disposable income. In the second, we use this income

³ See Geerolf (2024) on what he calls the "inflation tax" and its implications for the saving ratio.

Annual inflation-related losses on household currency and deposits

(inflation in%; currency and deposits, investments, outstanding loans and fixed income products in current EUR billions; inflation-related losses in EUR billions at 2020 prices)

	2019	2020	2021	2022	2023	2024
Inflation (index of final household consumption expenditure prices)	0.8	0.8	1.4	4.9	7.0	2.2
Currency and sight deposits (non-interest bearing deposits)	570.4	660.9	725.1	742.7	695.1	692.0
Inflation-related losses^{a)}	-4.2	-4.4	-9.0	-35.2	-49.0	-13.4
Currency and deposits	1 574.2	1 728.9	1 843.1	1 930.7	1 982.6	2 012.8
Inflation-related losses^{a)}	-12.0	-12.0	-23.5	-89.6	-127.4	-38.1
Investments in fixed income products ^{b)} (A)	3 480.3	3 649.4	3 734.8	3 574.9	3 661.8	3 756.3
Outstanding loans to individuals ^{c)} (B)	1 342.0	1 414.1	1 342.0	1 414.1	1 342.0	1 414.1
Fixed income products net of debt (A) – (B)	2 138.3	2 235.3	2 392.8	2 160.8	2 319.7	2 342.2
Inflation-related losses^{a)}	-14.9	-16.3	-30.4	-116.3	-142.5	-44.6

Sources: Banque de France; authors' calculations.

Note: Data published under "Households and NPISHs" (S14+S15; NPISH, non-profit institution serving households) have been grouped together under "Households" (S14) in line with loan data.

a) Calculated by applying inflation in year Y to outstanding currency and deposits in year Y – 1, at 2020 prices.

b) Currency and deposits (F2); money market fund shares/units (F521); euro-denominated life insurance and savings (F62B); debt securities (F3); indirectly held debt securities (CIU).

c) Mortgage loans and consumer credit.

adjusted for inflation-related losses (as shown in the table). The difference between the saving ratios in the two simulations is interpreted as the contribution of inflation-related losses to the rise in the saving ratio versus its pre-Covid level.

We consider three types of inflation-related losses:

- losses on all household deposits, which corresponds to a maximum estimate;
- losses on non-interest bearing deposits alone, which is the minimum estimate;
- losses on fixed income products net of debt, which is an intermediate estimate.

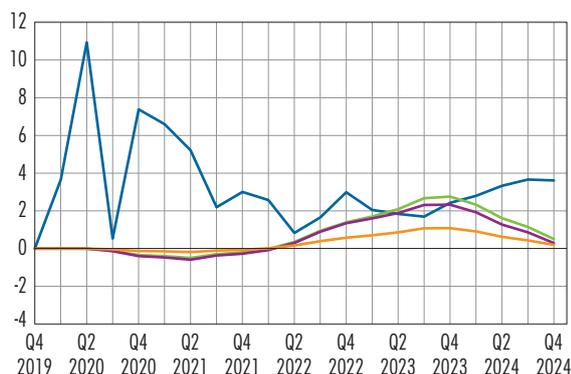
Depending on the measure used, inflation-related losses are estimated to have increased the household saving ratio by between 0.2 percentage point and 0.5 percentage point in the fourth quarter of 2024 (see Chart 4). The effect is estimated to have peaked at the end of 2023, at between 1.1 percentage points and 2.8 percentage points, before declining as inflation eased.

An alternative approach is to quantify the impact of higher inflation directly using an equation where consumption is dependent on inflation (measured as a deviation from trend). According to this equation (see Appendix 3), the contribution of inflation to the saving ratio peaked at 1.3 percentage points in the first quarter of 2024. This result is similar to our "minimalist" estimate of the impact of inflation-related losses and still amounts to 0.8 percentage point at the end of 2024.

C4 Impact of inflation-related losses on the cumulative change in the saving ratio

(percentage points)

- Change in the saving ratio compared with the fourth quarter of 2019
- Effect of inflation-related losses calculated on total household deposits
- Effect of inflation-related losses calculated on fixed income products net of debt
- Effect of inflation-related losses calculated on non-interest bearing deposits



Sources: *Institut national de la statistique et des études économiques* (INSEE); authors' calculations.

Note: The inflation-related losses calculated on non-interest bearing deposits are estimated to have contributed 0.2 percentage point to the rise in the French household saving ratio between the fourth quarter of 2019 and the fourth quarter of 2024.

4 Uncertainty increased households' precautionary savings

The final factor we examine is uncertainty and its impact on households' precautionary saving behaviour. Since the Covid-19 pandemic, uncertainty has remained elevated – initially due to the war in Ukraine and resurgence of inflation, then because of domestic political developments and uncertainty over US trade policy.

Several indicators can be used to estimate how uncertainty influences precautionary savings. Some measure uncertainty in financial markets – in France, for example, the CLIFS France index⁴ compiled by the ECB is a composite measure of financial stress in several market segments. Other indicators measure uncertainty linked to economic policies, such as the Economic Policy Uncertainty index or EPU.⁵ Household and business surveys also provide an indication of uncertainty or confidence. INSEE's monthly consumer confidence survey, for instance, provides a balance of households' opinions on whether it is a good time to make major purchases (purchase intention index), which gives an indication of how confident they feel about their future financial situation.

To study the effect of uncertainty on household consumption, we build on the work of Gebauer, Ouvrard and Thubin (2021), and use a simplified consumption equation from the FR-BDF model. We augment this equation with the change in INSEE's purchase intention index and the CLIFS index (see equation in Appendix 1).

Both indicators deteriorated in 2020 with the onset of the Covid-19 pandemic. They improved in 2021 but deteriorated again more markedly in 2022 with the outbreak of the war in Ukraine. Since then, the CLIFS index has declined in annual average terms and fell below its long-term average in 2024. The purchase intention index has also improved since mid-2023 but remains below its long-term average.

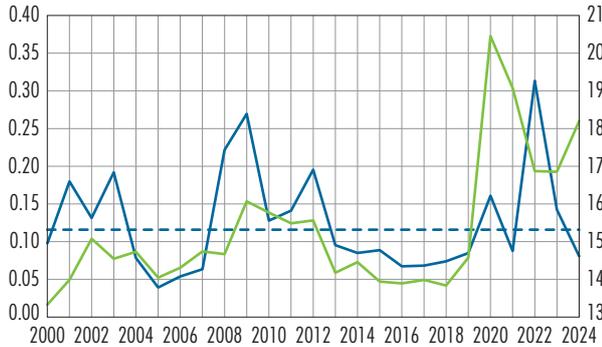
4 Country-Level Index of Financial Stress: data can be found at [CLIFS.M.FR_Z.4F.EC.CLIFS_CI.IDX](https://www.ecb.europa.eu/press/pr/20230901/clifs/index) | ECB Data Portal.

5 See Baker, Bloom and Davis (2016). The EPU index is available at www.policyuncertainty.com.

C5 Change in the CLIFS uncertainty indicator in the period 2000-24

(annual average, indicator calculated as the probability of observing an episode of financial stress)

- Uncertainty indicator (left-hand scale)
- - - Average indicator 1995-2019 (left-hand scale)
- Saving ratio (right-hand scale)



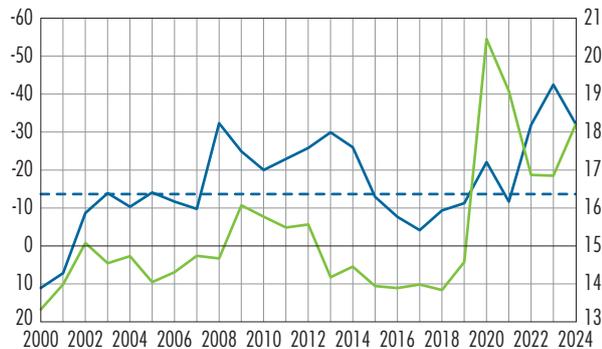
Sources: *Institut national de la statistique et des études économiques* (INSEE) and European Central Bank (ECB); authors' calculations.

Note: CLIFS, Country-Level Index of Financial Stress (published by the ECB).

C6 Change in the purchase intention indicator in the period 2000-24

(percentage points)

- Confidence indicator (left-hand scale, inverted scale)
- - - Average of the indicator 1995-2019 (left-hand scale, inverted scale)
- Saving ratio (right-hand scale)



Sources: *Institut national de la statistique et des études économiques* (INSEE) and European Central Bank (ECB); authors' calculations.

To quantify the effect of higher uncertainty and lower household confidence on the saving ratio from 2019 to 2024, we simulate two scenarios using our equation. In the first, the uncertainty indicators remain at their pre-Covid level, while in the second they follow observed data. The difference between the two simulated saving ratios is interpreted as the contribution of higher uncertainty

C7 Impact of uncertainty on the cumulative change in the saving ratio

(percentage points)

- Change in the saving ratio compared with the fourth quarter of 2019
- Uncertainty effect



Sources: *Institut national de la statistique et des études économiques* (INSEE); authors' calculations.

Note: Uncertainty indicators are estimated to have contributed 0.2 percentage point to the rise in the French household saving ratio between the fourth quarter of 2019 and the fourth quarter of 2024.

to the observed rise in the saving ratio. The impact of uncertainty peaked twice at above 1 percentage point (see Chart 7): first in 2020 during the first lockdowns, and second in the first half of 2023, a year after the start of the war in Ukraine. The impact of uncertainty on the saving ratio then diminished and was only 0.2 percentage point in the last quarter of 2024.

However, this estimate does not factor in the direct effect of policy uncertainty – as measured by the EPU index, for example – on the household saving ratio. According to our estimates, consumption equations that factor in the EPU over the long run perform less well econometrically – both in terms of coefficient significance and the stationarity of residuals – than the equation we ultimately chose. That said, the EPU has risen markedly since 2024 and the dissolution of the National Assembly. Consequently, our estimates, which exclude the EPU, may be seen as representing the lower bound for the impact of political and fiscal uncertainty on household consumption. Using equations that factor in the EPU, we estimate the impact of uncertainty on the saving ratio, including the direct impact of policy uncertainty, at 0.5 percentage point in the fourth quarter of 2024. The impact is then estimated to have risen over 2025. This estimate is consistent with the current level of the saving ratio.

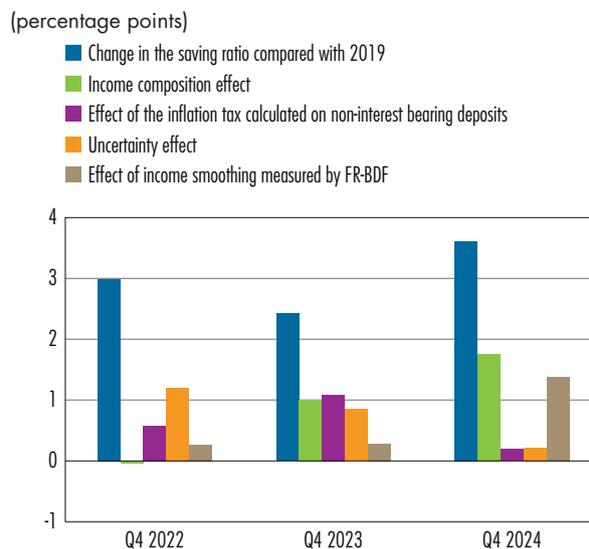
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In this article, we examine four factors behind the rise in the saving ratio between 2019 and 2024 (consumption smoothing, composition of income, inflation-related losses and uncertainty). Consumption smoothing is found to account for a 1.4-percentage-point rise in the saving ratio at end-2024 compared with the pre-Covid period. Changes in the composition of household income, and especially strong growth in investment income, account for a rise of 1.8 percentage points in the last quarter of 2024. Inflation-related losses, the impact of which peaked in 2023 before gradually fading, explain between 0.2 percentage point and 0.5 percentage point of the increase at end-2024. The contribution of uncertainty peaked at around 1 percentage point on two occasions (during the Covid and Ukraine crises) but subsequently declined to around 0.2 percentage point at end-2024.

This last estimate only factors in the indirect impact of political and fiscal uncertainty (via the rise in the CLIFS or fall in the purchase intention indicator). It should therefore be seen as the lower bound. Alternative estimates that include the direct impact of policy uncertainty on the saving ratio, such as the EPU index, put the contribution of uncertainty at 0.5 percentage point at end-2024. The Banque de France's most recent *Macroeconomic projections*⁶ (December 2025) also include an estimate of the overall impact of uncertainty in France, putting the cost at 0.5 percentage point in terms of GDP growth, of which 0.2 percentage point is attributable to France's political environment.

It is important to note that these four factors are quantified separately and are not necessarily additive as they may cover similar phenomena. For example, higher inflation and the monetary policy response simultaneously affect

C8 Cumulative impact over the period (2022-24) of the different determinants of the change in the saving ratio between end-2019 and end-2024.



Sources: *Institut national de la statistique et des études économiques* (INSEE; quarterly national accounts); authors' calculations.

Note: Income composition effects are estimated to have contributed 1.8 percentage points to the rise in the French household saving ratio between the fourth quarter of 2019 and the fourth quarter of 2024. The different contributions are not necessarily cumulative.

households' permanent income, their estimate of inflation-related losses and the composition of their income. The inflationary period also heightened uncertainty, weighing on household expectations of future income.

What does this imply for the future level of the saving ratio? As the inflationary shock dissipates and monetary policy eases, income composition effects should fade if the share of financial income in gross disposable income continues to decline alongside interest rates. The most difficult factor to forecast is uncertainty: after easing at the start of 2024, it rose again in 2025 with the political events in France and uncertainty over trade policies. This could continue to influence household savings over the medium term.

⁶ Banque de France (2025), *Macroeconomic projections – France*, December.

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Appendix 1

Presentation of the equations used in this *Bulletin*

In this appendix, we present the econometric equations used in this *Bulletin*.

Simplified version of the FR-BDF consumption equation

Below is the simplified version of the FR-BDF equation used to quantify the impacts of household consumption smoothing (and intertemporal substitution). It incorporates the main explanatory variables from the FR-BDF equation: permanent income and the real household bank lending rate .

$$\begin{aligned} \Delta c &= -0.03 - 0.20(c_{-1} - y_{-1}^e + 0.83(r_{-1} - (\bar{r}_{-1} - \bar{\pi}_{-1}))) \dots \\ &\quad \begin{matrix} (-3.1) & (-3.8) \end{matrix} \\ &\quad + 0.40\Delta(\widehat{gdp}) - 0.94\Delta(r - (\bar{r} - \bar{\pi})) \dots \\ &\quad \begin{matrix} (4.4) & (-1.8) \end{matrix} \\ &\quad + \text{dummies} \end{aligned}$$

Adjusted R² = 38 %

where:

- c : log of household consumption, in volume;
- y^e : log of household permanent income, in volume;
- \widehat{gdp} : divergence between actual real GDP and potential GDP, as a ratio of potential GDP;
- r : real household bank lending rate;
- \bar{r} : long run target for short rates (3-month EURIBOR) in the FR-BDF model;
- $\bar{\pi}$: 10-year inflation expectation in the FR-BDF model;
- *dummies*: indicative variables capturing specific events, e.g. the "prime à la casse" (government car scrapping allowance).

Consumption equation with income composition effects

Below we show the econometric equation used to measure the impact of income composition on the saving ratio. It is estimated for the period 1996-2019, and hence excludes the Covid period which distorts econometric estimates.

$$\begin{aligned} \Delta c = & -0.07 + 0.20 \Delta y_{-1} - 0.45\% \Delta u + \text{dummies} \dots \\ & (-2.1) \quad (3.0) \quad (-2.5) \\ & -0.24(c_{-1} - y_{-1} \dots \\ & (-3.6) \\ & + 0.56 \text{weight}_{\text{investment}-1} - 0.77 \text{weight}_{\text{tss}-1} - 0.95 \text{weight}_{\text{gos}-1}) \\ & (-1.9) \quad (3.7) \quad (4.0) \end{aligned}$$

Adjusted R² = 51 %

where:

- c : log of household real consumption;
- y : log of household real income;
- u : unemployment rate;
- $\text{weight}_{\text{investment}}$: share of investment income in gross disposable income (GDI);
- $\text{weight}_{\text{tss}}$: share (positive) of taxes and social security contributions in GDI;
- $\text{weight}_{\text{gos}}$: share of gross operating surplus of the self-employed in GDI;
- dummies : indicative variables capturing specific events such as the "prime à la casse".

According to this equation, a shift in the composition of income caused by a decline in taxes and social security contributions (reduction of 1 percentage point in their share of GDI, at constant total income) increases the saving ratio by around 0.6 percentage point. If the shift is caused by investment income (rise of 1 percentage point in its share of GDI, at constant total income¹), the saving ratio rises by 0.4 percentage point. Households therefore have a lower-than-average marginal propensity to consume these two components. The opposite applies for social transfers and gross operating surplus of the self-employed.²

¹ To apply a shock of 1 percentage point of GDI to one of the components of income while keeping total income unchanged, and thereby capture a pure income composition effect, we distribute a 1-percentage-point fall in GDI to all other components on a prorata basis; i.e. in proportion to their initial share in household income.

² The weights of wages and social transfers do not appear directly in the equation, but we can make assumptions regarding the shift in income structure that would occur with a 1-percentage-point rise in the share of wages and transfers in GDI combined with a 1-percentage-point prorata fall in the share of other GDI components.

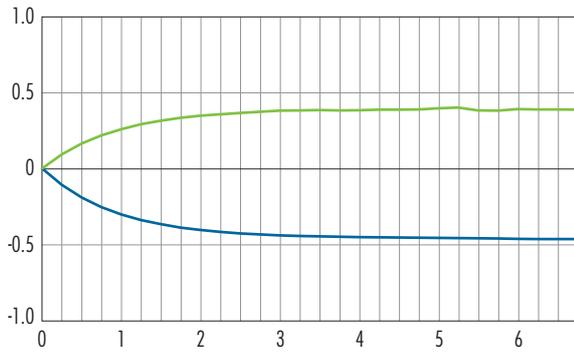
CA1 Response functions of the consumption equation to a 1-percentage-point (1 pp) rise in the share of each component of household gross disposable income, at constant total income

(x-axis: number of years; y-axis: % change in household consumption; percentage-point change in the saving ratio)

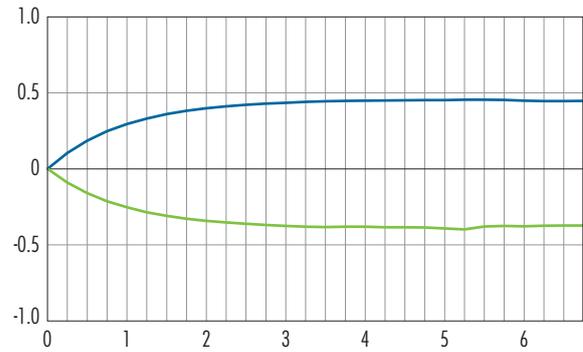
— Change in household consumption

— Change in the saving ratio

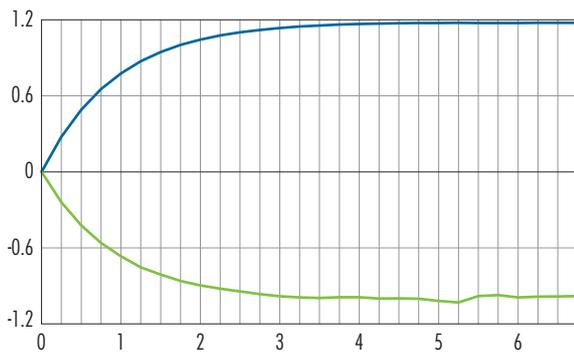
a) Response functions after a positive 1 pp shock to the weight of investment income



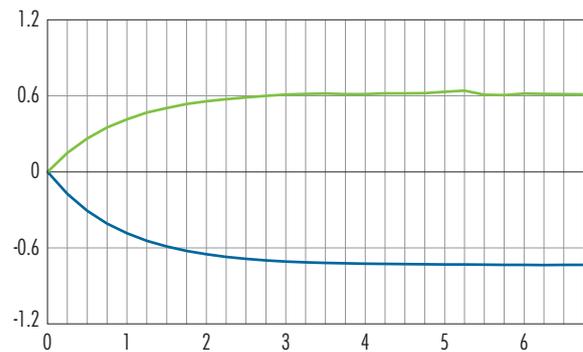
b) Response functions after a positive 1 pp shock to the weight of wages and social transfers



c) Response functions after a positive 1 pp shock to the weight of GOS of the SE



d) Response functions after a negative 1 pp shock to the weight of TSS



Sources: *Institut national de la statistique et des études économiques* (INSEE); authors' calculations.
Note: GOS, gross operating surplus; SE, self employed; TSS, taxes and social security contributions.

Consumption equation with uncertainty indicators

The equation used to measure the impact of uncertainty is estimated for the period 1996-2019 to prevent the Covid crisis from distorting our econometric estimations:

$$\Delta c = \underset{(-3.1)}{-0.03} - \underset{(3.8)}{0.20}(c_{-1} - y_{-1}^e + 1.86(r_{-1} - (\bar{r}_{-1} - \bar{\pi}_{-1}))) \dots$$

$$+ \underset{(4.4)}{0.30}\Delta(\widehat{gdp}) - \underset{(-1.6)}{0.78}\Delta(r - (\bar{r} - \bar{\pi})) \dots$$

$$- \underset{(-2.5)}{0.01}I_{financial}_{-1} + \underset{(4.1)}{3.9 \cdot 10^{-4}}\Delta(I_{confidence}) \dots$$

$$+ \text{dummies}$$

Adjusted R² = 50 %

where:

- c : log of household real consumption;
- y^e : log of household real permanent income;
- \widehat{gap} : divergence between actual real GDP and potential GDP, as a ratio of potential GDP;
- r : real household bank lending rate;
- \bar{r} : long run target for short rates (3-month EURIBOR) in the FR-BDF model;
- $\bar{\pi}$: 10-year inflation expectation in the FR-BDF model;
- $I_{confidence}$: balance of opinion on whether it is a good time to make major purchases in INSEE’s household confidence survey, which is used as an indicator of households’ confidence in the economic situation;
- $I_{financial}$: CLIFS France, the European Central Bank’s composite indicator of financial market stress (CLIFS, Country-Level Index of Financial Stress), which is used as an indicator of financial market uncertainty;
- $dummies$: indicative variables capturing specific events such as the “*prime à la casse*”.

According to this equation, a standard deviation rise in the financial indicator (respectively in the purchase intention indicator) leads to a 0.5% fall (respectively a 0.4% rise) in consumption and a 0.4-percentage-point rise (respectively a 0.4-percentage-point fall) in the saving ratio, at constant income. The effects of confidence shocks are found to be less persistent than those of financial uncertainty shocks (see Charts GA2 a and b):

- the impact of a permanent decline in the economic confidence indicator diminishes over time and disappears after two years;
- a permanent rise in uncertainty as measured by the CLIFS index – which indicates a permanent rise in financial market volatility – has a permanent impact on the level of consumption, according to our equation.³

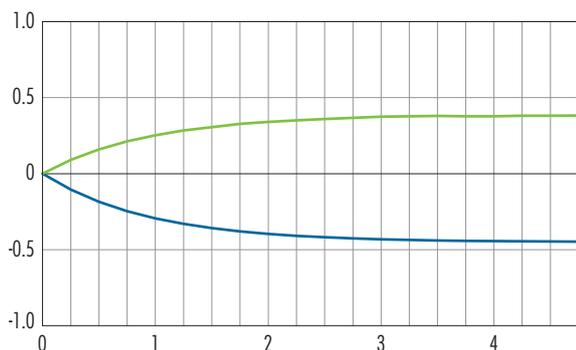
CA2 Response functions of the consumption equation to uncertainty shocks

(x-axis: number of years; y-axis: % change in household consumption; percentage-point change in the saving ratio)

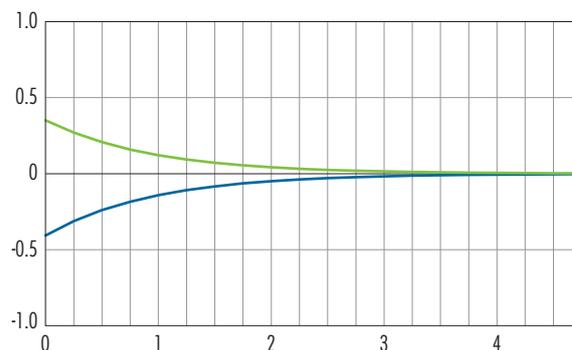
— Change in household consumption

— Change in the saving ratio

a) Response functions after a standard deviation shock to the CLIFS France



b) Response functions after a standard deviation shock to the purchase intention indicator



Sources: *Institut national de la statistique et des études économiques* (INSEE), European Central Bank (ECB); authors’ calculations.
Note: CLIFS, Country-Level Index of Financial Stress published by the ECB.

³ The difference in the consumption response to the two shocks stems from the fact that the financial uncertainty indicator is expressed as a level while the confidence indicator is expressed as a change. This specification increases the equation’s explanatory power and provides meaningful coefficients with a sign that is consistent with economic intuition.

Appendix 2

Calculation of the impact of inflation on net wealth

The National Economy Balance Sheet and Changes in the Balance Sheet shows the financial flows (savings, sales, purchases) and change in stocks of assets and liabilities between two periods, taking into account nominal holding gains (or losses) caused by changes in asset prices over the period. This accounting framework provides useful information for assessing the orders of magnitude involved in a context of price variations.

The change in household nominal net wealth from one year to the next can be expressed as:

$$(1) \quad W = W_{-1} + F - FCC + R + A$$

where:

- W : net value, i.e. the difference between the value of financial and non-financial assets and that of liabilities (which are by nature financial);
- F : flows (essentially equal to gross household savings plus capital transfers received by households, net of transfers paid);¹
- FCC : fixed capital consumption;
- R : revaluation;
- A : adjustments (other positive or negative changes in the volume of assets held); these are marginal in value.

In real terms (adjusted for the index of final consumer prices, p), this equation becomes:

$$(2) \quad \frac{W}{p} = \frac{W_{-1}}{p} + \frac{F}{p} - \frac{FCC}{p} + \frac{R}{p} + \frac{A}{p}$$

or, if we incorporate the inflation rate: $\pi = \frac{p-p_{-1}}{p_{-1}}$:

$$\frac{W}{p} = \frac{W_{-1}}{p_{-1}(1+\pi)} + \frac{F}{p} - \frac{FCC}{p} + \frac{R}{p} + \frac{A}{p}$$

or, in first order terms:

$$\frac{W}{p} \simeq \frac{W_{-1}}{p_{-1}} - \pi \frac{W_{-1}}{p_{-1}} + \frac{F}{p} - \frac{FCC}{p} + \frac{R}{p} + \frac{A}{p}$$

This allows us to calculate the real change in household net worth, and the contributions of its different components, particularly that of the term:

$$(3) \quad -\pi \frac{W_{-1}}{p_{-1}}$$

which measures the erosion of the real value of net wealth caused by inflation.

¹ Flows also include the adjustment required to reconcile the non-financial and financial accounts. The role of this variable is marginal.

Appendix 3

Estimation of the direct impact of inflation on the saving ratio since the Covid crisis

Lacan (2023) proposes measuring the impact of inflation on the saving ratio by directly including the inflation rate (both its level and its change) in a consumption equation. The equation is estimated over the period 1951-2019 so as to capture previous episodes of high inflation and to exclude the Covid period, which distorts econometric estimations. Here, π represents the year-on-year change in the consumption deflator.

$$\begin{aligned} \Delta c = & \underbrace{-0.005}_{(-2.1)} + \underbrace{0.27}_{(6.7)} \Delta y + \underbrace{0.19}_{(4.5)} \Delta y_{-1} \dots \\ & + \underbrace{0.10}_{(2.3)} \Delta y_{-2} + \underbrace{0.14}_{(3.2)} \Delta y_{-5} - \underbrace{0.04}_{(-3.0)} (c_{-1} - y_{-1}) - \underbrace{0.10}_{(-2.3)} \Delta \pi_{-1} + \text{dummies} \\ & \text{Adjusted } R^2 = 38\% \end{aligned}$$

The results show that inflation has only had a moderate and transitory effect on consumption in the recent period: only the first difference of inflation is significant in the equation, while the level of inflation is statistically insignificant.

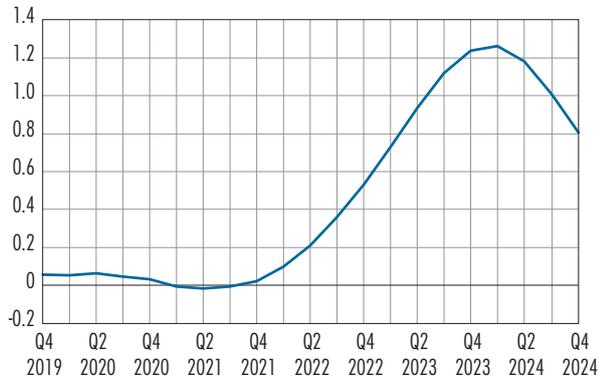
However, we can use an alternative specification by replacing the change in inflation with the inflation surprise (in level), measured as the difference between actual inflation and households' naive forecast (here based on an exponential smoothing with smoothing parameter $\alpha = 10\%$: $\pi^L = (1 - \alpha) \pi_{-1}^L + \alpha \pi$ where π is now the quarterly change in the consumption deflator). The inflation surprise has a significant coefficient in the equation, whereas the coefficient for the change in inflation in the previous equation is no longer significant (equation estimated over the period 1953-2019):

$$\begin{aligned} \Delta c = & \underbrace{-0.008}_{(-3.3)} + \underbrace{0.27}_{(6.6)} \Delta y + \underbrace{0.21}_{(4.8)} \Delta y_{-1} + \dots \\ & \underbrace{0.08}_{(1.8)} \Delta y_{-2} - \underbrace{0.07}_{(-4.4)} (c_{-1} - y_{-1}) - \underbrace{0.07}_{(-3.2)} \epsilon_{-1}^{\pi} + \text{dummies} \\ & \text{Adjusted } R^2 = 38\% \end{aligned}$$

Here, ϵ^{π} denotes the year-on-year inflation surprise when households form a naive expectation (via exponential smoothing).

Impact of inflation surprises on the saving ratio

(percentage points)



Sources: *Institut national de la statistique et des études économiques (INSEE)*; authors' calculations.

We then repeat the previous exercise, this time using the equation with the inflation surprise to simulate the household saving ratio under two scenarios – one with observed inflation over the recent period, and the other with no inflation surprise. Comparing the saving ratios from the two scenarios gives us the estimated impact of inflation surprises on household saving behaviour. The result (see chart opposite) is close to our “minimalist” estimate of the impact of inflation-related losses (calculated on non-interest bearing deposits) on the saving ratio, with a maximum impact of 1.3 percentage points in the first quarter of 2024 (see chart opposite).

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