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Credit and financing

# Rise in interest rates: European companies will not be affected at the same pace

Corporate debt generates a cost linked to the payment of interest. This cost varies according to the level of market interest rates, all the more rapidly as the debt is at a variable rate or has a short maturity. Non-financial corporations based in Italy and Spain have a higher share of variable rate and short-term debt than those in France and Germany; they will therefore be exposed sooner to the cost of the rise in interest rates that occurred over 2022. Assuming interest rates were to rise while outstanding debt remained stable, the average interest rates for companies in these four countries would continue to increase gradually, at different paces. These results are based on detailed data, covering between 49% and 65% of companies' consolidated debt, depending on their country of residence.

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JEL codes
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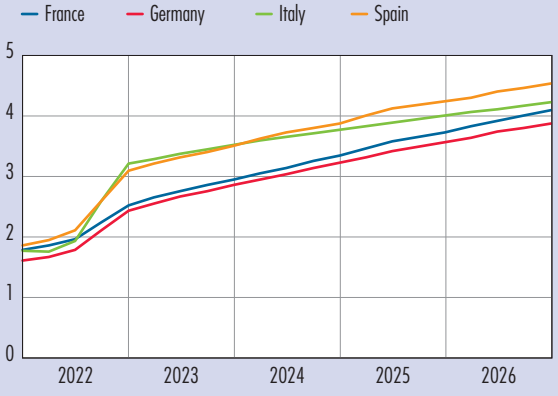
**83%**
share of fixed rate debt of French companies; 80% in Germany, 47% in Italy and 62% in Spain

**3.5 years**
median maturity of French companies' debt at end-2021; 3.4 years in Germany, 2.1 in Italy and 2.6 in Spain

**+0.7%**
simulated increase in the average interest rate paid by French companies on their debt after one year of a sharp rise in rates; +0.8% in Germany, +1.4% in Italy and +1.2% in Spain

**Projection of average rates paid by companies on their debt in the event of an additional 200 basis point rise in interest rates between June and December 2022**
(in %)




Source: Banque de France.

## 1 Companies: economic agents sensitive to rising interest rates

A rise in interest rates such as the one that began in 2022 weighs on the accounts of economic agents with structural financing needs, in particular the State and companies. Precisely measuring the weight of this rise, which could affect the stability of the financial system, depends not only on the total volume of debt contracted, but also on its structure (maturity, breakdown between fixed and variable rates) and its speed of renewal.

This article uses detailed contract-by-contract data gathered by the Eurosystem to reconstruct the aggregate debt structure of non-financial corporations (NFCs, hereafter referred to as "companies") resident in the four largest European economies[1] as at 31 December 2021. Thanks to these data, it is possible to project the increase in the cost of this debt over several years according to the evolution of interest rates.

The exploitation of these data shows that the rise in market interest rates between January and June 2022 will affect Italian and Spanish companies more rapidly than French and German companies. If this rise were to increase by +2% between June and December 2022, the average interest rates on corporate debt in these four countries would continue to rise gradually by 2026. They would reach +2.3% in France and Germany, and even +2.5% in Italy and +2.7% in Spain, compared to January 2022. These differences in behaviour stem from differences between long-term and mainly fixed rate debt structures (French and German companies), the cost of which reacts slowly to changes in rates, and more variable rate debt structures (Italian and Spanish companies), which have a more rapid impact on cost.

More specifically, the survey covers the following types of outstanding debt:[2]

- bank loans extended to companies by euro area banks, as reported by banks in the AnaCredit database,[3] as long as their exposure to the debtor exceeds EUR 25,000;

- debt securities issued by these companies, as documented in the Centralised Securities Database (CSDB) if they are issued or held in the euro area.

With this information, it is possible to project the evolution of these interest-bearing liabilities under simple assumptions of debt renewal, and then to calculate the corresponding average rate according to scenarios of future evolution of borrowing rates. It is thus possible to constitute the aggregate structure of companies' "debt portfolio" in each country studied, characterised by a maturity and rate variability profile, and to estimate it over time.

This approach is in line with the projection models developed by financial institutions for managing their assets and liabilities (Adam, 2012). It differs from macroeconomic approaches to corporate financing (Dees et al., 2022), by deliberately omitting the feedback effect of rate changes on economic activity (Duquerroy et al., 2020). It adds to the comparative analysis of European corporate debt conducted by the International Monetary Fund (Antoun de Almeda and Tressel, 2018) under Article IV, carried out on commercial data (Dealogic and Worldscope).

The analysis covers legal entities classified as non-financial corporations according to the ESA 2010 classification (Eurostat, 2013), i.e. companies mainly involved in the

1 Germany, France, Italy and Spain, which accounted for 74% of euro area gross domestic product in 2021 (source: ECB).
2 These outstanding amounts include debt denominated in euros and foreign currencies, the share of the latter being very low (4% of the total).
3 For the Banque de France: *https://www.banque-france.fr/statistiques/espace-declarants/obligations-reglementaires/collecte-anacredit*

production of non-financial goods and services. The country of residence of a company is the territory in which its economic interest is located. This scope does not include the consolidation of transnational groups. For example, for a group such as Air France-KLM, the scope "debts of French NFCs" includes all bank loans contracted by the group's French entities and the securities issued by its parent company, which is domiciled in France. However, bank loans contracted by the group's Dutch entities are not included.

BOX

## Coverage of corporate debt by detailed data

The sectoral accounts of the national accounts provide the total value of the consolidated debt of all non-financial corporations in each country, regardless of currency. The detailed databases AnaCredit[1] and CSDB,[2] compiled at the Eurosystem level, do not cover all of this debt, for two reasons.

- Debt granted to enterprises by creditors other than banks in the euro area is not reported in AnaCredit: this is the case, for example, of the financing of a company by one of its foreign subsidiaries, or of a loan granted by a bank in the United States. This debt can be significant, as can be seen in particular for German companies.

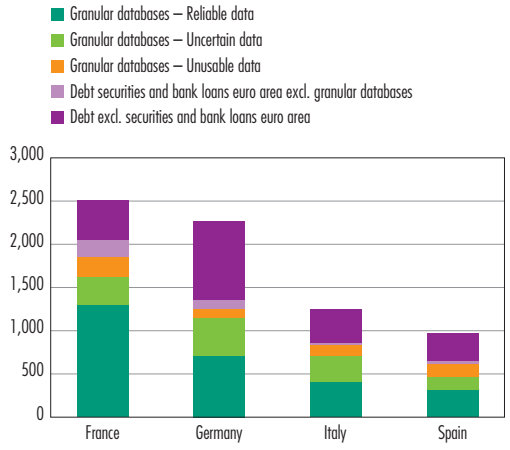
- The unit amounts reported in the detailed databases do not exactly add up to the aggregates calculated at national level. This may be due to threshold effects (small bank loans), incomplete or erroneous reports, or differences in calculation methods.

This study excludes from its scope the use of derivatives by certain companies to hedge or increase their exposure to interest rate risk, particularly through the use of interest rate swaps. A preliminary analysis of these contracts using data gathered in the framework of the European Market Infrastructures Regulation (EMIR) suggests that their weight is low at the aggregate level (see Appendix 1).

The chart below shows the amounts of consolidated financial debt (loans and securities)[3] obtained from the national sectoral accounts of the four countries studied, as well as the part covered by the detailed databases (see Table A1 in Appendix 2). The study presented in this article covers half of the financial debt for German and Spanish companies, 57% for Italian companies and 64% for French companies.

### Consolidated corporate debt at the end of 2021

(EUR billions)




Sources: ECB (QSA database [totals], BSI [euro area bank debt], AnaCredit, CSDB);[4] authors' calculations.
Note: The orange segment corresponds to amounts that are visible in the databases, but which cannot be included in the study because of missing data on interest rates. The light green segment refers to an uncertainty in the interpretation of the data, in particular on the method of amortisation of certain bank loans; for this study, simplified interpretation assumptions have been adopted.

1 AnaCredit: Analytical Credit Datasets.

2 CSDB: Centralised Securities Database.

3 Unlike loans, debt securities are not consolidated in these statistics. Holdings of corporate debt securities by companies in the same country are low (less than 3% according to the sector accounts): consolidation effects can therefore be legitimately neglected.

4 QSA: Quarterly Sectorial Accounts; BSI: Balance Sheet Items.

## 2 Two contrasting debt profiles: long-term fixed rate debt (France) and short-term variable rate debt (Italy)

The aggregate debt maturities obtained by adding up the information obtained from the detailed data show very different characteristics from one country to another. It is possible to define, in aggregate terms and at the extremes, a "French profile" of corporate debt (long-term fixed rate debt), and an "Italian profile" (short-term variable rate debt). German companies' profile is similar to the French one, and Spanish companies display intermediate characteristics.

### French companies: long-term debt mainly at fixed rates

French companies stand out for their high share of debt securities in their financial liabilities: 30% of their consolidated debt at the end of 2021, compared with 10 to 15% for the other three countries studied. In the scope described by the detailed data, this share rises to 41%.

Reconstituting the debt maturities (see Chart 1a) in this scope shows a large preponderance of fixed rate debt with a fairly long average maturity. After taking into account the different amortisation methods, over a third (38%) of the amounts borrowed are to be repaid after more than five years.

The combination of these two characteristics guarantees a certain stability in the cost of debt for French companies, since the low interest rates that prevailed before 2022 will continue to apply to a large share of their liabilities in the future, despite the rise in rates.

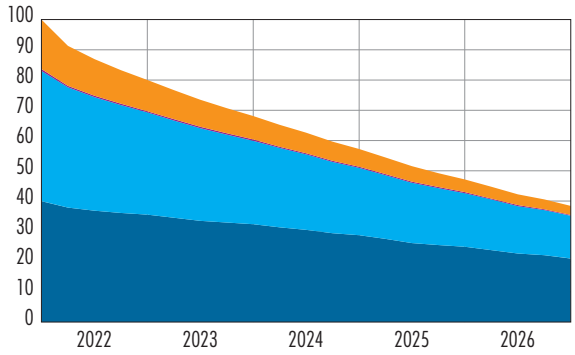
### Italian companies: shorter debt with more variable rates

Compared with French companies, the detailed data available show a very different profile for Italian companies (see Chart 1b): recourse to variable rate loans is very high, and average maturities are shorter. Thus, the cost of this debt is likely to react much more rapidly to changes in interest rates: less than a third of the amount of debt at the end of 2021 was contracted at a rate that will continue to prevail after 2022. The rise in rates immediately raises the cost of variable rate loans, and the rapid repayment of outstanding debt creates a greater need for refinancing, which will have to be carried out at higher rates.

C1 Aggregate debt structure of French and Italian companies at end-2021

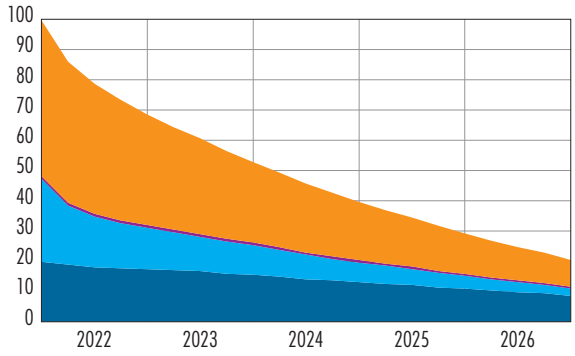
(outstanding amounts, as a % of the initial amount)


a) French companies




Key: At the end of 2023, 68% of the debt outstanding at the end of 2021 will still be due, of which 60% will be fixed rate securities and loans and 8% variable rate securities and loans. At the end of 2026, 38% of the debt will still be due (of which 35% at unchanged rates).

b) Italian companies




Sources: ECB (AnaCredit and CSDB databases), authors' calculations.
Key: At the end of 2023, 53% of the debt outstanding at the end of 2021 will still be due, of which 25% will be fixed rate securities and loans and 28% variable rate securities and loans. At the end of 2026, 20% of the debt will still be due (of which 11% at unchanged rates).
Note: These charts only describe outstanding debt, without taking into account future refinancing.

### Comparison of corporate debt structures in the four countries

The maturity and rate structure of German companies' aggregate debt is almost identical to that of French companies, whereas Spanish companies are halfway between the French and Italian profiles (see Table 1). The transmission of a rise in market rates may therefore be more gradual for German companies than for Italian companies.

Table 2 lists the average interest rates by country observed on the debt available in the detailed databases as at the end of 2021.[4] These rates are very close, between 1.6% and 1.9%, and not very high, in line with the very low interest rate environment that prevailed until then. Nevertheless, these figures must be interpreted with caution, since these rates are only applicable to the "observable" part of corporate debt (see Box).[5]

## 3 The effect of rising interest rates on estimated costs reflects differences in debt structure

Beyond the static analyses developed above, the data available on companies as at 31 December 2021 make it possible, under certain assumptions, to simulate the evolution of their debt structure, and in particular their average interest rate, as a function of changes in market rates. These simulations were carried out over a five-year period, from 2022 to 2026.

**T1 Debt structure of non-financial corporations**
(outstanding amounts, as a % of initial amount)

| | | France | Germany | Italy | Spain |
|---|---|---|---|---|---|
| End 2021 | Outstanding | 100 | 100 | 100 | 100 |
| | *o/w fixed rate* | *83* | *80* | *47* | *62* |
| After 1 year | Outstanding | 80 | 78 | 69 | *75* |
| | *o/w fixed rate* | *69* | *64* | *31* | *48* |
| After 2 years | Outstanding | 68 | 66 | 53 | 60 |
| | *o/w fixed rate* | *60* | *56* | *25* | *39* |
| After 5 years | Outstanding | 38 | 39 | 20 | 27 |
| | *o/w fixed rate* | *35* | *35* | *11* | *18* |

Sources: ECB (AnaCredit and CSDB databases), authors' calculations.
Key: For Spanish companies, 60% of outstanding debt at the end of 2021 will still be due after two years (end of 2023), of which 39% at a fixed rate and 21% at a variable rate.

**T2 Average interest rate on the outstanding debt of non-financial corporations**
(in annual %)

| | | France | Germany | Italy | Spain |
|---|---|---|---|---|---|
| End 2021 | Average rate | 1.8 | 1.6 | 1.8 | 1.9 |

Sources: ECB (AnaCredit and CSDB databases), authors' calculations.
Key: Average rate weighted by the amounts borrowed, calculated only on the basis of the detailed databases.

4 These average rates are derived from the average of the nominal rates of each outstanding debt available in the detailed databases as at end-2021, and are weighted by these same outstanding amounts.

5 The authors are not aware of any statistical aggregate corresponding to the consolidated debt burden of a country's companies, including foreign entities of the same group. The D41G aggregate of the national accounts, which includes interest income and expenses before adjustment of the intermediation margin, approximates such a quantity. However, it is calculated at the non-consolidated level, and therefore includes, for example, interest paid on intragroup loans (see Table TA2 in Appendix 2).

## Two examples of interest rate increase scenarios

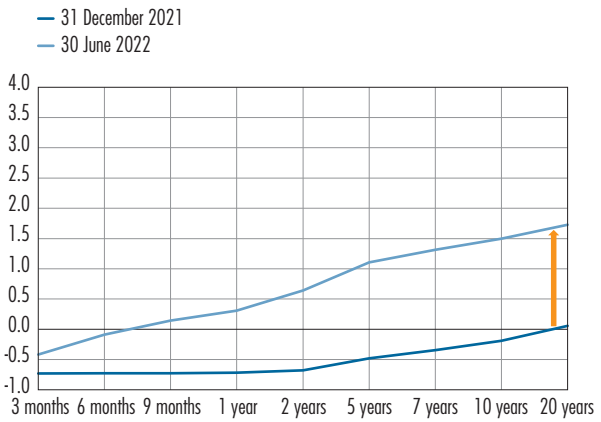
In order to study the importance of the different structures of debt maturities, two theoretical scenarios of rate increases since 31 December 2021 were simulated (see Chart 2).

- **Scenario 1** records the rate increase observed in the first half of 2022, then freezes the rate curve at its 30 June 2022 position until the end of the simulation. This scenario is purely indicative as it does not take into account the rise in short-term rates following the changes in the key rate decided by the European Central Bank from July 2022. It nevertheless enables us to observe the effect of a "steepening" of the rate curve through the rise in long-term rates.
- **Scenario 2** extends the rate increase observed in the first half of 2022 by a parallel movement of 2% on all maturities and credit qualities. This scenario, which is more realistic, is chosen for its simplicity of interpretation, given that a shock of 200 basis points (bp) corresponds to a conventional scenario in interest rate risk analysis.[6] It makes it possible to examine the effect of a rise in short-term rates in addition to that of long-term rates: this scenario is known as a "parallel shock" on the rate curve. In practice, half of this scenario has already materialised, with a rate increase of around 100 bp in the third quarter of 2022.

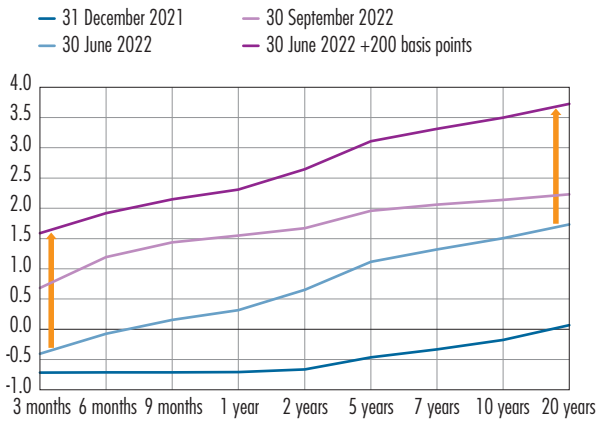
### C2 Change in euro risk-free rates in the two scenarios considered

(spot interest rates, in annual %)

a) Scenario 1: Rise in long-term rates observed in the first half of 2022, then static rates




b) Scenario 2: Rise in long-term rates observed in the first half of 2022, then parallel increase of +2% until end-2022




Sources: ECB (Yield Curves database: observed curves); authors' calculations ("shocked" curve of scenario 2).
Note: The "risk-free" rate corresponds to the cash yield on AAA-rated sovereign bonds. In the projections presented, average corporate borrowing rates are inferred by applying a spread by product and maturity.
Scenario 2 is a so-called "parallel shock", with the combined effect of a rise in short-term and long-term rates.

6 Measuring the impact of a 2% shock on interest rates is a recommendation of the European Banking Authority (EBA) in the context of prudential supervision of the banking sector.

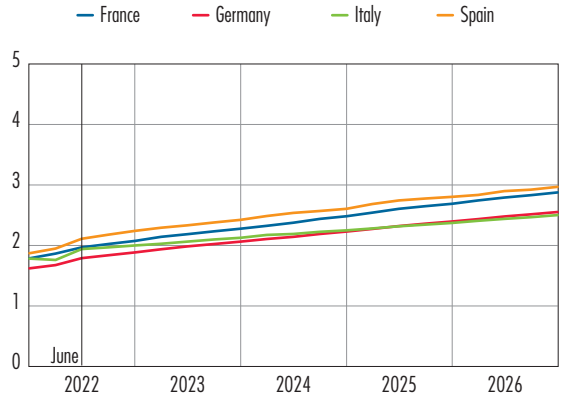
## The speed at which companies' average financing rates rise depends on debt maturity and the share of debt contracted at variable rates

Starting with the situation on 31 December 2021, the changes in companies' debt structure in each country are simulated on a quarterly basis by considering the gradual repayment of existing outstanding debt and its replacement by new loans. The assumption adopted for this exercise is that of a constant volume of debt, with each euro repaid being offset by a new euro borrowed; the detailed structure of new borrowings is simulated in such a way that the breakdown by product and by residual maturity of the outstanding debt also remains unchanged.

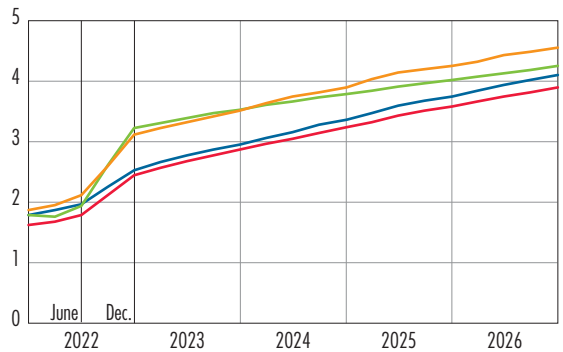
### C3 Projection of average corporate debt rates by country in the two scenarios considered

(in annual %)

a) Scenario 1: Static rates after June 2022




b) Scenario 2: 2% additional parallel shock in the second half of 2022




Sources: ECB (data up to June 2022); authors' calculations (projections).
Note: In chart (a), static rates after June 2022; in chart (b), 2% additional parallel shock in the second half of 2022.

With this simulation, it is possible to represent the changes in the average interest rate on outstanding debt, under the influence of two factors.

- The replacement of existing loans by new loans, contracted at different interest rate conditions, gradually changes the average rate observed. The interest rates on the new loans are derived from the risk-free curve rate scenario by applying a static spread that depends on the product and maturity, which amounts to applying the same average rate movement to each product category.

- Changes in short-term rates, which are used as benchmark rates for variable rate loans, directly alter the interest rate applicable to this category of loans.

Chart 3 shows the projected changes in average corporate rates in each country under the two scenarios considered (given the debt structure derived from the detailed data and the simulation assumptions chosen).

The first scenario quantifies the long-term effect of a rise in long-term rates with stable short-term rates, i.e. the effect of a "steepening" of the curve. Several factors are at work in different directions, notably:

- the moderate increase in short-term rates causes a slightly higher initial rise in the case of Italian and Spanish companies due to their significant recourse to variable rate loans, but this effect remains weak in this scenario;

- due to the shorter maturity of their debt, Spanish and Italian companies renew their debt more rapidly, and therefore contract a higher volume of new debt at less favourable rates at each period;

- French and German companies, which borrow more at fixed rates over the long term, are more affected by the rise in long-term rates than their Italian and Spanish counterparts, which are more sensitive to short-term rates.

In this scenario, Italian and Spanish companies therefore renew their debt more rapidly, but at a less unfavourable rate than their German and French counterparts. This

T3 Projected increase in average rates on the outstanding debt of non-financial corporations in the two scenarios considered

(in annual %)

| 100% renewal of matured debt… | France | | Germany | | Italy | | Spain | |
|---|---|---|---|---|---|---|---|---|
| | Sc. 1 | Sc. 2 | Sc. 1 | Sc. 2 | Sc. 1 | Sc. 2 | Sc. 1 | Sc. 2 |
| after 1 year | 0.3 | 0.7 | 0.3 | 0.8 | 0.2 | 1.4 | 0.4 | 1.2 |
| after 5 years | 1.1 | 2.3 | 0.9 | 2.3 | 0.7 | 2.5 | 1.1 | 2.7 |

Source: Authors' calculations.
Note: Increase estimated on the basis of the assumptions detailed in the text.

results in a relative similarity between the four trajectories, with a relative additional cost that is ultimately lower for Italian companies due to their particularly low exposure to long-term rates.[7]

The second, more realistic scenario measures the effect of a rise in short-term rates added to that of long-term rates. The additional cost is then immediate, and even very significant for Italian and Spanish debt in the second half of 2022 due to the high share of variable rate and short maturity loans. The longer-term trend appears to be relatively similar between the four countries, for the same reasons as in the first scenario, and shows in particular a convergence of the average rates of Italian and French companies, due to the overall lesser rise in short-term rates (see Table 3 above).

⁂

Companies' structural indebtedness exposes them to an increase in financial charges during episodes of rising interest rates (Charasson-Jasson, 2019). The extent and timing of this effect depends to a large extent on the structure of their debt, in particular: (i) the direct sensitivity to benchmark rates (through variable rate loans); (ii) the volume of new loans to be expected (with existing loans maturing more or less rapidly); and (iii) the nature of these new loans (sensitive to short-term or long-term rates).

The analysis of available data, combined with a simple financial projection method, clearly highlights the relationship between debt structure and interest rate sensitivity. A distinction should be made between.

- A debt profile with a long maturity and a fixed rate, typical of French and German companies. These companies benefit from a certain inertia of the financial burden in the event of a rise in short-term rates, but are exposed to higher rates due to their long-term exposure.

- A debt profile with a short maturity and a more variable rate, observed in the case of Spanish and especially Italian companies. Their sensitivity to long-term rates is lower, but any rise in short-term rates penalises them very rapidly. Conversely, they can rapidly benefit from decreases in short-term rates when market conditions improve.

Future work will extend the analysis to all euro area jurisdictions and take into account more complex effects: changes in debt volumes, adaptation of maturity profiles, and differential changes in spreads due to debtor credit risk.

7 Furthermore, Italian companies benefit more than others from an additional effect: in 2021, their debt burden is increased by loans taken out in recent years at higher rates than those granted at the beginning of 2022. The maturing of this more expensive debt initially results in a cost reduction, which mitigates the effect of the rise in interest rates.

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# Appendix 1
## The effect of interest rate derivatives for French companies: an apparently small net contribution at the aggregate level

Beyond the debt structure, a study of interest rate risk must look at the interest rate derivatives used by certain companies to control this risk. These companies may, for example, transform fixed rate debt into variable rate debt, or guarantee the cost of future financing needs in advance.

The study focuses on interest rate derivatives reported under the European EMIR[1] regulation to the DTCC[2] central repository, denominated in euros only, outstanding as at 31 December 2021, and where one and only one of the parties is a French non-financial corporation. It establishes that, after netting between buyer and seller interest rate contracts, these derivative positions are, in aggregate terms, relatively small compared to these companies' total debt.

A "naive" subtraction of short positions from long positions on swaps leads to a net exposure of about EUR 50 billion (approximately EUR 150 billion in buyer contracts, compared to EUR 100 billion in seller contracts). This calculation should be treated with caution, as the characteristics of the products may differ in terms of start and end dates, and in terms of the nature of the rates traded. Exploiting data obtained from EMIR reports on derivatives also poses particular problems of data quality, but nevertheless provides a reference order of magnitude. Similarly, the "naive" net position on interest rate options is around EUR 50 billion (approximately EUR 85 billion of options purchased, compared to EUR 35 billion of options sold).

These amounts are still small compared to the EUR 2,500 billion of debt on the liabilities side of French companies' balance sheets; derivative positions therefore probably do not significantly alter French companies' overall exposure profile to interest rate risk. This observation, which is valid on an aggregate level, does not necessarily hold true on an individual level: the use of derivatives is highly concentrated and the volumes traded by some companies can reach levels comparable to their outstanding debt. A Europe-wide study would be instructive to check whether this conclusion is valid beyond France.

1 European Market Infrastructures Regulation: regulation of OTC derivatives, central counterparties (intervening between buyers and sellers of financial instruments) and central repositories (for reporting financial transactions).

2 Depository Trust & Clearing Corporation.

# Appendix 2
## Comparing detailed data with national aggregates

Table TA1 below completes the chart in the box of the article by breaking down the debt into securities, bank loans and other loans, according to the sectoral accounts (national accounts), and comparing them to the amounts available in the ECB's detailed databases (for the first two categories).

The amounts from the detailed databases are comparable in order of magnitude to the aggregate amounts. The residual differences are due either to differences in scope or to data excluded because of their poor quality. The share of debt securities is particularly high for French companies. German companies have the greatest recourse to debt excluding securities and bank loans.

**TA1** Aggregate outstanding debt of non-financial corporations at 31 December 2021
(EUR billions)

| | Debt securities | | | Bank loans euro area | | Other loans |
|---|---|---|---|---|---|---|
| | consolidated | non-consolidated | CSDB database | consolidated | AnaCredit database | consolidated |
| France | 739 | 743 | 657 | 1,311 | 963 | 456 |
| Germany | 247 | 252 | 219 | 1,112 | 927 | 907 |
| Italy | 171 | 173 | 147 | 694 | 563 | 384 |
| Spain | 144 | 146 | 140 | 506 | 331 | 322 |

Sources: ECB (QSA [total securities and loans], BSI [bank loans in the euro area], AnaCredit and CSDB databases); authors' calculations.
Notes: Only the usable part of the outstanding amounts available in the Centralised Securities Database (CSDB) and the Analytical Credit Datasets (AnaCredit) is displayed. Other amounts are present in these databases, but are associated with incorrect or missing rate or maturity data. The CSDB provides non-consolidated information, in the sense that the amounts issued by companies are not restated for amounts held by other companies; the very small difference between consolidated and non-consolidated aggregates nevertheless puts this distinction into perspective.

Table TA2 below presents the data available in the sectoral accounts on interest received and paid by companies. It includes the aggregate "Total interest before financial intermediation services indirectly measured (FISIM) allocation" (D41G), i.e. interest actually paid, as opposed to the aggregate "Interest" (D41) which deducts the part considered as the price of financial services. This quantity is only available in the sector accounts at the non-consolidated level, which means that interest paid by French companies includes interest paid to other French companies.

Interest obtained from the sectoral accounts is difficult to compare with that in the detailed databases. Non-consolidated debt includes financing put in place between companies, the amount of which is particularly high for French companies. The corresponding average interest rate is generally several tens of basis points lower than the rate calculated using the detailed databases; this could reflect favourable financing conditions between companies in the same group, but this observation does not apply to French companies.

It is not possible to calculate an interest rate for consolidated debt using the national accounts, but the deduction of interest received provides a lower bound. The rate calculated using the detailed databases is, as expected, higher than this bound.

### TA2 Aggregate interest received and paid by companies in Q4 2021

(quarterly interest and outstanding amounts in EUR billions, annual % rate)

| | Interest | | | Outstanding debt | | Average interest rate… | | |
|---|---|---|---|---|---|---|---|---|
| | received | paid | Net paid | Non-consolidated | consolidated | Of non-consolidated debt | Of consolidated debt (lower bound) | Observed in detailed databases |
| | A | B | C = B – A | D | E | 4 × (B/D) | 4 × (C/E) | Consolidated |
| France | 15.3 | 21.5 | 6.2 | 4,152 | 2,507 | 2.1 | 1.0 | 1.8 |
| Germany | 5.2 | 9.2 | 4.0 | 2,606 | 2,266 | 1.4 | 0.7 | 1.6 |
| Italy | 1.7 | 4.7 | 3.0 | 1,294 | 1,248 | 1.4 | 1.0 | 1.8 |
| Spain | 0.9 | 4.3 | 3.9 | 1,253 | 972 | 1.4 | 1.4 | 1.9 |

Sources: ECB (QSA (interest and stocks), AnaCredit and CSDB databases); authors' calculations.
Notes: The average interest rate on non-consolidated debt takes into account interest paid by companies to other companies in the same country (e.g. intragroup financing). The rate calculated on consolidated debt is only taken as a lower bound, since net interest is obtained by deducting interest received by companies on their assets (bank deposits, foreign investments, etc.). Neither of these two average rates is therefore directly comparable to the average rate observed in the detailed databases.

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