Is the increase in French firms' indebtedness a cause for concern?

Marie-Baïanne Khder
Département des études économiques
Clément Rousset
Département de la conjoncture

Since 2009, the indebtedness of non-financial corporations in France has presented a singularly different dynamic to the rest of Europe. It increased by 16 percentage points of GDP between 2009 and 2016 whereas it remained more or less stable across the Eurozone. In 2016, enterprises' debt in France reached 90 percentage points of GDP, a level higher than that of its main neighbours (Germany, Italy or Spain). This dynamic is occurring in a context of exceptionally low interest rates, although this also applies in the other Eurozone countries.

The debt profile of non-financial corporations since 2009 seems to reflect a more dynamic investment record in France than in the other main European countries, while saving has only increased there very recently compared to the latter. In addition, the indebtedness of non-financial corporations has been accompanied by a sharp rise in the liquid assets they hold. A study carried out at microeconomic level suggests that this phenomenon, which is specific to France, could in fact be due mainly to the same companies, which take on debt whilst accumulating liquid assets at the same time. These are mostly large corporations, operating in the manufacturing sector and representing the parent companies in groups.

Net of liquid assets and assets held in a broader sense, the debt level appears to be relatively contained in French companies. This finding, however, has no bearing on their exposure to a sudden rise in interest rates or a fall in the price of assets.

Box 1 - Data used

Macroeconomic analysis

Different measurements of the indebtedness of non-financial corporations (referred to in the report as "enterprises" for reasons of facility) can be used:
- that of non-consolidated national accounting, which aggregates the debts in enterprises' liabilities;
- that of consolidated national accounting, which starts from the foregoing and deducts loans between domestic enterprises;
- that of the central banks which starts from banking data to construct the consolidated indebtedness of enterprises.

For the four countries compared in this report, the three definitions differ in level, but their variations are very similar. In the three cases, France stands out by its sharp increase in the indebtedness of non-financial corporations, unlike the other major countries in the Eurozone. Furthermore, the comparison of data on levels can pose problems because the producers of data differ in the scope chosen as well as the methods of aggregation (Fournier, 2017). In this report, we look only at the variation in indebtedness (even if the levels are represented for the sake of convenience) and we use the consolidated national accounting definition which allows a precise accounting breakdown of the contributions to indebtedness based on the Overall Economic Account (TEE).

Indebtedness until 2016 is therefore calculated with the national accounting data. Enterprises' liabilities can be found in the annual financial balance sheets of the institutional sectors available on Eurostat. The values are taken consolidated. Indebtedness is defined as the sum of debt securities (PF3) and loans (PF4) in the balance sheet. The data are annual, for the graphs they are smoothed and then the curves obtained are extended by applying the variations in the enterprise indebtedness data of the Banque de France, which provide information on the first half of 2017.

For the Eurozone, the indebtedness of Ireland is taken out as this country saw a break in 2015.

In order to create this breakdown, non-financial operations in the national accounts allow the self-financing capacity/capital requirement to be obtained (B9NF). The Revaluation and other changes in volume account is then necessary to be able to make the link with the variation in assets and liabilities.

Microeconomic analysis

The microeconomic analysis of the indebtedness of non-financial corporations rests on the exploitation of INSEE's enterprise data, through the FARE base (results from the ESANE business statistics system) matched with Sirus (System of identification in the directory of statistical units). The bases for the period 2010-2015 are used.

The working base was built by using the legal units registered as belonging to institutional sector S11 (non-financial enterprises, NFCs) and excluding those whose main activity sector is finance (sector K). In addition, the legal units for which the financial debt or workforce did not show any strictly positive values over the period were excluded (the two operations leading to about 300,000 exclusions a year). For each legal unit showing a long-term financial debt that is sometimes zero and sometimes clearly positive over the period, the zero value entered for the debt was considered as appearing instead of missing values and corrected. The observation was imputed by assuming it to be equal to the average of the non-zero values observed over the period for the enterprise concerned.

Furthermore, the exercise of aggregating certain variables is limited by the ability to consolidate the accounts of legal units. Indeed, if value added or physical workforce variables can be added together, for balance sheet variables such as equity this cannot be done directly, because the capital of a legal unit may be held by another legal unit in the database. Nevertheless, this limit seems to be minimised by the decision to focus the study on long-term financial debt, which mainly consists of bank debt. ■

The indebtedness of French enterprises is growing faster than that of their European counterparts

The debt levels of French non-financial corporations have been increasing since 2009

Measured relative to GDP, the indebtedness of non-financial corporations (NFCs) increased in the Eurozone until the beginning of 2009, exceeding 80 percentage points of GDP (*Graph 1*), before falling afterwards. This has been the case in particular in Spain, where the debt level of NFCs was over 110 percentage points of GDP in 2009 but then fell quickly to 82 points at the beginning of 2017, its 2005 level. In Italy corporate debt has been falling sharply for four years.

In Germany,[1] debt reduction has been ongoing constantly since the beginning of the 2000s: in 2016 German enterprises were substantially less indebted than those of other European countries, their debt representing something of the order of 30 percentage points of German GDP. France stands out by its rapid and steady increase in the indebtedness of NFCs (+16.0 percentage points of GDP between 2009 and 2016, the year when it reached 89.7 percentage points).

The make-up of this debt has also changed. Whereas between 2000 and 2009, the increase was mainly driven by bank indebtedness, the opposite has been the case since 2009: bond debt contributed 14.5 of the 16.0 GDP points of the increase in the indebtedness of NFCs, suggesting that this trend is above all accounted for by large corporations.

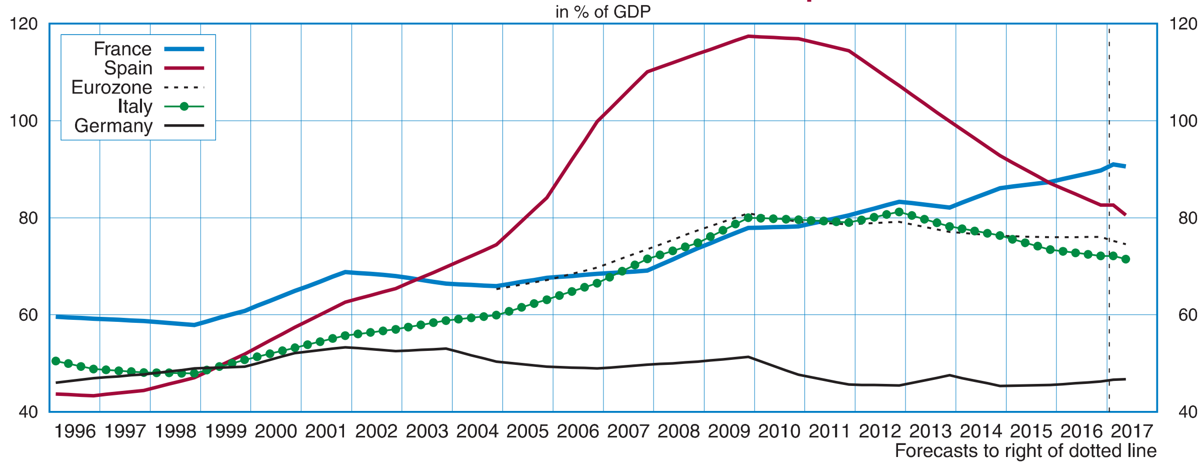
This increase in indebtedness in France has occurred in a low-interest environment common to all the countries in the zone

The interest rates applied to enterprises have fallen overall since 2009 (*Graph 2*). At the end of 2008 and the beginning of 2009, the ECB substantially lowered its base rate, from 4.25% in October 2008 to 1% in May 2009. This reduction was soon passed on to corporate lending rates, which fell in the Eurozone by 3 percentage points on average over the period. They then increased again slightly at the time of the sovereign debt crisis, particularly in Italy and Spain, before falling once again and converging with the implementation of quantitative easing (QE) from 2015 onwards. At the beginning of 2017, the rates on new loans to enterprises stabilised at just below 2% (compared to about 6% in 2008) in all the countries in the Eurozone. This drop in rates led to a decrease in the interest charges paid by companies.

1. The comparison of enterprise indebtedness data for France and Germany raises certain difficulties. The inclusion of holding companies in the financial sector is more common in Germany than in France; likewise, differences in the scope of groups lead to consolidated data that should only be compared with caution (Fournier, 2017). Here we will content ourselves with examining recent differences in dynamics without justifying any differences in level.

1 - Indebtedness of non-financial enterprises

in % of GDP



Sources: Eurostat, Banque de France

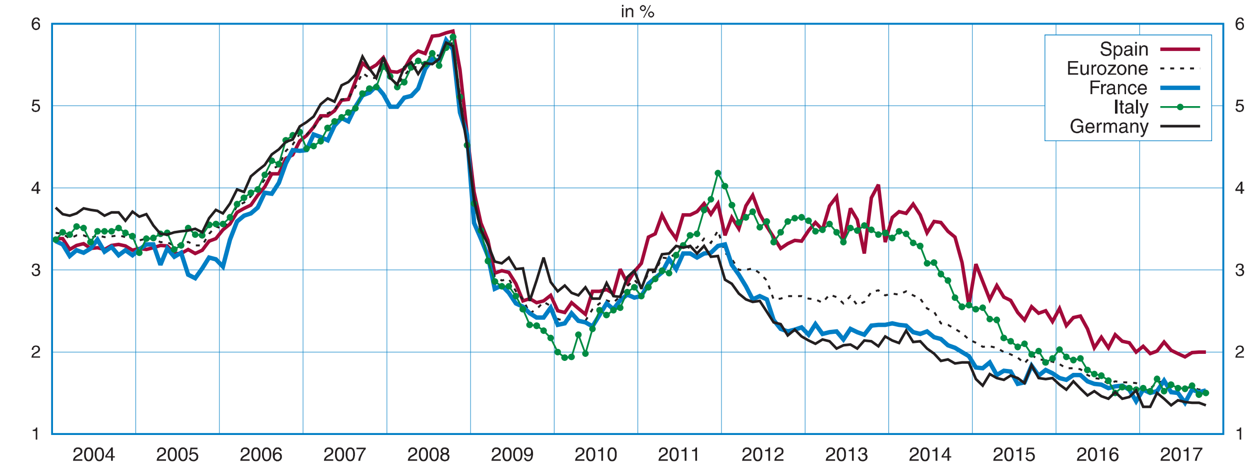
Is the increase in French firms' indebtedness a cause for concern?

An accounting breakdown of the changes in indebtedness

From an accounting point of view, the variation in corporate debt expressed in percentage points of GDP can be broken down into several items: the investment rate, the savings ratio, variations in the stock of financial assets, in the amount of equity and, finally, a term proportional to nominal GDP growth (*Box 2*).

In France, corporate indebtedness plainly gathered speed after the crisis (+2.0 points per year on average from 2009 to 2016 compared to +1.0 point on average per year between 2000 and 2007), whereas it has fallen in its main European partner countries. The accounting breakdown highlights several factors that have contributed to this difference (*Table 1*): the investment rate increased in France between the two periods whereas it fell everywhere else; conversely, the corporate savings ratio collapsed in France whereas it increased in all the other countries; finally, on the asset acquisition and issuance side, the breakdown reveals a highly atypical accumulation of liquid assets in France.

2 - Rate of new loans to enterprises



Source: European central bank

Table 1 - Accounting breakdown of the variations in the indebtedness of European enterprises

in GDP points

Annual average in GDP points		Variation of the debt =(1)+(2) +...+(8)	Investment (1)	Savings (opposed sign) (2)	Variation of liquid assets (3)	Variations of securities and loans held (4)	Variation of shares held with adjustment (5)	Variations of shares liabilities (opposed sign) (6)	GDP effect (7)	Other (8)
France	Between 2000 and 2007	1.0	10.9	–9.7	1.0	2.6	5.1	–6.2	–2.6	0.0
	Between 2009 and 2016	2.0	11.5	–9.1	1.8	1.1	4.8	–6.4	–1.1	–0.5
Italy	Between 2000 and 2007	2.6	10.5	–8.1	0.9	0.4	7.1	–6.8	–2.2	0.7
	Between 2009 and 2016	–0.3	9.1	–8.2	0.8	0.0	–0.7	–0.6	–0.3	–0.6
Spain	Between 2000 and 2007	7.3	15.4	–9.6	2.1	2.1	11.3	–8.8	–5.1	–0.1
	Between 2009 and 2016	–3.9	13.0	–15.0	0.0	0.2	1.8	–4.0	0.2	0.0
Germany	Between 2000 and 2007	0.1	11.7	–11.0	0.6	0.6	3.3	–2.0	–1.2	–2.0
	Between 2009 and 2016	–0.5	11.3	–12.8	0.7	–0.4	6.9	–5.2	–1.2	0.2

How to read it: between 2009 and 2016, the debt of non-financial corporations increased on average by 2.0 percentage points of GDP a year. This variation in indebtedness breaks down from an accounting point of view into eight items such as investment in percentage points of GDP (11.5), savings counted negatively (–9.1) as well as variation in liquid assets held (+1.8) etc.

As stocks of shares are valuation-sensitive, the major stock market upheaval of the year 2008 makes that year so exceptional that it was excluded from the study.

Sources: Eurostat, INSEE calculations

Box 2 - A breakdown of the debt dynamic

The variation in stocks of financial assets and liabilities is attached to the financial flows[1] using the formula:

$$\Delta(AF - PF) \approx F_{net}$$

where:
- AF is the stock of financial assets;
- PF is the stock of financial liabilities;
- F_{net} is the net financial flow.

In the case of non-financial enterprises, the liabilities are broken down into two items, indebtedness and shares (PF5): $PF = debt + PF5$. However, financial flows come mainly from the difference between enterprises' savings and investments:

$$F_{net} \approx S - I$$

S representing enterprises' savings (as flows) and I their investment.

The variation in enterprises' debt can therefore be expressed according to investment, savings and the variation in financial assets, in the form:

$$\Delta Debt \approx I - S + \Delta(AF - PF5)$$

Linked to GDP, a growth effect item is added:

$$\Delta\frac{Debt}{GDP} \approx \frac{I}{GDP} - \frac{S}{GDP} + \frac{\Delta AF}{GDP} - \frac{\Delta PF5}{GDP} - \frac{Debt}{GDP}\cdot\frac{\Delta GDP}{GDP}$$

The increase in the assets is the sum of three elements:

$$\Delta AF = \Delta AF2 + \Delta AF5 + \Delta AF_{other}$$

where:
- $\Delta AF2$ is the variation in the liquid assets held;
- $\Delta AF5$ is the variation in the shares held;
- ΔAF_{other} is the rest of the variations in assets, including loans and securities.

This approaches accounting equality: the residual item (other) includes elements that are normally low in the French case (inventory, acquisition...). ■

1. With revaluations and changes in volume.

Investment held up better in France than in the other main European countries with savings slightly down

After the crisis, investment fell in the main European partner countries while it increased in France, rising from 10.9% over the 2000-2007 period to 11.5% over the 2009-2016 period (Focus in the June 2017 *Conjoncture in France*). Conversely, investment fell sharply in Spain (13.0% after 15.4%) and in Italy (9.1% after 10.5%) and more moderately in Germany (11.3% after 11.7%). The sharp drop in investment in Spain and Italy can be explained on the one hand by macroeconomic factors, the decline in activity being the most marked, in particular during the sovereign debt crisis, and on the other hand by financial factors directly linked to indebtedness: in these two countries, the 2008 crisis then that of 2011-2013 led to a very sharp increase in non-performing loans

(*Graph 3*) and an increase in restrictions on bank lending. It is therefore partly the financial conditions and the need to reduce debt that have hampered investment rather than the other way round. Since 2014 in Spain and 2015 in Italy, corporate investment has started to pick up gain, most notably because self-financing ratios have increased, as the situation of the banking systems in these countries remains fragile (Fortin *et al.*, 2015). In Germany, weak investment seems to be decorrelated with from the traditional fundamentals in view of the country's good macroeconomic performances and the financial soundness of its enterprises since the crisis (Baquero, 2016): it could be the result of more structural factors linked to the age of business leaders or high sensitivity to uncertainty.

The savings ratio of French enterprises between 2009 and 2016 was lower than in the period before the crisis. It has, it is true, picked up again recently under the effect of the CICE (competitiveness and employment tax credit), the fall in the price of oil and improvement in activity (*Special Analysis* p. 39), but real wages have continued to grow steadily in France, which is not the case in Spain and in Italy where a sharp increase in unemployment has weighed much more heavily on workers' bargaining power and their pay. In Germany wages have been growing faster since 2009, but enterprises have paid less in dividends and have amassed the gains from their debt reduction in the form of lower interest charges. All in all, the savings ratio of enterprises rose in these three countries over the 2009-2016 period compared to the period before the crisis, while in fell in France.

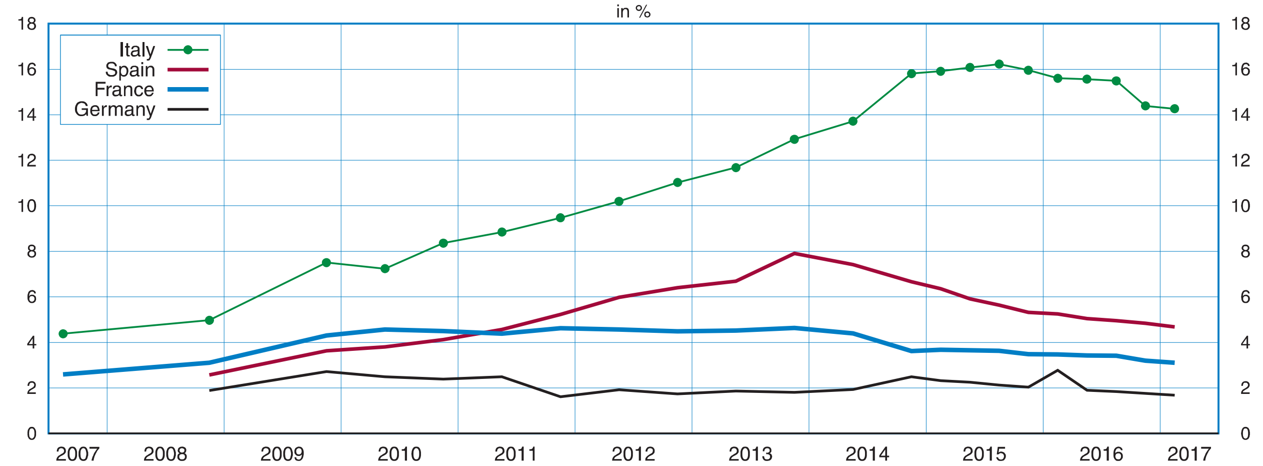
The holding of financial assets, and liquid assets in particular, has risen sharply in France

Increasing reserves of liquid assets: a phenomenon specific to France

French enterprises have boosted their holdings of liquid assets since the crisis: liquid assets represent more than 25% of GDP in France in 2016, compared to less than 15% in 2008. Conversely, the liquid assets held by German and Spanish enterprises have remained virtually stable as a proportion of GDP (*Graph 4*).

This surge in liquidities partly puts into perspective the increase in indebtedness, at least at aggregate level. Thus, if the enterprises that hold them are also the ones building up their debt, they will easily be able to reduce that debt if financing conditions become tighter. On the other hand, if this is not the case, the increase in debt remains a risk factor for the financial system as a whole.

3 - Percentage of non-performing loans



Source: European central bank

Is the increase in French firms' indebtedness a cause for concern?

French enterprises are lending more to foreign subsidiaries, but that does not explain the recent momentum

National accounting has provided an estimation of loans granted by French enterprises to foreign economic agents[2] (*Graph 5*). In GDP percentage points, the volume of French enterprises' lending abroad appears to be considerably higher than in the other main European countries.

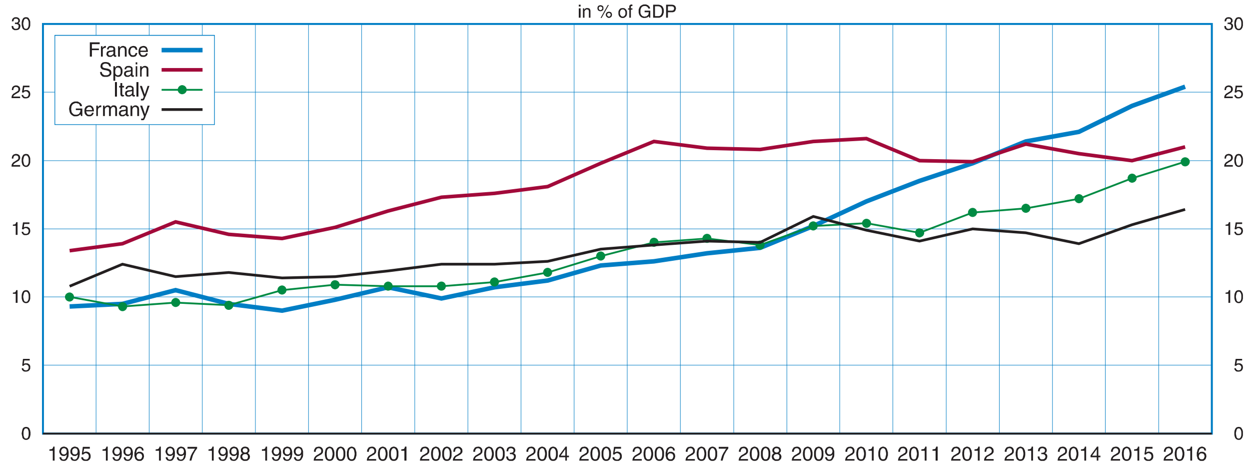
These behaviours partly help to put into perspective the level of debt of French enterprises, which, although they are indebted, can also be creditors themselves. However, although loans to foreign subsidiaries increased until 2009, they have stabilised since then, and therefore have played no role in the debt dynamics of French enterprises since the crisis (*Table 1*).

Likewise, French enterprises' shareholdings also show a relatively stable profile and the crisis has not significantly changed their pace of growth (*Table 1*).

2. This concerns loans to institutional agents other than non-financial corporations, that is to say generally households, financial corporations, general government and the rest of the world. Normally, these loans are mainly destined for the rest of the world and are therefore a good indicator of the intra-group loans that are not consolidated in a national accounting framework.

4 - Ratio of stocks of liquid assets consolidated to GDP

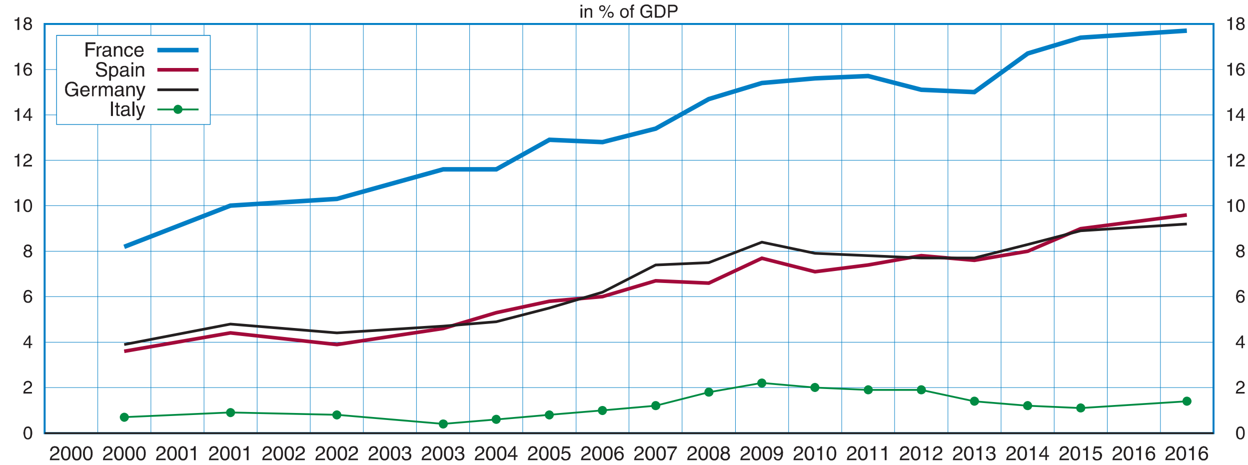
in % of GDP



Source: Eurostat

5 - Ratio of stocks of loans in the consolidated assets of enterprises to GDP

in % of GDP



Source: Eurostat

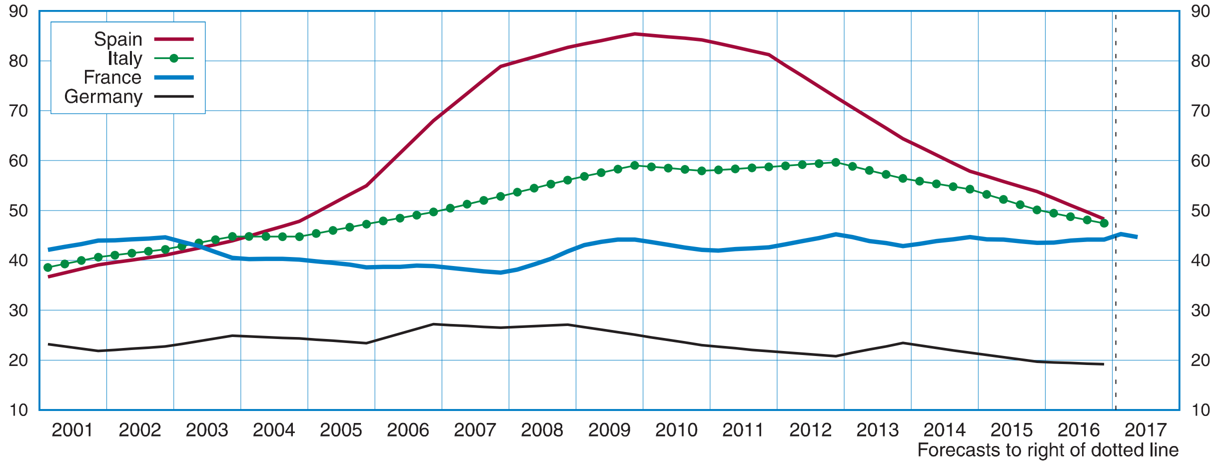
All in all, the indebtedness of French enterprises corrected for their available liquid assets and loans to subsidiaries has been relatively stable since the crisis

To take account of the French specificities relating to lending to foreign subsidiaries and liquid assets, it is possible to construct a "corrected" indebtedness indicator, deducting from the debt of NFCs the liquid assets they hold as well as the lending to foreign subsidiaries, loans to domestic subsidiaries already being removed in the consolidated data. All in all, "corrected" indebtedness appears to be virtually stable since the crisis — at around 45% of GDP (*Graph 6*).

Seeing indebtedness as a ratio not of GDP, but of equity[3] makes it possible to see whether the structure of enterprises' liabilities has changed as well as giving an idea of their solvency. In this respect, enterprises' indebtedness also seems to be stable: the indebtedness of French companies is accompanied by a comparable increase in their equity (*Graph 7*).

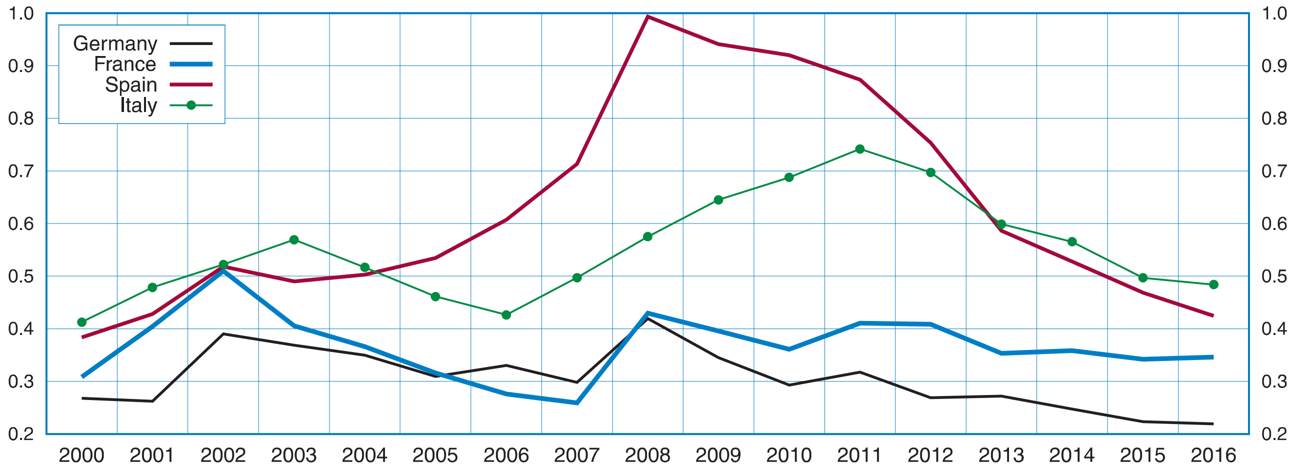
3. Here shares are used as liabilities for an enterprise.

6 - Ratio of enterprises' corrected indebtedness to gross domestic product



Sources: Eurostat, Banque de France, INSEE calculations

7 - Ratio of enterprises' corrected indebtedness to equity



How to read it: in France in 2016, enterprises' corrected indebtedness represented 35% of their equity. This ratio should be treated with care as equity is valued at market prices and is therefore likely to vary considerably. This limit is, however, common to all the Eurozone countries.

Sources: Eurostat, Banque de France, INSEE calculations

The heterogeneous contribution to the macroeconomic debt dynamics requires closer analysis

The observation at macroeconomic level of a simultaneous increase in enterprises' indebtedness and their holding of liquid assets, although reassuring, is not enough to discount the hypothesis of a rise in financial risk. This does indeed mean that it is necessary to check whether it is the same enterprises that are indebted and have accumulated liquid assets, in which case the financial risk will in fact be lower since those liquid assets will be able to be used to service loans.

To do this, INSEE's annual enterprise statistics are mobilised by exploiting the data from the income statements and financial balance sheets of some 900,000 companies, excluding the financial and agricultural sectors (*Box 1*). They represented value added of 41.2% of GDP in 2010, or around 80% of the value added of NFCs. The period studied is limited to 2010-2015, due to an overhaul of the way enterprise statistics were collected in 2008. The companies considered represent legal units, not assimilable with enterprises[4] as they are not necessarily independent of each other. In particular, the aggregation of data from financial balance sheets carried out below is not consolidated by the financial relations between legal units.[5]

The companies examined are divided into four separate categories, according to the direction of the respective changes over the period from 2010 to 2015 in their debt ratio (outstanding long-term financial debt[6] compared to the value added of the legal unit) and their stock of liquid assets.[7] The categories are:

- "PP" companies, which over 2010-2015 have seen their debt ratio and their stock of liquid assets increase simultaneously;
- "PN" companies, which have seen their debt ratio increase and their stock of liquid assets fall;
- "NN" companies, which have seen their debt ratio and their stock of liquid assets simultaneously fall;
- "NP" companies, which have seen their debt ratio fall and their stock of liquid assets increase;

The results presented below focus on this division into four categories of companies. They are of relatively comparable sizes in terms of value added and also generally stable over 2010-2015 (*Graph 8* and *Box 3*).

4. An enterprise within the meaning of the implementing decree of Law no. 2008-776 on the modernisation of the economy of 4 August 2008 is defined as "the smallest combination of legal units that forms an organisational unit producing goods and services and enjoying a certain autonomy in decision-making, in particular for the allocation of routine resources". On the other hand, a legal unit refers to a legal personality concept and implies an obligation to provide corporate financial statements.

5. For an analyse of the indebtedness of the major French groups, see Charasson-Jasson (2017).

6. Long-term financial debt represents the sum of bond loans and loans and other borrowings from credit institutions. The choice of including long-term financial debt is justified for two reasons: firstly, the increase in long-term bank loans and bond issues has largely contributed to the increase in French indebtedness post-crisis, an observation that is corroborated by the enterprise data (cf. below); secondly, short-term bank debt represents a stable amount over the period 2010-2015, both in the companies considered in the macroeconomics analysis and in the national accounting data.

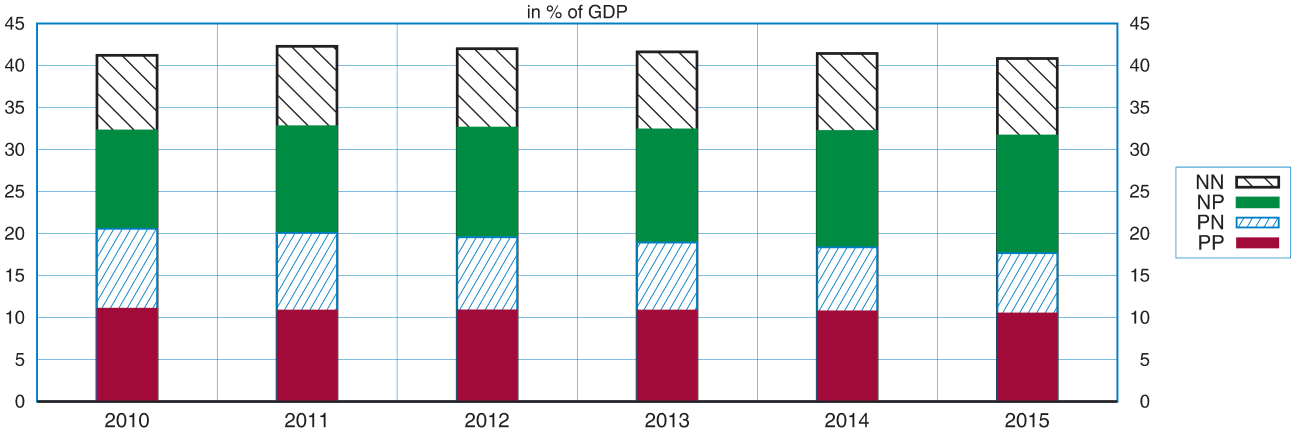
7. Liquid assets, also known as cash assets, represent cash in hand (coins and bank notes in the company's possession) and cash in bank.

The increase in corporate debt between 2010 and 2015 results mainly from companies that have also built up liquid assets

The companies that increased their indebtedness and their liquid assets over 2010-2015 represented the largest amount of outstanding debt in 2010 (€330bn, when the outstanding debt of the other categories of company was between €120bn and €310bn; *Graph 9*). These were also those whose outstanding debt increased the most over the period (+€170bn), whereas the outstanding debt of the other categories of company fell or increased only slightly. This represents an increase of 6.6 percentage points of GDP, of the same order as that of the indebtedness of NFCs observed at macroeconomic level (9.5 points on consolidated data). This category therefore accounts for the bulk of the increase in corporate debt between 2010 and 2015.

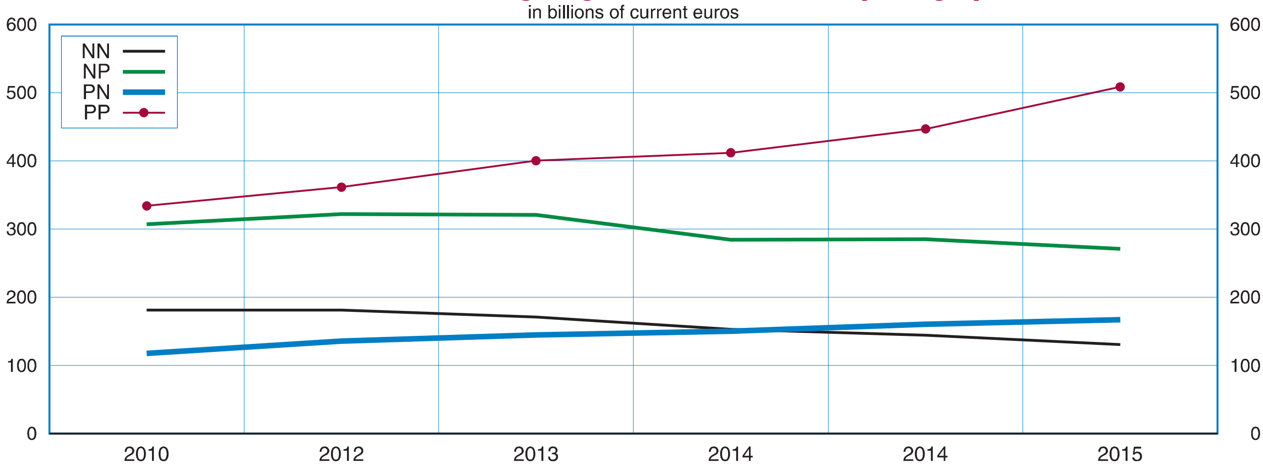
Furthermore, the companies that increased their debt over 2010-2015 without increasing their liquid assets in 2010 represented an outstanding debt that was considerably lower than that of other categories (€120bn). The increase in that debt, about €50bn (1.8 percentage points of GDP), was also substantially lower than that of the companies which, having increased their debt, also built up liquid assets.

8 - Value added of each category of companies



Note: the categories of companies are constructed according to the simultaneous development over 2010-2015 of their outstanding long-term financial debt (as a % of value added) and of their stock of liquid assets.
PP: increase in the debt and increase in the liquid assets - PN: increase in the debt and reduction in the liquid assets - NP: reduction in the debt and increase in the liquid assets - NN: reduction in the debt and reduction in the liquid assets
Source: INSEE calculations

9 - Total outstanding long-term financial debt by category



Note: the total outstanding long-term financial debt is not consolidated. The categories of companies are constructed according to the simultaneous development over 2010-2015 of their outstanding long-term financial debt (as a % of value added) and of their stock of liquid assets.
PP: increase in the debt and increase in the liquid assets - PN: increase in the debt and reduction in the liquid assets - NP: reduction in the debt and increase in the liquid assets - NN: reduction in the debt and reduction in the liquid assets
Source: INSEE calculations

Box 3 - Characterisation of the four categories of company in terms of the sector they belong to and size

Companies here are legal units and may be part of larger groups. They are divided into four categories, as indicated in the text.

The four categories of companies are relatively well balanced: categories PP (which increase their debts and build up liquid assets) and PN (which increase their debts without building up liquid assets) include about 169,000 and 179,000 legal units respectively each year, whilst categories NP (which reduce their debts and build up liquid assets) and NN (which reduce their debts and do not build up liquid assets) include about 273,000 and 214,000 respectively. The legal units that reduce their indebtedness are nevertheless more numerous than those that increase their debt: companies' debt behaviours are very heterogeneous and the marked increase in indebtedness at macroeconomic level seems to result from a minority of enterprises.

PP companies mainly include "heavy" industries such as the production of electricity and gas, water production, as well as manufacturing industry (*Table 1*). This is coherent with the high capital intensity of these sectors, which requires significant use of external financing. PN companies are relatively more numerous in the construction sector, real estate activities, and in trade. Finally, NP companies are overrepresented in sectors with a high technology content, or in business services, while NN companies are relatively more numerous in food service and accommodation activities.

Table 1 - Sector-based distribution of categories of company

Sector	NN	NP	PN	PP
Agriculture, forestry and fishing	–	–	+	+
Extractive industries	–	–	+	+
Manufacturing industry	– –	–	–	++
Production and distribution of electricity, gas, steam and conditioned air	– –	–	++	++
Production and distribution of water ; sanitation, waste treatment and decontamination	– –	+	+	++
Construction	0	– –	++	+
Trade ; repair of vehicles and motorcycles	–	– –	++	0
Transports and storages	–	++	– –	+
Accommodation and food services	++	0	– –	– –
Information and communication	– –	++	0	+
Real estate activities	– –	–	++	0
Specialised, scientific and technical activities	– –	++	–	+
Administrative and support service activities	–	++	– –	0

Note : the categories of companies are constructed according to the simultaneous development over 2010-2015 of their outstanding long-term financial debt (as a % of value added) and of their stock of liquid assets.
PP: increase in the debt and increase in the liquid assets - PN: increase in the debt and reduction in the liquid assets - NP: reduction in the debt and increase in the liquid assets - NN: reduction in the debt and reduction in the liquid assets
The results are based on a chi-square test of independence, 2, significant to less than 0.1%:
++: strong overrepresentation
+: overrepresentation
–: underrepresentation
– –: string under-representation
0: neither over- nor under-representation
The sectors Financial and insurance activities, Public administration, Activities of households as employers, Extra-territorial activities are by nature excluded from the analysis, which is limited to non-financial enterprises. The sectors Education, Human health and social work activities, Arts, entertainments and recreation, Other service activities are not represented.

Source: INSEE calculations

Companies that reduce their debt (categories NP and NN) seem to be overrepresented among legal units with very small workforces (*Table 2*). Conversely, companies that increase their debt and build up liquid assets (PP) tend to be overrepresented among large legal units (over 5,000 employees) while companies that increase their debt without building up liquid assets (PN) are relatively more numerous among small or medium-sized legal units (10 to 250 employees). ■

Table 2 - Distribution by category size

Workforce (EQTP)	NN	NP	PN	PP	Share in the base
Less than 10 EQTP	++	+	–	– –	79%
Between 10 and 249 EQTP	– –	–	+	++	21%
Between 250 and 4,999 EQTP	–	–	0	++	<1%
More than 5,000 EQTP	–	–	0	++	<1%
Share in the base	26%	33%	21%	20%	100%

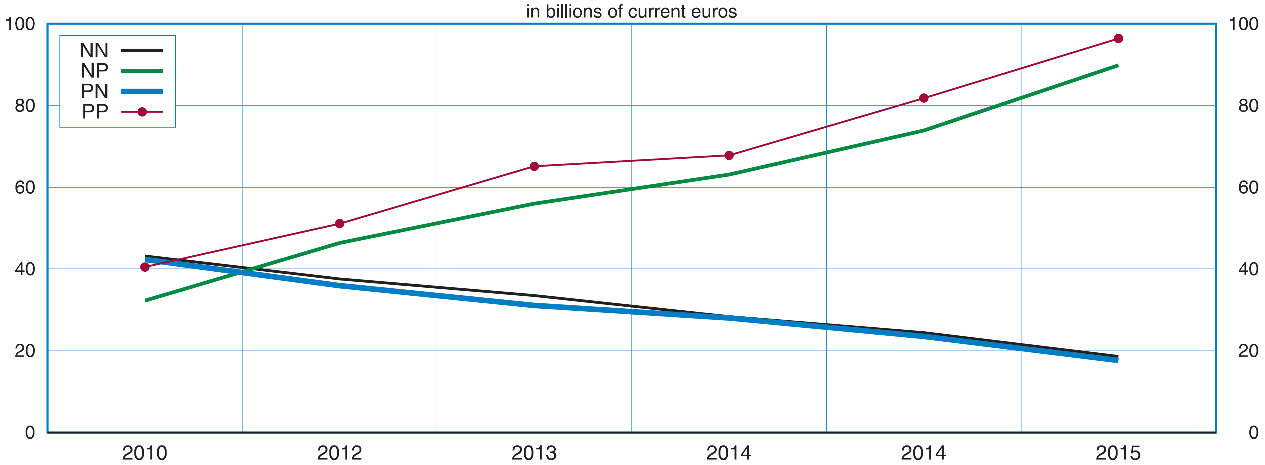
Note: the categories of companies are constructed according to the simultaneous development over 2010-2015 of their outstanding long-term financial debt (as a % of value added) and of their stock of liquid assets.
PP: increase in the debt and increase in the liquid assets - PN: increase in the debt and reduction in the liquid assets - NP: reduction in the debt and increase in the liquid assets - NN: reduction in the debt and reduction in the liquid assets
The results are based on a chi-square test of independence, 2, significant to less than 0.1%:
++: strong overrepresentation
+: overrepresentation
–: underrepresentation
– –: string under-representation
0: neither over- nor under-representation
Source: INSEE calculations

The accumulation of liquid assets by companies between 2010 and 2015 is accounted for as much by companies that increased their debt as by those that did not

In 2010, the four categories of companies had amounts of liquid assets that were generally similar (between about €30bn and €40bn depending on the categories, *Graph 10*). The accumulation of liquid assets between 2010 and 2015 was high in the companies concerned (+€110bn in total) and was accounted for both by companies that had increased their debt and by those whose indebtedness fell. This finding also applies to companies that reduced their stock of liquid assets: this reduction, representing a total of €50bn, was accounted for both by companies that increased their indebtedness and those that reduced it.

In other terms, the companies that increased their debt during the period 2010-2015 possess a stock of liquid assets that has increased overall, without this accounting for the whole of the increase in liquid assets over the period. This finding clarifies, in any case, the analysis made at macroeconomic level: the simultaneous increase in indebtedness and liquid assets in recent years seems to come to a large extent from the same category of companies. A more in-depth exploitation of their microeconomic data will make it possible to get a better idea of the behaviour behind the indebtedness.

10 - Total amount of liquid assets in companies' assets, by category



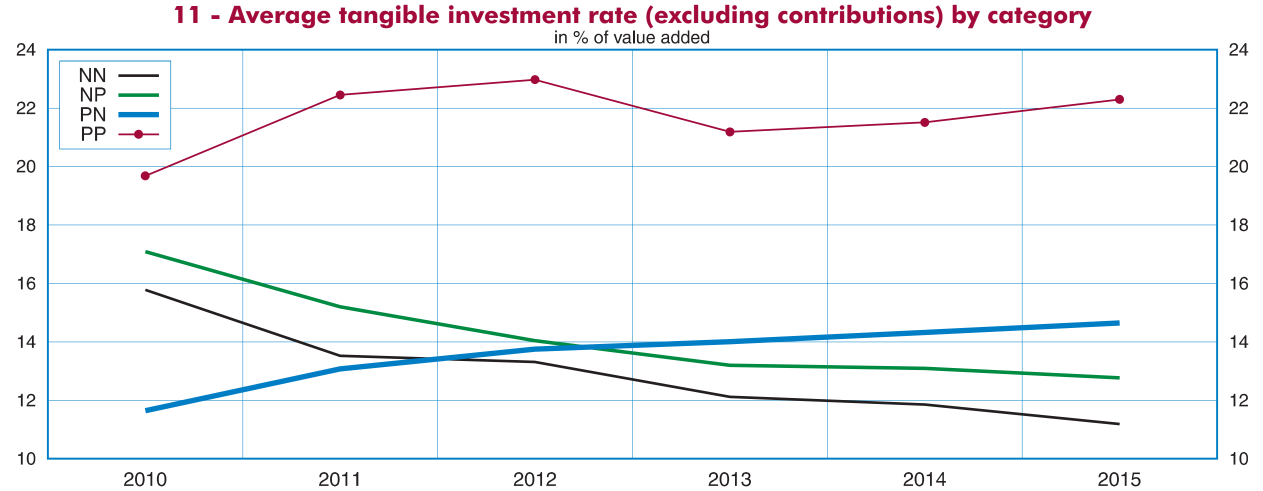
Note: the categories of companies are constructed according to the simultaneous development over 2010-2015 of their outstanding long-term financial debt (as a % of value added) and of their stock of liquid assets.
PP: increase in the debt and increase in the liquid assets - PN: increase in the debt and reduction in the liquid assets - NP: reduction in the debt and increase in the liquid assets - NN: reduction in the debt and reduction in the liquid assets
Source: INSEE calculations

The accumulation of liquid assets by the companies that increase their debt does not seem to have been to the detriment of investment

On average over 2010-2015, the largest part of tangible investments (excluding contributions) was made by companies that increased their debt and at the same time built up their liquid assets over the period (*Graph 11*). In particular, their tangible investment ratio remained relatively stable, going from 20% of their value added in 2010 to 22% in 2015. In comparison, the companies that reduced their debt whilst building up liquid assets reduced their tangible investment rate from 17 to less than 13 percentage points of value added.

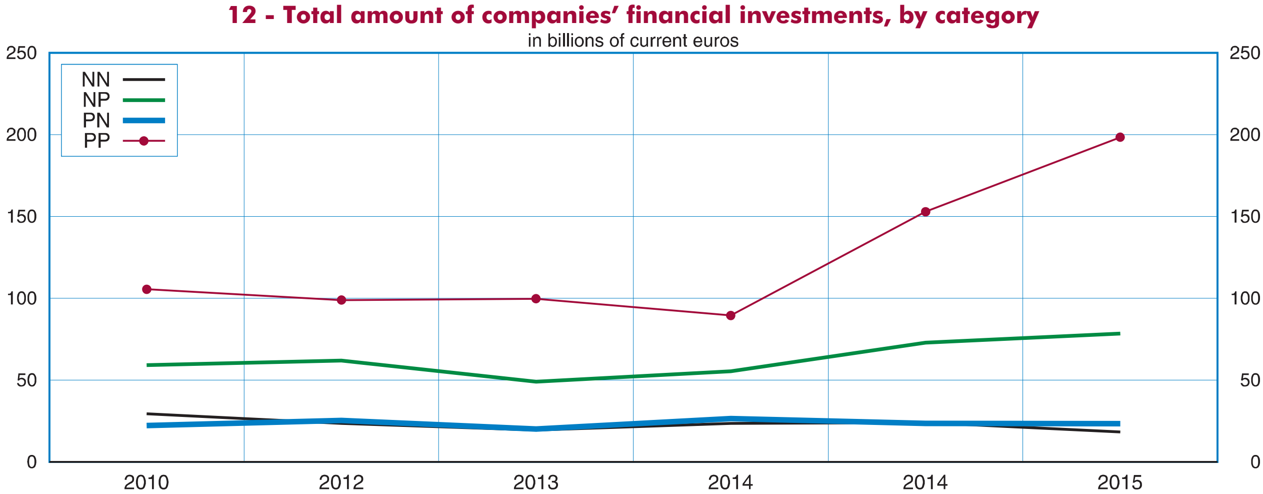
Furthermore, the companies that increased their debt and built up liquid assets also substantially increased their financial investments, which amounted to €106bn in 2010, but reached almost €200bn in 2015 (*Graph 12*). This finding may suggest behaviours on the part of these companies similar to the carry trade initially developed on the currency markets, which consisted of borrowing at low rates to acquire assets with a better yield (*Box 4*). Investments in land, which are mainly made by companies increasing their debt whilst building up liquid assets, did not show any particular developments over the period.

11 - Average tangible investment rate (excluding contributions) by category



Note: the categories of companies are constructed according to the simultaneous development over 2010-2015 of their outstanding long-term financial debt (as a % of value added) and of their stock of liquid assets.
PP: increase in the debt and increase in the liquid assets - PN: increase in the debt and reduction in the liquid assets - NP: reduction in the debt and increase in the liquid assets - NN: reduction in the debt and reduction in the liquid assets
Source: INSEE calculations

12 - Total amount of companies' financial investments, by category



Note: the categories of companies are constructed according to the simultaneous development over 2010-2015 of their outstanding long-term financial debt (as a % of value added) and of their stock of liquid assets.
PP: increase in the debt and increase in the liquid assets - PN: increase in the debt and reduction in the liquid assets - NP: reduction in the debt and increase in the liquid assets - NN: reduction in the debt and reduction in the liquid assets
Source: INSEE calculations

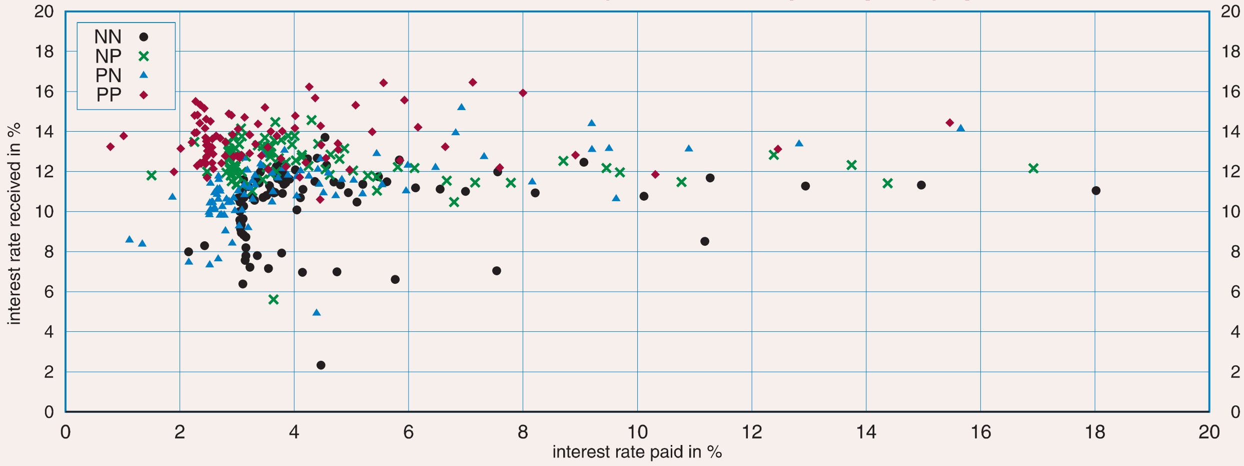
Box 4 - Have enterprises become indebted to purchase financial assets?

The fall in the cost of debt, in particular due to the accommodating monetary policy implemented by the European Central Bank since 2009, may lead to enterprises borrowing to acquire financial assets with a better yield. This operation, qualified as carry trade,[1] includes a risk for the enterprises as it exposes them to a reversal in the rate gap in their disfavour. In our database, the marked increase in the financial investments of companies that increase their debt and build up liquid assets may suggest carry trade behaviours insofar as:

- financial investment shows a marked and recent increase for this category of companies only (*Graph 12*);
- the remunerations received on their investments are higher for companies that increase their debt and build up liquid assets than for others, at the cost of the given debt. These companies seem to be able to optimise their yield on assets while also managing to limit the cost of their debt (*Graph*);
- this observation is confirmed by an examination of the joint changes in the interest rate paid and the interest rate received from 2013 onwards in the different categories of companies: companies that increase their debt while building up liquid assets are overrepresented among those that have seen the cost of their debt fall and the remuneration of their assets increase (*Table*), in line with the carry trade hypothesis. ■

1. See Acharya and Steffen (2015), Caballero *et al.* (2016) and Coeuré (2017).

Interest rate received according to interest rate paid, by category



Note: the categories of companies are constructed according to the simultaneous development over 2010-2015 of their outstanding long-term financial debt (as a % of value added) and of their stock of liquid assets.
PP: increase in the debt and increase in the liquid assets - PN: increase in the debt and reduction in the liquid assets - NP: reduction in the debt and increase in the liquid assets - NN: reduction in the debt and reduction in the liquid assets
The interest rate paid is approximated by the ratio of financial charges to financial debt. The interest rate received is approximated by the sum of the income from other securities (excluding participating interests), the income from fixed asset receivables and other interests, as a ratio of long-term financial assets. For reasons of readability, each point represents the median value of the interest rates received and paid by percentile of interest rate paid.
Source: INSEE calculations

Variation in interest rates paid and received by category

Variation in rate paid and variation in rate received	NN	NP	PN	PP	Total
decrease in rate paid decrease in rate received	–	– –	++	+	49%
decrease in rate paid increase in rate received	– –	–	+	++	8%
increase in rate paid decrease in rate received	++	+	–	– –	36%
increase in rate paid increase in rate received	–	++	–	+	7%

Note: the categories of companies are constructed according to the simultaneous development over 2010-2015 of their outstanding long-term financial debt (as a % of value added) and of their stock of liquid assets.
PP: increase in the debt and increase in the liquid assets - PN: increase in the debt and reduction in the liquid assets - NP: reduction in the debt and increase in the liquid assets - NN: reduction in the debt and reduction in the liquid assets
The results are based on a chi-square test of independence, 2, significant to less than 0.1%:
++: strong overrepresentation +: overrepresentation –: underrepresentation – –: string under-representation
0: neither over- nor under-representation
Source: INSEE calculations

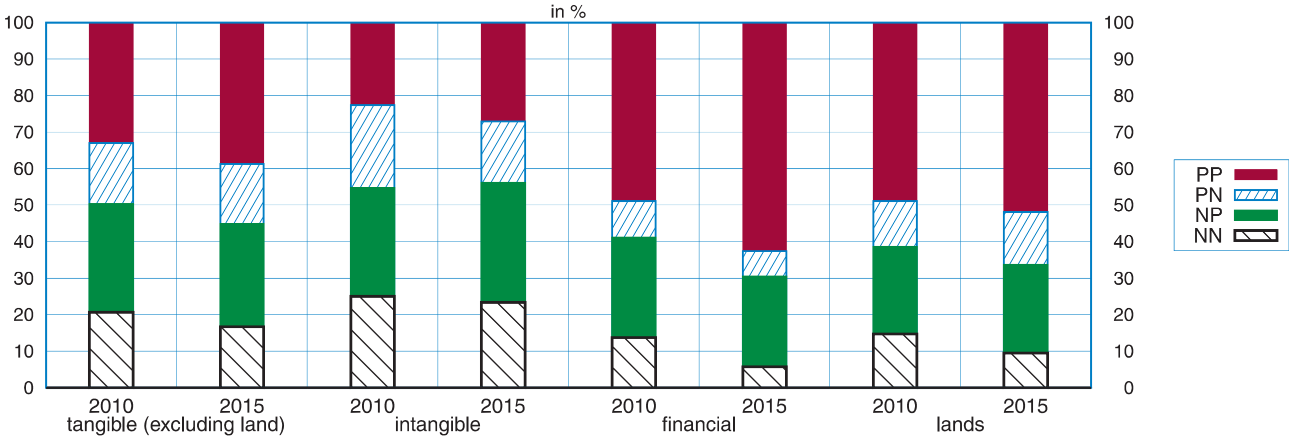
Finally, the companies that increase their debt whilst building up their liquid assets are the second largest contributors (after companies that reduce their debt whilst building up liquid assets) to investment in intangible assets (including development costs, concessions, patents and similar rights), accounting for 25% of the total, or an amount that has remained stable at about €10bn (Graph 13).

This finding therefore rules out the hypothesis of companies having increased both their indebtedness and their liquid assets to the detriment of their investment (Artus, 2017), even if, amongst the latter, financial investment appears to have taken a larger share.

The companies that increased their debt whilst building up liquid assets maintained their margins and improved their savings ratios...

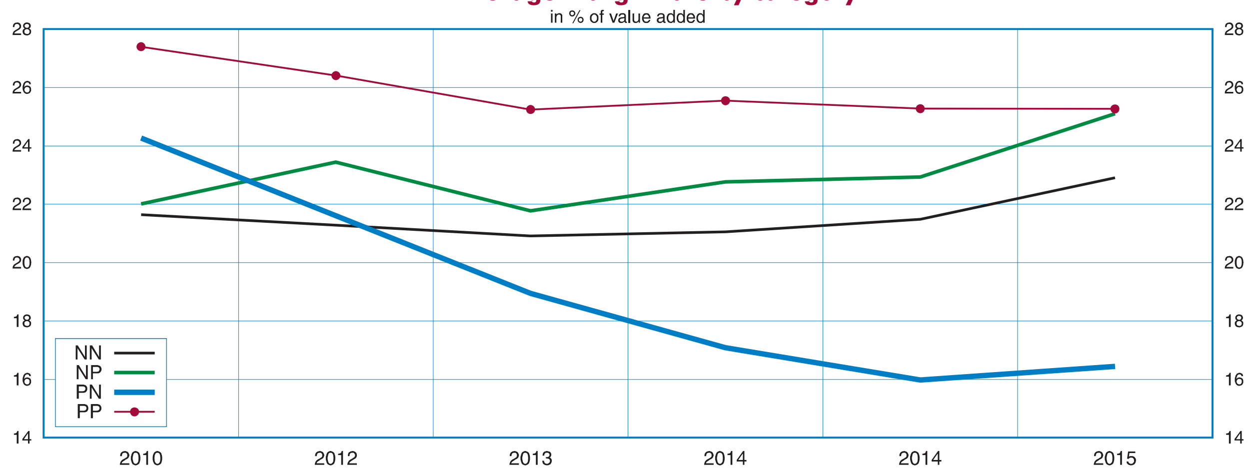
The companies that increased their debt and built up liquid assets do not seem to have seen their operational performance deteriorate over the period: indeed, although it fell by 2 percentage points of value added between 2010 and 2015, their average margin rate stabilised from 2012 onwards and, moreover, remains higher than that of the other categories (Graph 14).

13 - Distribution of investment by category and by type



Note: the categories of companies are constructed according to the simultaneous development over 2010-2015 of their outstanding long-term financial debt (as a % of value added) and of their stock of liquid assets.
PP: increase in the debt and increase in the liquid assets - PN: increase in the debt and reduction in the liquid assets - NP: reduction in the debt and increase in the liquid assets - NN: reduction in the debt and reduction in the liquid assets
Source: INSEE calculations

14 - Average margin rate by category



Note: the margin rate refers to ratio of the gross operating surplus of the companies concerned to their value added.
The categories of companies are constructed according to the simultaneous development over 2010-2015 of their outstanding long-term financial debt (as a % of value added) and of their stock of liquid assets.
PP: increase in the debt and increase in the liquid assets - PN: increase in the debt and reduction in the liquid assets - NP: reduction in the debt and increase in the liquid assets - NN: reduction in the debt and reduction in the liquid assets
Source: INSEE calculations

A similar observation can be made regarding savings ratios: the average savings ratios of the companies that increased their debts and built up liquid assets over 2010-2015 remained stable overall between 2010 and 2014 (approximately 12 percentage points of value) and then increased to 15 percentage points of value added in 2015 (*Graph 15*). Both the margin rates and the savings ratios of these companies were higher than those of companies that built up liquid assets whilst reducing their indebtedness.[8] These facts therefore seem to counter, for the companies that increased their debts and built up liquid assets, the hypothesis of indebtedness being due to insufficient profitability.

On the other hand, the companies that increased their debts without building up liquid assets saw a clear decline in their margin rate over the period, the latter falling from 24 percentage points of value added in 2010 to 16 points in 2015. Their savings ratio showed a similar profile, falling by 5 percentage points of value added between 2010 and 2015.

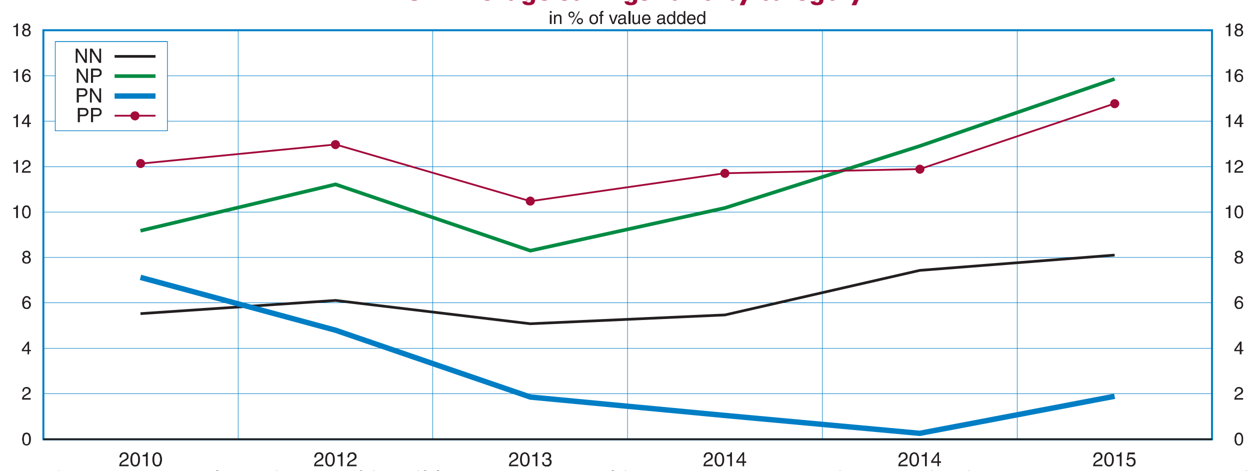
... and did not pay out more in dividends over the period

The intensity of dividend payouts, measured as the share of dividends in the self-financing capacity (net revenue before payment of dividends) fell overall for companies that increased both their indebtedness and their liquid assets: after a period of stability between 2010 and 2014 at around 60%, the figure fell sharply in 2015 to about 30% (*Graph 16*). In view of these elements, the hypothesis of debt being incurred with a view to remunerating shareholders better by paying out dividends does not seem very credible (although this does not exclude the remuneration of shareholders by buying back shares). Nevertheless, the dividend-value added ratio stabilised over the period, reflecting an increase in profits rather than the intensity of dividend payouts.

On the other hand, the companies that increased their debt without increasing their stock of liquid assets showed a strong increase in the intensity of dividend payouts. It seems that faced with a deterioration in their self-financing capacity, these companies sought to maintain the amount of the dividends paid (as a % of value added), at the risk of using up most of their self-financing capacity. These marked differences in dividend payouts between categories may reflect the distribution of revenues between the legal units in the same group. Indeed, companies that increase their debt seem to be overrepresented among group subsidiaries (*Box 5*).

8. It should be noted that the savings ratio is calculated net of changes in the repayment of debt, which reinforces the findings.

15 - Average savings ratio by category



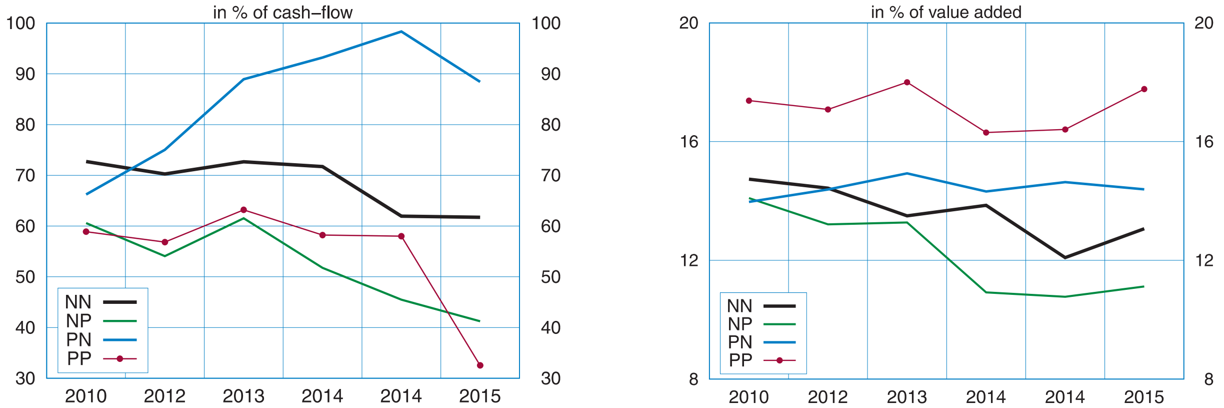
Note: the savings ratio refers to the ratio of the self-financing capacity of the companies concerned (amount that the company manages to set aside from its annual business after payment of all the parties involved, such as employees, subcontractors and temporary workers, lenders, the State and the shareholders) to their value added.
The categories of companies are constructed according to the simultaneous development over 2010-2015 of their outstanding long-term financial debt (as a % of value added) and of their stock of liquid assets.
PP: increase in the debt and increase in the liquid assets - PN: increase in the debt and reduction in the liquid assets - NP: reduction in the debt and increase in the liquid assets - NN: reduction in the debt and reduction in the liquid assets
Source: INSEE calculations

The companies that increase their debt whilst building up liquid assets increase their equity, but at a slower pace than their debt

The sustainability of an enterprise's debt can also be analysed by comparing it with its equity. Equity (defined here as the sum of the share capital, the reserves, the amounts carried forward, the year's profits, subsidies and regulated provisions) represents a stable resource for the enterprise, contributed by the shareholders or partners with a view to exercising a right of control. For its part, the debt represents a predetermined financial charge - loan repayments - which can constitute a burden for the enterprise if its results are temporarily inadequate. Thus, the ratio of this long-term financial debt to equity gives an indication of the proportion of the company's long-term resources required by recurring financial charges, and a sudden increase in this ratio can immediately appear as a source of risk.

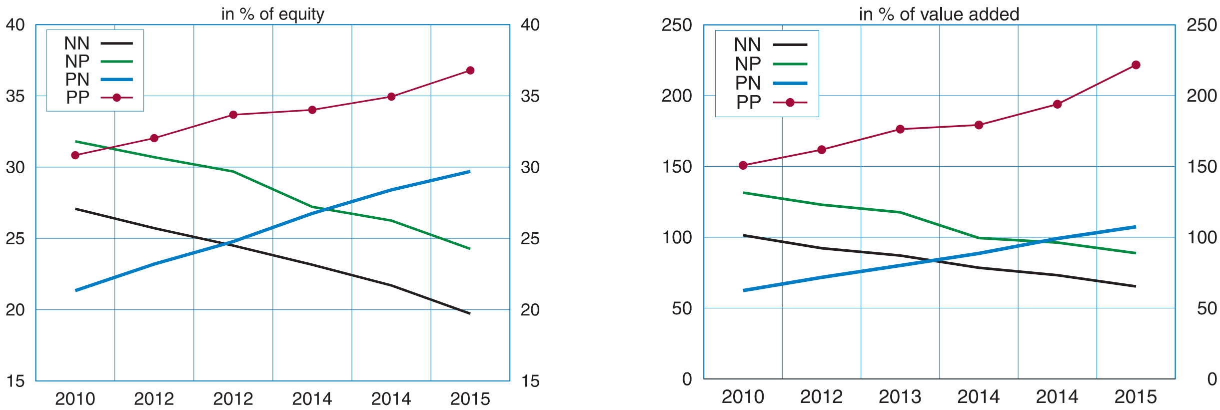
For the companies that increased their debt over 2010-2015 and built up liquid assets, debt-to-equity ratio increased by 6 points between 2010 and 2015 (*Graph 17*). This admittedly noteworthy increase is nevertheless lower than that of the debt-to-value added ratio, which increased by 71 points between 2010 and 2015. Thus, the companies that increased their debt whilst building up liquid assets increased their equity, at a comparable rate, although lower than that of the increase in their debts: the balance sheet structure is only reasonably deformed in favour of the debt. On the other hand, these companies' debt increased sharply in relation to their value added, which indicates a generalised increase in balance sheets disconnected from these companies' results.

16 - Average dividend payout by category



Note:the intensity of the dividend payout refers to the ratio of the amount of the dividends paid by the companies concerned to their self-financing capacity (net revenues before payment of dividends).

17 - Indebtedness rate by category



The categories of companies are constructed according to the simultaneous development over 2010-2015 of their outstanding long-term financial debt (as a % of value added) and of their stock of liquid assets.
PP: increase in the debt and increase in the liquid assets - PN: increase in the debt and reduction in the liquid assets - NP: reduction in the debt and increase in the liquid assets - NN: reduction in the debt and reduction in the liquid assets
Source: INSEE calculations

Box 5 - Categories and belonging to a group

The microeconomic analysis is based on the legal unit as the statistical unit, with the idea of being able to follow a company in the sample for as long as possible. Indeed, the exploitation of profiled enterprise data (that is to say bringing together legal units belonging to the same group) did not allow the years before 2013 to be studied.

This analysis, which is by nature non-consolidated, therefore allows an examination of the link between indebtedness and intra-group organisation. The legal units that increased their debt over the period 2010-2015 seem to mainly belong to groups, in line with the existing literature (Picart, 2003, and also Kremp and Sevestre, 2000). Nevertheless, those that increase their debt and build up liquid assets are overrepresented among parent companies, whilst companies that increased their debt are overrepresented among subsidiaries of groups, whatever their behaviour concerning liquid assets (*Table*). These results are consistent with the dividend payout dynamic, which has been on a particularly upward trend in companies that increase their debt without building up liquid assets (often subsidiaries) and substantially down for companies that increased their debt and built up liquid assets, which included numerous parent companies. ■

Frequency of parent companies and subsidiaries in the different categories of companies

Is the legal unit...					
... a parent company?	**NN**	**NP**	**PN**	**PP**	**Share in the base**
No	++	+	+	– –	89%
Yes	– –	–	–	++	11%
... a subsidiarie ?	**NN**	**NP**	**PN**	**PP**	**Share in the base**
No	++	+	–	– –	73%
Yes	– –	–	+	++	27%
Share in the base	25%	33%	21%	21%	100%

Note: the categories of companies are constructed according to the simultaneous development over 2010-2015 of their outstanding long-term financial debt (as a % of value added) and of their stock of liquid assets.
PP: increase in the debt and increase in the liquid assets - PN: increase in the debt and reduction in the liquid assets - NP: reduction in the debt and increase in the liquid assets - NN: reduction in the debt and reduction in the liquid assets
Source: INSEE calculations

At individual level, the bulk of the debt is taken on by companies whose indebtedness rate net of liquid assets remains contained, even if certain heterogeneous dynamics call for vigilance

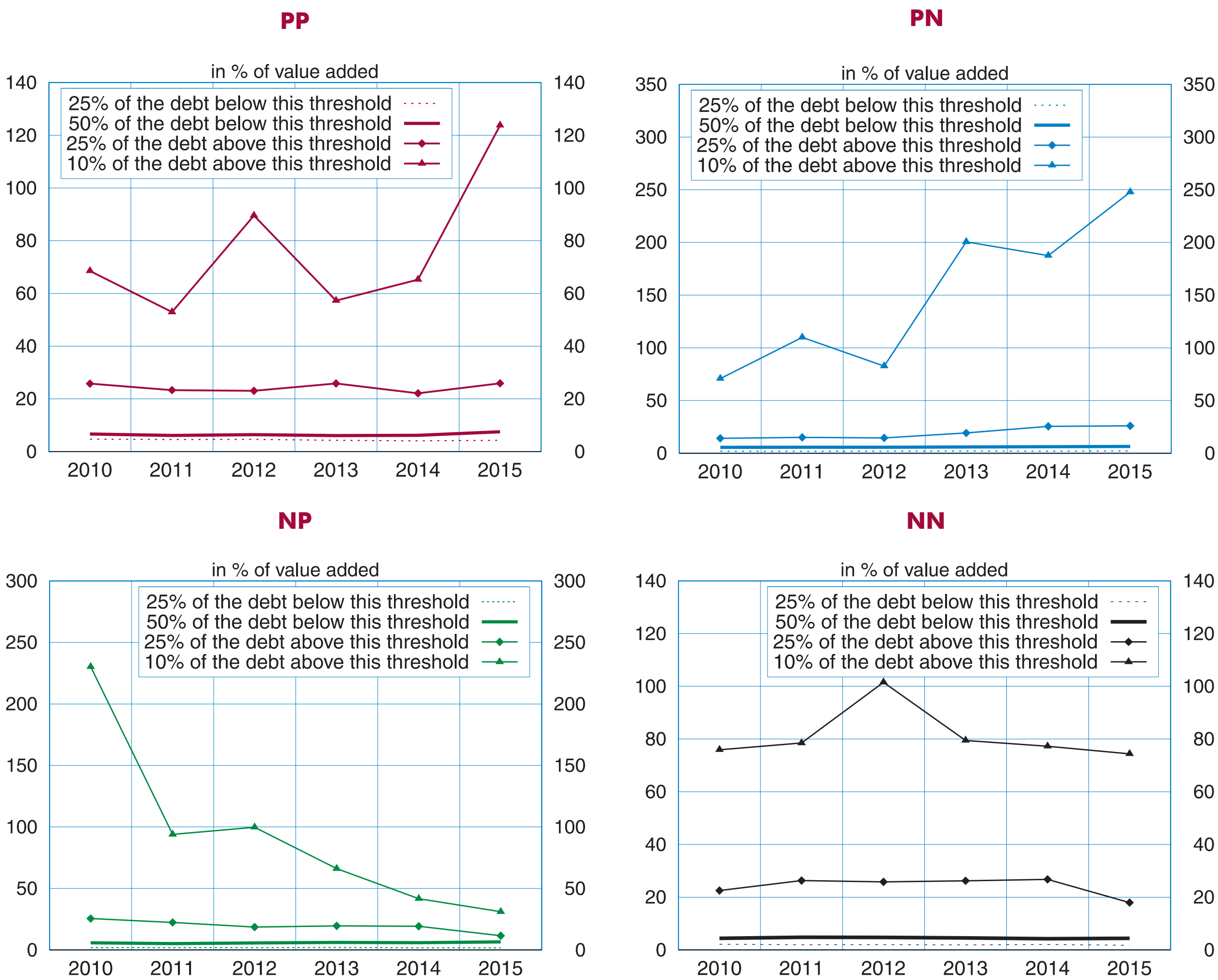
In a similar way to what was done at macroeconomic level, we now consider the net indebtedness of companies (debt net of liquid assets, in proportion to value added). In order to concentrate on those that could pose a risk in terms of their indebtedness, we will consider only the most indebted 10% of companies in 2015 (in terms of outstanding debt): this includes approximately 76,000 legal units,[9] which represented more than 80% of the total outstanding debt in 2015. Companies that increased their debt and built up liquid assets represent about a third of the companies in this scope, whilst companies that increased their debt without building up liquid assets and those that reduced their debt whilst building up liquid assets each represent about 20%.

9. 3,600 legal units belonging to large corporations (within the meaning of the Law on the modernisation of the economy in 2008), 12,000 legal units belonging to intermediate-sized companies, 20,000 and 41,000 legal units considered as micro-enterprises and small and medium-sized enterprises respectively.

Within this scope of the most indebted companies in 2015, the largest part of the debt is situated in companies whose indebtedness rate net of liquid assets remains under 30% or 40% depending on the categories of company, and this applies over the entire period: for example, among the companies that increased their debt and built up liquid assets, 75% of the debt is carried by companies whose net indebtedness net of liquid assets does not exceed 30% of their value added (*Graph 18*), suggesting that the latter are building up liquid assets at a rate sufficient to cover their debt.

On the other hand, a part of the debt is concentrated in companies whose levels of indebtedness are substantially higher and more dynamic: among the companies that increased their debt and built up liquid assets, 10% of the debt is held by those whose indebtedness net of liquid assets exceeded 70% of value added in 2010, then 120% in 2015. In the companies that increased their debt without building up liquid assets, 10% of the debt is carried by those whose net indebtedness exceeded 60% of the value added in 2010, then 250% in 2015.

18 - Indebtedness rate net of liquid assets of the most indebted 10% of companies in 2015, by category



How to read it: in 2010 and in the most indebted companies in 2015 (in volume of debt), 75% of the debt of the PP companies was carried by companies who indebtedness net of liquid assets was less than 25% of their value added, while 10% of the debt was carried by companies whose indebtedness net of liquid assets was greater than 70% of their value added.
Note: the categories of companies are constructed according to the simultaneous development over 2010-2015 of their outstanding long-term financial debt (as a % of value added) and of their stock of liquid assets.
PP: increase in the debt and increase in the liquid assets - PN: increase in the debt and reduction in the liquid assets - NP: reduction in the debt and increase in the liquid assets - NN: reduction in the debt and reduction in the liquid assets

Source: INSEE calculations

Although the debt of French enterprises is mainly held by enterprises with substantial liquid assets, a financial risk subsists

The recent rise in debt therefore seems to be due to enterprises that are also accumulating liquid assets at the same time. In particular, large corporations, which make a large contribution to the aggregate outstanding debt, have seen the ratio of their net debt (net of liquid assets) to their equity fall since 2012 (Banque de France Bulletin, 2017). However, this does not mean there is no financial risk at all. On the one hand, the high level of indebtedness of French enterprises relative to other European enterprises makes them more vulnerable to a scenario of rising interest rates, as well as to any adverse economic shock more generally (OECD, 2017). On the other hand, there is reason to fear a scenario where some of the liquid assets held by enterprises were used to acquire assets at prices that were already high. Such behaviour would then make them vulnerable to changes in the value of the newly acquired assets. ■

Bibliography

Acharya V. and **Steffen S.** (2015) "The "greatest" carry trade ever? Understanding eurozone bank risks", *Journal of Financial Economics*, vol. 115 issue 2, p. 215-236, February.

Artus P. (2017), "Faut-il s'inquiéter des pays de l'OCDE où le taux d'endettement des entreprises augmente?", *Flash Économie* n° 570, Natixis, May.

Baquero L. (2016) "Is there too little private investment in Germany?", *Trésor-Éco* n° 172, July.

Caballero J., **Panizza U.** and **Powell A.** (2016) "The second wave of global liquidity: Why are firms acting like financial intermediaries?", *IDB Working Paper* n° IDB-WP-641, May.

Charasson-Jasson H. (2017), "L'endettement des grands groupes français: comment évolue-t-il? Que finance-t-il?", *Bulletin de la Banque de France* n° 214, November-December.

Coeuré B. (2017), "The international dimension of the ECB's asset purchase programme", speech given on July 11th 2017 at the *Foreign Exchange Contact Group* meeting.

Ferrante A., **Guillas D.** and **Solotareff R.** (2016), "Between 2010 and 2015, wealth inequalities were slightly reduced", *Insee Première* n° 1621, November.

Fortin A., **Giraud C.-J.** and **Lalande É.** (2015), "Corporate financing, the key factor of investment divergences in Italy and Spain", *Conjoncture in France*, INSEE, December, p. 21-40.

Fournier J. (2017), "Les endettements public et privé : divergences d'environnement économique et de choix conceptuels", International statistical comparisons: France-Germany figurations, *Panorama du CEPII* n° 2017-02, June.

Kremp E. and **Sevestre P.** (2000), "L'appartenance à un groupe facilite le financement des entreprises", *Economics and Statistics* n° 336.

OCDE (2017), "Resilience in a time of high debt", *OECD Economic outlook*, vol. 2017 issue 2.

Picart C. (2003), "Internationalisation and debt among large French groups in the late 1990s", *Economics and Statistics* n° 363-364-365. ■