BBVA Research

Banking

Corporate debt in the twilight of the credit cycle

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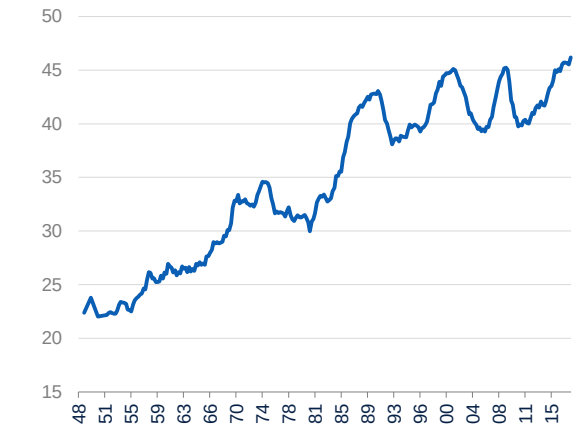
- **Nonfinancial corporate debt-to-GDP is high, but debt-to-assets and debt-to-earnings remain moderate**
- **Solid earnings, tax cuts and low real interest rates allow corporations to service their debt without problems**
- **However, tighter financial conditions, a slowdown in profit growth and higher risk aversion will lead to higher debt distress levels and deterioration in credit quality**
- **Higher distress in nonfinancial corporate leverage could lead to a recession, but not singlehandedly cause a systemic financial crisis**

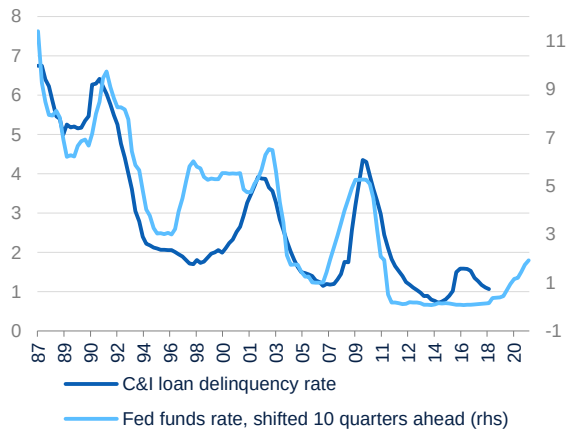
The unprecedented period of highly accommodative monetary policy and ample liquidity over the last ten years supported a surge in nonfinancial corporate debt. In 2Q18, it reached a new high of $9.4tn. This represents an increase of $3.3tn or 53% since 1Q10. The ratio of nonfinancial corporate debt to GDP stands at 46.2% - the maximum reached since 1948, when this data started to be recorded in the current form (Figure 1). The high level of debt has raised concerns surrounding the financial health of the business sector, particularly in a period of raising interest rates, which in the past has presaged an increase in debt defaults (Figure 2). Given the current cycle's excessive risk-taking in credit markets due to higher financing of junk-bonds and leveraged loans, the next wave of defaults could be much worse. This brief investigates the conditions behind the high levels of corporate debt and discusses the possible developments in the upcoming quarters.

Figure 1. Nonfinancial corporate debt-to-GDP[1] (%)



Source: BBVA Research, Federal Reserve and BEA

Figure 2. Delinquencies and interest rates (%)



Source: BBVA Research and Federal Reserve

Leverage

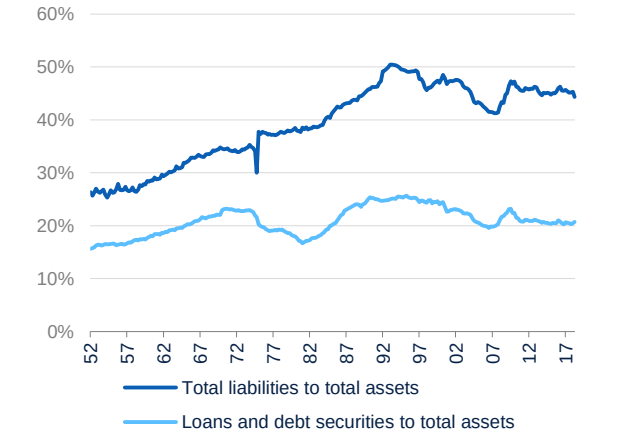
While nonfinancial corporate debt has reached record levels relative to GDP, the debt-to-assets ratio calculated using Federal Reserve's Flow of Funds data suggests that leverage might not be so excessive (Figure 3). One problem with this ratio is that it assumes asset values at market or replacement cost, which could misrepresent the true level of leverage if asset prices are misaligned with fundamentals. Moreover, aggregated figures might mask some risks that could be developing underneath the surface.

1: Debt equals securities plus loans

In order to better understand what is happening when book values are taken into account and gauge the distribution of leverage in the corporate sector, we compiled a dataset of 2,670 randomly selected nonfinancial companies from the universe of U.S. domiciled corporations that are or have been active at any time since 1987, with complete key financial data.[2] The number of domestic companies listed on U.S. stock exchanges has fluctuated from over 7,500 in the late 90's to around 3,600 in 2017. Our large and random sample provides valuable information even though it does not include unlisted companies.

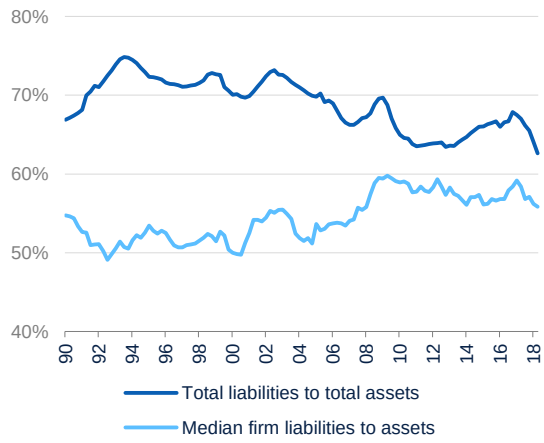
The aggregated time series derived from the sample support the finding that overall leverage (total liabilities to total assets) might not be as worrisome as indicated by the debt-to-GDP ratio. For example, the leverage ratio has been declining since the early 1990s. For the median firm, this ratio has been edging down since 2009 (Figure 4). Thus, leverage seems to have been stable or declining. The average and the median, being measures of central tendency, need to be complemented with some information about the dispersion of the data. To do this, we look at the ratios for the 90th and 95th percentile of firms in the distribution. This data also confirms that the leverage trends are sound, even for the most leveraged companies (Figure 5), and are supported by improved financial performance since the second half of 2010 (Figure 6).

Figure 3. Nonfinancial corporations, leverage (%)



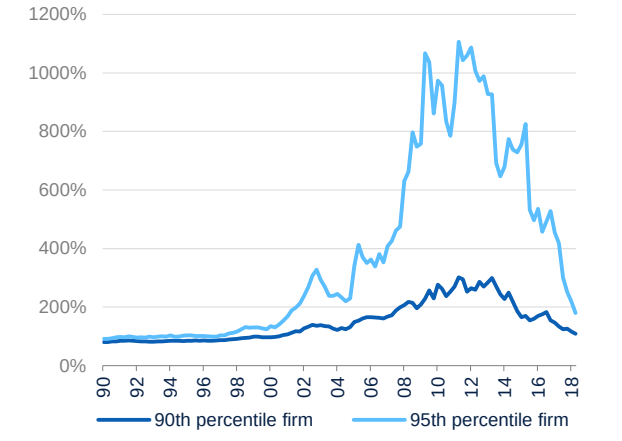
Source: BBVA Research and Federal Reserve

Figure 4. Publicly listed nonfinancial corporations leverage ratios (%)



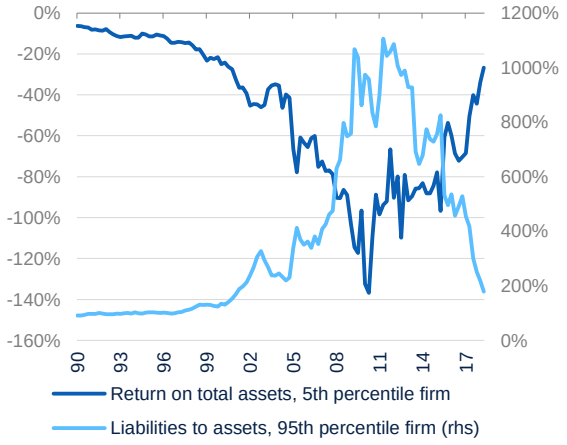
Source: BBVA Research calculations based on Bloomberg data

Figure 5. Publicly listed nonfinancial corporations, liabilities to assets (%)



Source: BBVA Research calculations based on Bloomberg data

Figure 6. Publicly listed nonfinancial corporations, EBIT to assets and liabilities to assets (%)



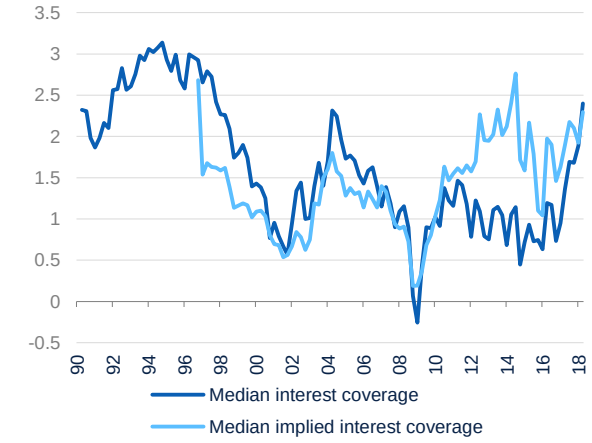
Source: BBVA Research calculations based on Bloomberg data

2: Total assets, total liabilities, cash and cash equivalents, and earnings before interest and taxes (EBIT)

Additional indicators can provide more insightful information. One is the interest coverage ratio, which shows how many times a company's EBIT[3] covers its net interest costs. The higher the ratio, the more capable a company is to service its debt. The median ratio in our sample has increased significantly, which points to improving conditions, as does the implied interest coverage ratio, which we calculate for a wider subset of firms since the actual interest coverage ratio is not reported for a part of the firms in our sample (Figure 7). The same conclusion applies for the 10th percentile firm (Figure 8). The negative interest coverage ratio of the 5th percentile firm, which represents the highest-risk segment in the tail of the distribution, has increased significantly in absolute terms since 2010, but shows some recent improvement.

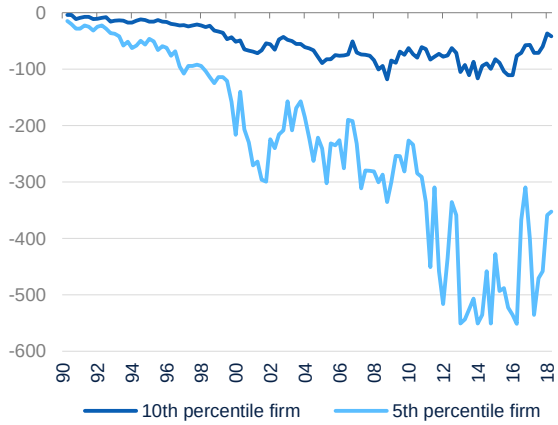
A closer look into the characteristics of firms with extremely negative interest coverage ratios indicates that they are more likely to be in highly complex segments of the economy: pharmaceuticals, medical devices, software, and technology ex software. This is the case because despite having a positive valuation due to the perceived high value of their innovations, some companies that are in their early stages of commercialization have negative earnings. Thus, the high degree of negative interest coverage in the high-risk tail of the distribution is likely a result of the high initial investment needed in business models based on new technologies before they become profitable. After excluding these non-profitable and highly leveraged firms, the average implied interest coverage ratio does not change substantially, confirming that the size and prevalence of these firms is limited and thus their potentially adverse impact on financial stability is small in relative terms.

Figure 7. Publicly listed nonfinancial corporations, interest coverage ratio (Ratios)



Source: BBVA Research calculations based on Bloomberg data

Figure 8. Publicly listed nonfinancial corporations, interest coverage ratio (Ratio)



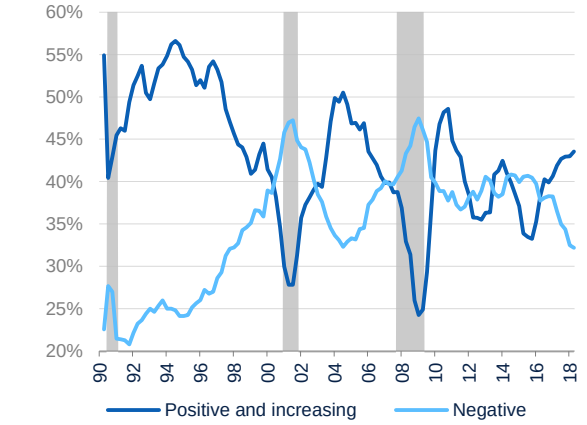
Source: BBVA Research calculations based on Bloomberg data

Earnings trends determine the ability of firms to sustain corporate debt and are crucial for understanding how critical the current level of corporate debt really is. In this respect, the insights from our sample provide mixed results. On a positive note, the share of firms with negative earnings in 2Q18 stood at the lowest level since 1Q98, while the share of firms with positive and increasing earnings was the highest since 3Q11 (Figure 9). However, the relative value of negative EBIT has started to inch up while the share of positive and increasing EBIT out of total positive EBIT has started to decline. These diverging signals reflect a slowdown in EBIT growth among larger companies, but also improving EBIT trends for smaller firms.

Since signs of potential weakness in EBIT growth are unusual for an economy that is not yet in a recession, we investigated if this is caused by one specific industry. However, the data shows that the slowdown in earnings growth is not concentrated in any particular industry, but is rather widespread. That said, total earnings in the software industry have been negative since 2016 (Figure 11). While these developments could reflect a greater risk-on inclination and willingness to invest in potentially high-rewarding activities, they nevertheless point to a buildup of risks, which could be exposed as interest rates increase further and when the economy slows down.

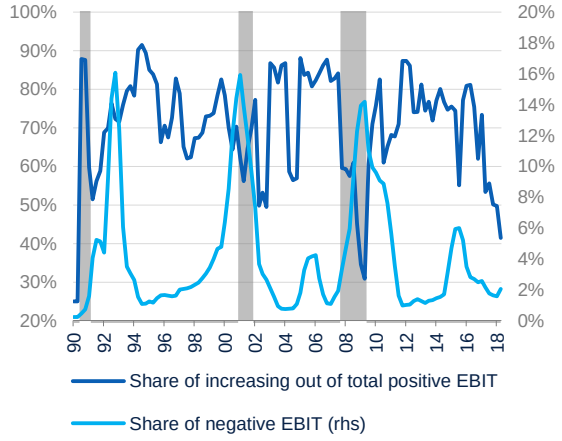
3: Earnings before interest and taxes

Figure 9. EBIT trends, share of firms, unweighted (%)



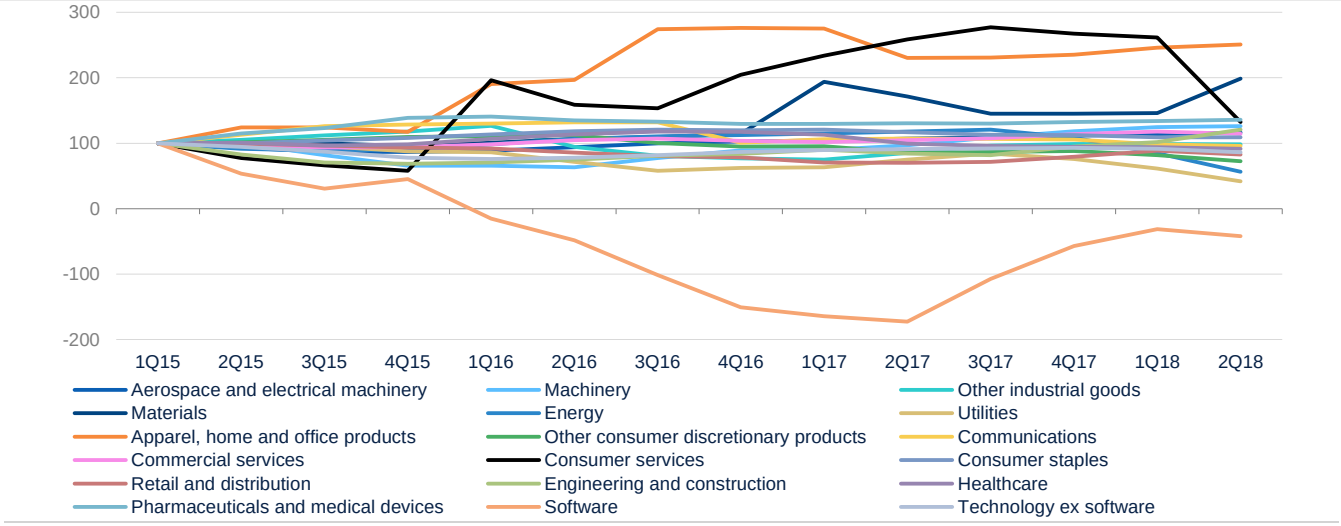
Source: BBVA Research calculations based on Bloomberg data

Figure 10. EBIT trends (%)



Source: BBVA Research calculations based on Bloomberg data

Figure 11. EBIT (Index 1Q15=100)

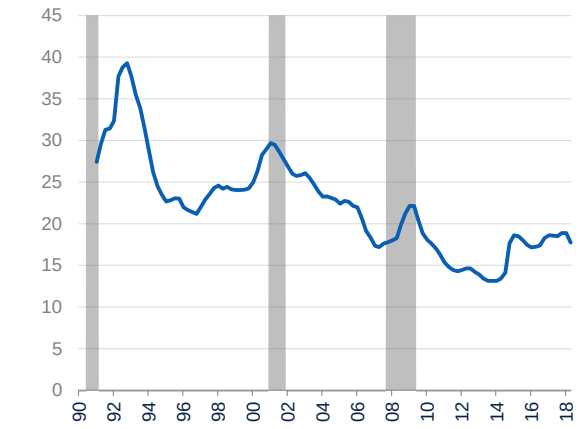


Source: BBVA Research calculations based on Bloomberg data

An additional indicator that we investigated is debt[4] to EBIT. In the current environment of rising interest rates, companies with high debt to EBIT ratios will be the most exposed to potential financial stress. This indicator also sends mixed messages. Surprisingly, total debt to EBIT for our sample is relatively low compared to historical standards (Figure 12). Moreover, the share of firms with increasing debt to EBIT ratios and the share of debt held by such firms seems to be close to historical averages (Figure 13). That said, there is an observable increase in debt to EBIT for firms around the median of the sample (Figure 14) which exposes higher risks and is likely related to the slowdown in EBIT growth for some firms, as discussed above. By industry, the highest level of debt to EBIT in 2Q18 was in the utilities sector and the lowest in the healthcare industry (Figure 15). Debt to EBIT was negative in the software sector due to this segment's negative earnings.

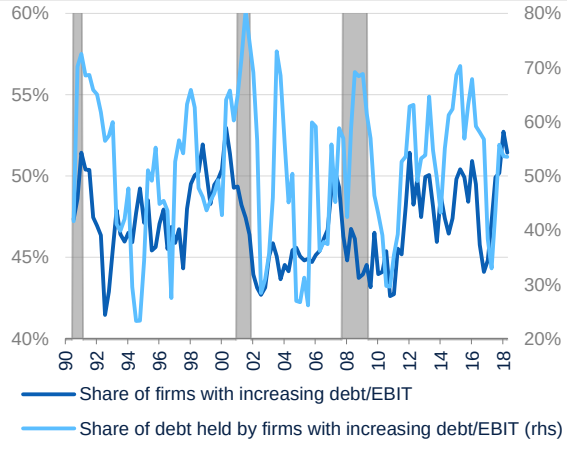
4: Debt is calculated as total liabilities minus cash and cash equivalents

Figure 12: Debt to EBIT (Ratio)



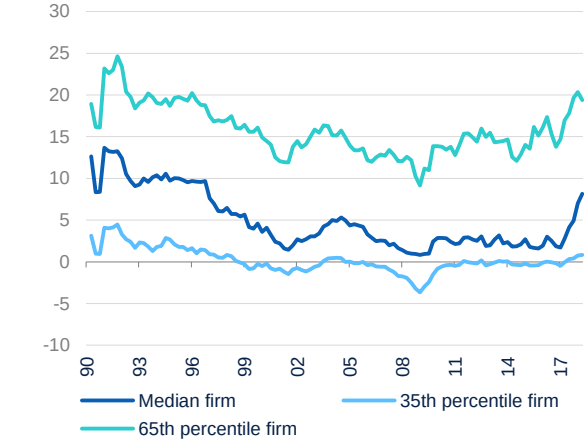
Source: BBVA Research calculations based on Bloomberg data

Figure 13: Firms and debt subject to increasing leverage (Ratio)



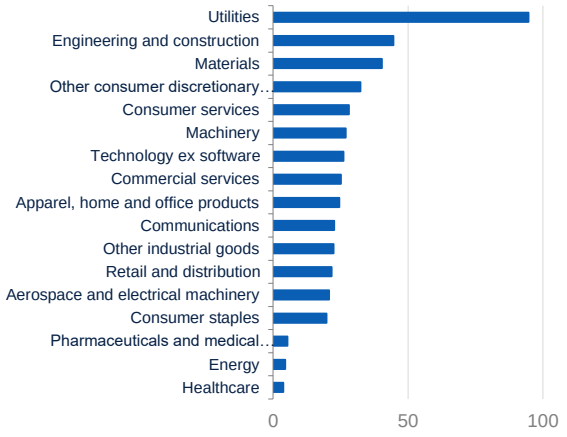
Source: BBVA Research calculations based on Bloomberg data

Figure 14: Debt to EBIT (Ratio)



Source: BBVA Research calculations based on Bloomberg data

Figure 15: Debt to EBIT (Ratio)

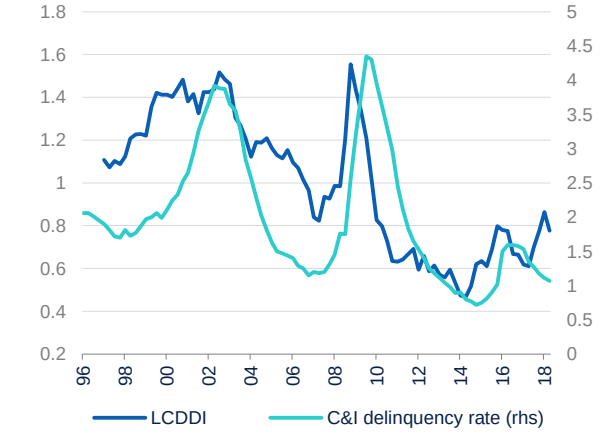


Source: BBVA Research calculations based on Bloomberg data

BBVA U.S. leading corporate debt distress index

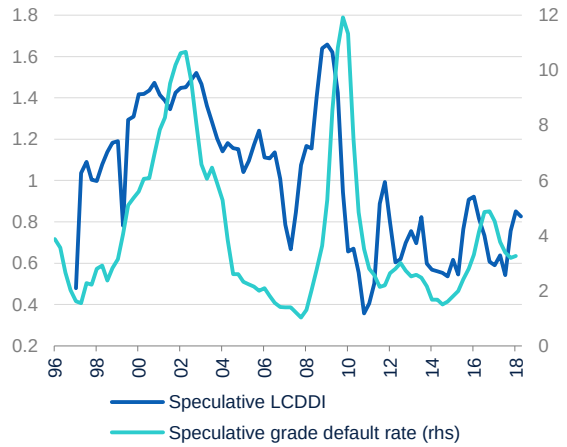
The macroeconomic data and the descriptive statistics from our sample point to still solid business conditions in terms of corporate indebtedness, but also an increasing risk of higher defaults going forward, especially if earnings growth slows. If the increase in defaults leads to systemic financial stress and a credit crunch, it can have a sizeable negative impact on investment and employment, and bring about an economic recession. To estimate the likelihood of this occurring, we use our sample and historical interest rate data for corporate bonds rated AA, BBB, BB, B and CCC to develop the BBVA U.S. Leading Corporate Debt Distress Index (LCDDI). The LCDDI correlates well with the commercial and industrial (C&I) loan delinquency rate (Figure 16) and leads it, on average, by three quarters. The LCDDI is not coincident with GDP growth, so it adds significant value to a forecasting model of delinquencies that also relies on output growth forecasts. We also produce a LCDDI for speculative grade debt (Figure 17) by only using the data for firms with higher degree of leverage and interest rates for BB, B and CCC grade debt. Both indicators point to the possibility of some deterioration in credit quality over the next year, which under our baseline scenario will nevertheless remain contained due to solid GDP growth. By industry, the LCDDI points to average or below average level of debt distress, except in the case of software and utilities (Figure 18).

Figure 16: LCDDI and C&I delinquency rate (Indicator, average=1 and %)



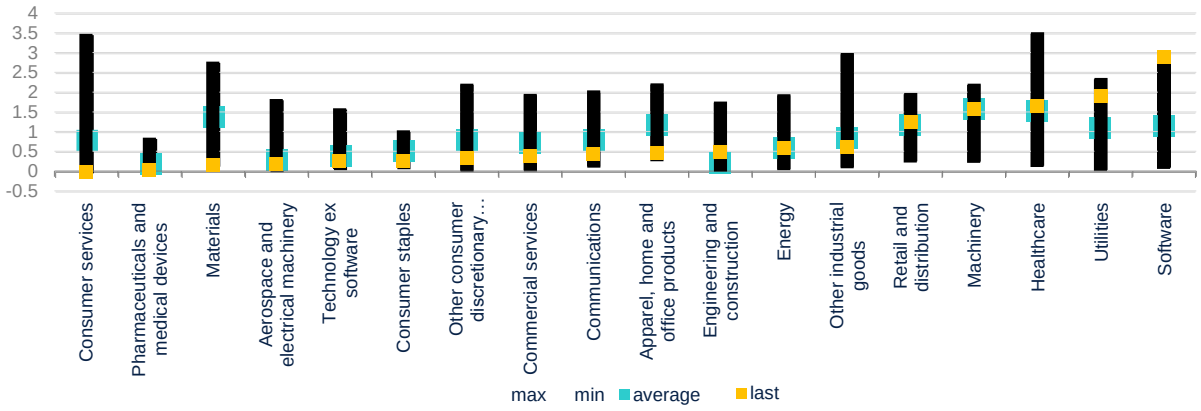
Source: BBVA Research calculations, Bloomberg and Federal Reserve

Figure 17: LCDDI and speculative grade default rate (Indicator, average=1 and %)



Source: BBVA Research calculations, Bloomberg and S&P

Figure 18: LCDDI, excluding high-stress periods (Index, overall average=1)



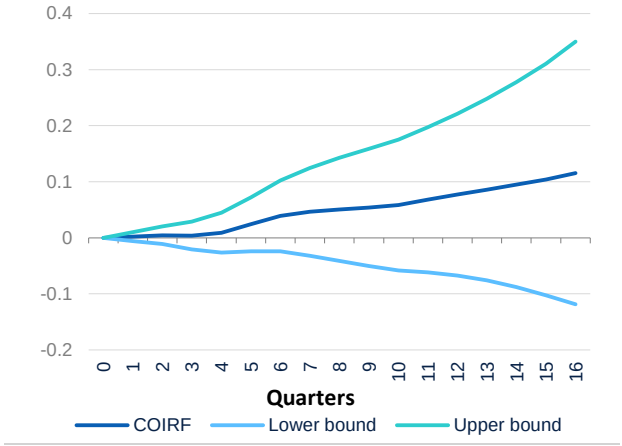
Source: BBVA Research calculations based on Bloomberg data

Impulse response analysis

Our next step is to use the LCDDI to identify the relationship between debt distress and main macroeconomic variables. We find that economic expansions lead to an increase in debt distress in the long-run. While a positive shock to GDP growth initially has no impact on debt distress, upward risks accumulate over time (Figure 19). The same pattern exists when real stock prices experience a positive shock; although the initial response is negative, over time the level of distress increases (Figure 20). This is in line with stock prices leading real GDP by one to two quarters. The results of the two impulse response functions are well documented in economic literature. For example, Hyman Minsky's financial-instability hypothesis posits that long stretches of calm and prosperity result in a buildup of risks through greater indebtedness and leverage[5] as market participants adjust their expectations based on benign experiences with credit defaults in the immediate past and progressively become more predisposed to risk taking.

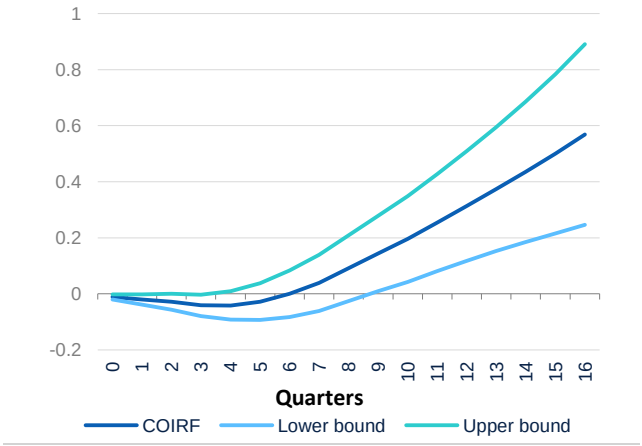
5: See for example: H.P. Minsky. *The financial instability hypothesis*. Jerome Levy Economics Institute Working Papers (1992), p. 74

Figure 19: Cumulative impulse response function and 95% confidence interval (Impulse - real GDP growth, response – debt distress indicator)



Source: BBVA Research

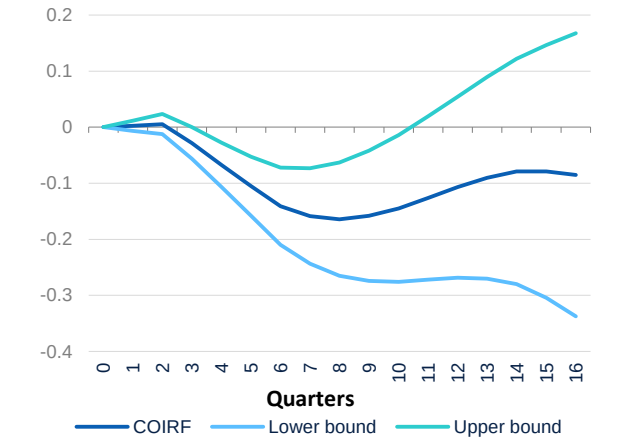
Figure 20: Cumulative impulse response function and 95% confidence interval (Impulse - real S&P500 growth, response – debt distress indicator)



Source: BBVA Research

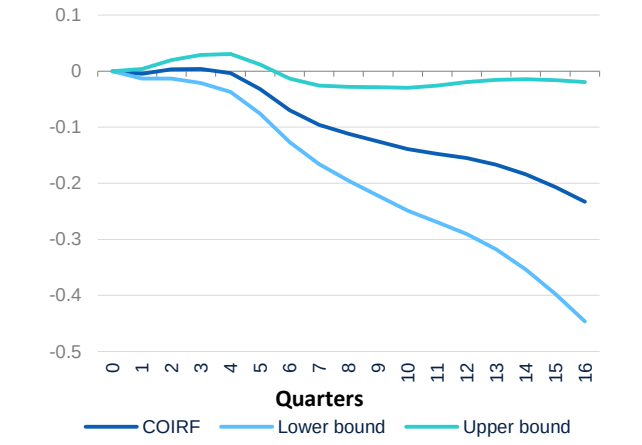
On the other hand, positive shocks to real interest rates have an opposite effect, as they suppress debt distress over the mid- and long-term (Figure 21). This likely occurs due to overleveraged firms exiting the market, the rest of market participants deleveraging, and higher risk aversion on the supply side. This finding provides support to the Federal Reserve's view that it is appropriate to continue on a path of gradually increasing interest rates at this stage of the business cycle in order to contain potentially larger downside risks down the road. The most effective tool for controlling debt distress in the long run, however, seems to be tighter lending standards. While debt distress could slightly increase in the first year after credit standards experience a positive shock, as firms find it more difficult to restructure their debt obligations, it declines thereafter as a result of more prudent leverage and underwriting standards (Figure 22).

Figure 21: Cumulative impulse response function and 95% confidence interval (Impulse – real Federal Funds rate, response – debt distress indicator)



Source: BBVA Research

Figure 22: Cumulative impulse response function and 95% confidence interval (Impulse – C&I credit standard tightness, response – debt distress indicator)



Source: BBVA Research

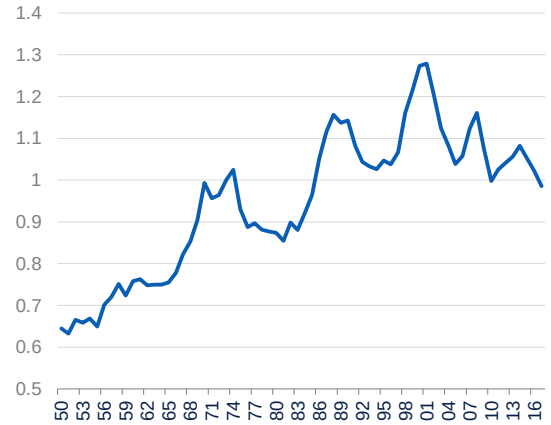
Can corporate leverage cause an economic recession?

Despite a historically high debt-to-GDP ratio, other corporate financial indicators point to still tolerable corporate leverage conditions. One of the reasons why debt-to-GDP could be somewhat misleading is the secular increase in the share of capital to GDP. Indeed, the ratio of nonfinancial debt to the share of capital in total output has been declining since peaking at the turn of the century (Figure 23). Obviously, fiscal and structural market conditions (for example, high levels of liquidity) could favor debt over other sources of funding such as equity. Nonetheless, since the ratio of equity to debt has remained near the average in the last 15 years, it would seem that the increase in debt is in fact responding to the economy becoming more capital intensive. In fact, in 3Q18, the ratio of investment in information equipment plus intellectual property to GDP reached its highest level since 2001. In other words, the unprecedented corporate debt-to-GDP ratio is to some extent, a reflection of the increasing role of computers, software, communication equipment, and R&D in the new economy.

Nevertheless, the concerns regarding the interlinkages between corporate debt and economic recessions are understandable as the overall debt-to-earnings ratio for nonfinancial companies currently stands at similar levels as before the last three recessions (Figure 24). Moreover, although in neither of these instances was corporate leverage the main cause of a financial crisis, it either contributed to or had the potential to contribute to the ensuing recession. Therefore, one could envision a scenario where corporate debt distress deteriorates significantly, financial market stress increases and investment and hiring are negatively impacted. Contagion to financial institutions could exacerbate the negative shock.

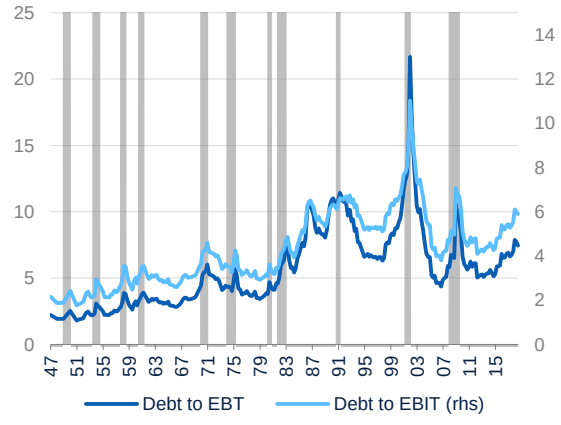
One potential channel for financial contagion could be a large-scale downgrade of BBB-rated debt to high yield grade, preventing a large share of institutional investors from holding it due to legal or policy limitations. This would likely lead to a larger than usual selloff, which would lead to further tightening of financial conditions. This scenario is particularly pertinent this time around as corporate debt rated BBB represents close to 50% of total investment grade debt, compared to 32% in 2000 and 37% in 2007. A shift of significant amount of debt to non-investment grade compared to previous episodes of stress could be further complicated by the already higher tilt within high yield to debt rated below BB. While the current health of the banking sector is strong, as evidenced by higher capital ratios and adequate reserves, there is less robustness in the non-banking financial sector, and a downturn in this sector could have significant second-round effects in the rest of the economy.

Figure 23: Non-financial debt to capital share of GDP (Ratio)



Source: BBVA Research calculations and estimates, BEA and FRED

Figure 24: Relative debt levels, nonfinancial corporations (%)



Source: BBVA Research and Federal Reserve

Conclusion

The extended period of economic growth coupled with unprecedented and prolonged accommodative monetary policy has contributed to a high degree of business leverage and risk accumulation. Some analysts and policymakers fear that a massive wave of corporate debt defaults and bankruptcies could lead to a quick deterioration in financial conditions and possibly a credit crunch or a systemic financial crisis. The corporate leverage indicators presented in this brief and our Leading Corporate Debt Distress Index suggest that while non-financial debt distress is in fact increasing, it remains at moderate levels. Therefore, baring major weaknesses in other parts of the economy such as the non-banking financial sector, an interest rate overshoot by the Federal Reserve or an external negative shock, corporate debt is not likely to cause a financial crisis singlehandedly.

Still, in an environment of slower earnings growth and higher interest rates, delinquencies and defaults will undoubtedly increase as firms with inferior business models or unsustainable leverage find it more difficult to borrow and refinance existing debt. Some industries such as information technology and utilities seem to be more exposed to these risks than other sectors. The overall impact may be more moderate if productivity and profit growth surprise to the upside.

A scenario of debt rebalancing and restructuring will undoubtedly have a negative impact on the economy in the short-term, but it could be positive in the long run if it results in greater business efficiency and dynamism, and this in turn makes the economy more resilient and productive. In this respect, the Federal Reserve is right to maintain a steady course of removal of monetary accommodation while banks are correct to exert a higher degree of caution in lending. These measures can moderate the level of risk stemming from high corporate debt over the long run.