

# EUROPE: THE SHOCK OF COVID-19 AND THE FEAR OF ACCELERATED ZOMBIFICATION

Looking beyond the short-term economic shock, the Covid-19 pandemic and the exceptional health protection measures introduced to contain it raise many questions as to the lasting consequences of the crisis. The issue of zombie firms, which is far from new, has taken on a whole new dimension, as their weight in developed economies has progressively increased since the 1980s. Massive public interventions to tackle the effects of the pandemic, whether by governments – debt moratoriums, cancellations of employer social security contributions, widespread use of short-time working schemes, etc. – or by central banks – increase and prolongation of asset purchases schemes – could result in keeping non-viable companies afloat, raising fears of a zombification of economies.

## Definitions

A zombie firm is generally defined as any firm that is active in the market but with low productivity, high debt and poor profitability. The definition and measurement of the phenomenon are not subject to a widespread consensus. Amongst the existing versions, we would refer in particular to that of the OECD (Adalet McGowan et al, 2017), which defines a zombie firm as one that has existed for more than ten years and whose operating income has not covered debt servicing costs for a period of more than three consecutive years<sup>1</sup>. The Bank of France uses another definition, that proposed by Caballero et al (2008) in their pioneering article on zombie firms in Japan<sup>2</sup>: a zombie firm refers to a company that is fragile but that benefits from particularly favourable financing terms<sup>3,4</sup>. Banerjee and Hoffmann (2020) consider a zombie firm to be an unprofitable company with a low market valuation for a two-year period<sup>5</sup>. Whatever definition one uses, the identification of zombie firms requires a distinction to be drawn between a temporary fall in a company's cash reserves (liquidity problem) and its inability to meet future debt repayment deadlines (solvency problem).

The issue of zombification was widely discussed following the Japanese crisis of the 1990s, after the bursting of real estate and financial market bubbles that weakened the country's economy. Looking beyond the Japanese example, the current shock means that the issue has reared its head again, raising a number of questions. Where are we now, particularly in Europe? What are the causes, real or monetary, of the zombification of economies? Are these economies suffering from lasting macroeconomic effects, most notably in terms of productivity? Will the current crisis and public policies supporting economic activity accelerate the phenomenon of zombification? If so, what would a suitable response be? This article will attempt to provide some aspects of the answers. We will focus our analysis specifically on European countries. We will examine mainly the macroeconomic situation, so will not cover all aspects of the question in detail. To this extent, this article should be seen, above all, as food for thought.

1 Adalet McGowan et al (2017), *The walking dead? Zombie firms and productivity performance in OECD countries*, OECD working papers

2 R.J. Caballero et al, *Zombie lending and depressed restructuring in Japan*, American Economic Review, 2008

3 Zombie firms benefit from loans granted at interest rates lower than would reflect their risk profile. More precisely, "a company is assumed to have obtained particularly advantageous financing terms (very low rates) if the rate of its loan is below the first decile of the healthiest companies, that is to say the highest rate offered to 10% of companies benefiting from the lowest interest rate and the best rating or notation from the Banque de France". (Avouyi-Dovi et al, 2017)

4 S. Avouyi-Dovi et al, *Y-a-t-il des entreprises zombies en France ?*, Bloc-notes Eco, Banque de France, March 2017

5 R. Banerjee and B. Hofmann, *Corporate Zombies: Anatomy and life cycle*, BIS Working Papers, September 2020. The precise criteria are as follows: interest coverage rate of less than 1 and a Tobin's Q ratio below the sector median.

## The current situation, causes and consequences of zombification

### Where are we now? A brief overview of current conditions

Zombie firms now play a more important role in developed economies than they did in the past. According to Banerjee and Hofmann (2020), who looked only at listed companies (the number of listed zombie firms as a percentage of the total number of listed firms), 15% of firms could be classified as zombies in 2017, from around 4% at the end of the 1980s<sup>6</sup>. Over the past three decades, this proportion has tended to rise following crises and then fall again in subsequent years. However, the zombification phenomenon has become more persistent.

Although there are differences in estimates of their number, the rising trend in the share of zombie firms in advanced economies is widely recognised. This said, as demonstrated by the work of Hallak et al (2018)<sup>7</sup>, the picture varies considerably across European countries. For instance, Greece is the European economy with the greatest share of zombie firms, at close to 25%. However, this 2013 estimate should be treated with some caution given the highly difficult Greek macroeconomic situation at the time. The proportion in Spain (at around 20%) is twice that in Italy or France. The share of capital held in zombie firms is also significantly higher in Greece than in France or Germany. This hierarchy has been confirmed by the work of the OECD<sup>8</sup>.

### How can we explain the rise in zombification?

As discussed in the introduction, the zombification phenomenon has grown in scale since the 2000s, mirroring the earlier pattern in Japan. It should be noted that in the early 1990s Japan suffered a long deflation of real estate and financial market assets, which undermined the value of collateral. Zombification was in part related to difficulties in the banking sector. Numerous analyses of the situation in Japan have highlighted the lack of a rapid restructuring of banks following the bursting of the bubble and the rise in non-performing loans. The authorities' response was thus too late and too timid. In order to avoid booking losses, Japanese banks continued to lend to unprofitable firms<sup>9</sup>. In reality, for a bank, accurately assessing the capital losses in the event of non-redemption of a loan leads to an increase in provisioning and a deterioration of its financial situation.

6 R. Banerjee et B. Hofmann., *Corporate Zombies: Anatomy and life cycle*, BIS Working Papers, September 2020.

7 I. Hallak et al, *Fear the walking dead? Incidence and Effects of Zombie Firms in Europe*, European Commission, 2018

8 Adalet McGowan et al (2017), *The walking dead? Zombie firms and productivity performance in OECD countries*, OECD working papers

9 See footnote, page 3



**SHARE OF ZOMBIES FIRMS (% OF TOTAL FIRMS)**

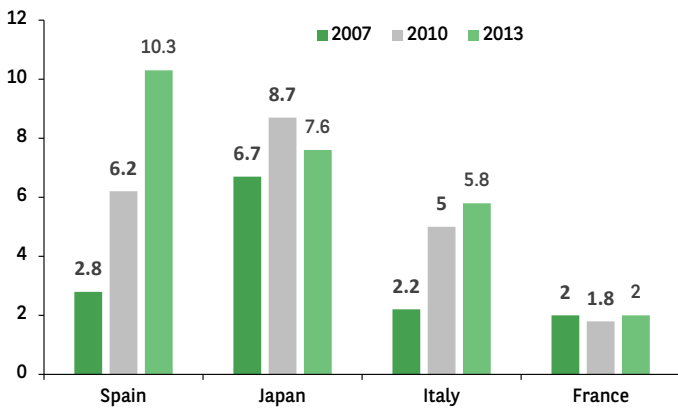


CHART 1

SOURCE: ADALET MCGOWAN ET AL. (2017), OECD

**THE SHARE OF CAPITAL SUNK IN ZOMBIE FIRMS IN 2013 (%)**

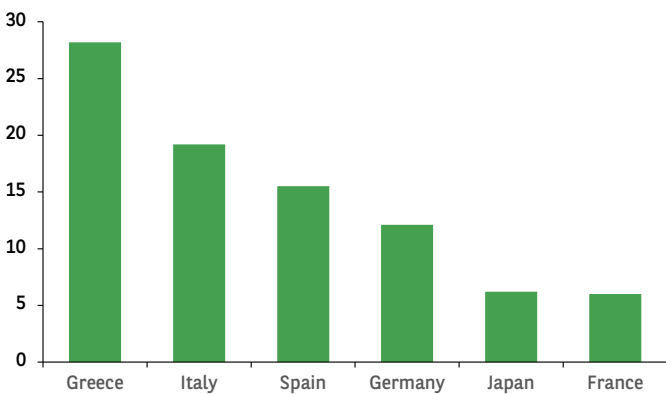


CHART 2

SOURCE: ADALET MCGOWAN ET AL. (2017), OECD

**AVERAGE COST OF NEW LOANS TO NFCS IN THE EUROZONE**

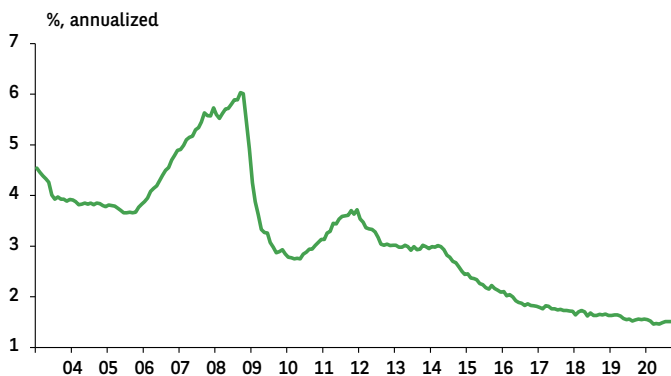


CHART 3

SOURCE: EUROPEAN CENTRAL BANK

Thus, zombification could result from banks' difficulties, particularly the most vulnerable ones for which making non-profitable loans remains the most viable solution (difficulties which, in some countries, could be amplified by the close links between banks and their client firms through crossed shareholdings). This outcome is consistent with the fact that zombie firms are more likely to have ties with fragile banks, as has been highlighted by a number of studies<sup>10</sup>. Other studies (Acharya et al 2020)<sup>11</sup> have suggested that lending to zombie firms has a deflationary effect by creating excess production capacity. This can complicate the task of monetary authorities and delay an increase in interest rates (see following paragraph). According to some authors, one of the main reasons for the proliferation of zombie firms in Europe, is the rapid and long lasting fall in interest rates since the early 1980s which has reduced financial pressures on all companies. Massive interventions by the European Central Bank (ECB), through cuts in its policy rates and a substantial asset purchasing programme (Quantitative Easing), have fed through into the loans granted to non-financial companies in the eurozone, whose borrowing costs have fallen in a virtually continuous manner (Chart 1). The fall in rates may have thus encouraged increased financial risk-taking by firms that would have behaved differently had rates been higher.

The supply of liquidity from central banks and the relaxation of financing conditions may have indeed contributed to supporting viable firms that only faced temporary cash flow needs, but, in the meantime, may also have supported non-viable firms. Without monetary - or fiscal - interventions, the weakest firms would not withstand negative shocks and would be squeezed out of the market. That said, if such policies persist, they can maintain non-viable firms in the market and limit the 'ordered' restructuring of firms, through the bankruptcy process (see below). However, the link between low interest rates and zombie firms seems somewhat too reductionist - particularly in the eurozone - and is not fully established in the literature<sup>12</sup>. Furthermore, as already discussed, the weight of zombie firms varies significantly between the countries in the eurozone, even though member States all share the same monetary policy.

Thus it is difficult to blame low interest rates as the only catalyst for zombification. The best brake on this phenomenon could also be stronger economic growth<sup>13</sup> and a higher level of investment. The issue of the deficit of investment relative to the level of available savings is a pressing topic in the global economy at the moment, particularly in the eurozone. Within the currency union, the imbalance between savings and investment (public and private) has grown since the crisis of 2008-2009. An increase in investment, at constant savings levels, would be beneficial for medium-term economic growth and would reduce the downward pressure on interest rates.

It is worth highlighting a reciprocal causality: on the one hand, the fall in interest rates could amplify the process of zombification, which depresses investment. On the other hand, weak investment levels relative to savings depress both economic activity and interest rates. The two effects - monetary and real - may keep zombie firms in the market and therefore appear difficult to isolate. Lastly, the effects of higher interest rates on the zombification process are uncertain.

<sup>10</sup> D. Andrews et al, *Breaking the shackles: Zombie firms, weak banks and depressed restructuring in Europe*, ECB, February 2019

<sup>11</sup> V.V. Acharya et al, *Zombie credit and (dis-)inflation: Evidence from Europe*, Federal Reserve Bank of New York, Staff Reports December 2020

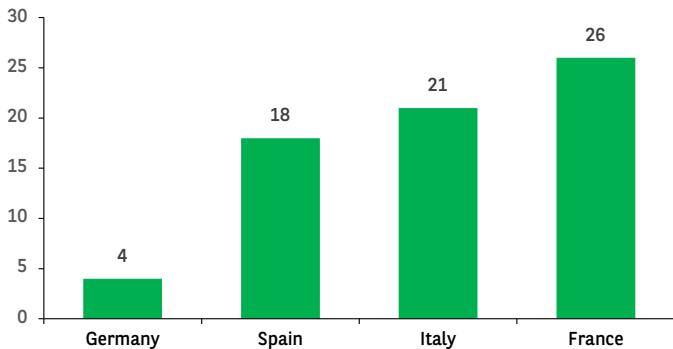
<sup>12</sup> L. Laeven et al, *Zombification in times of pandemic*, VoxEU CEPR, October 2020

<sup>13</sup> U. Bindseil and J. Schaaf, *Zombification is a real, not a monetary phenomenon: Exorcising the bogeyman of low interest rates*, VoxEU CEPR, January 2020



Any increase, all other things being equal, would have the significant effect of forcing firms out of the market<sup>14</sup>. Meanwhile, without the substantial monetary support of recent years, current GDP levels and inflation in the eurozone would have been much lower<sup>15</sup>.

#### EFFICIENCY OF BANKRUPTCY PROCEDURES: WORLD BANK RANKING\*



\* Ranking out of 190 countries

Note: The World Bank index combines a number of indicators including the duration and cost of the process, together with qualitative information on the administrative management of these procedures. The higher the position in the rankings, the more efficient the bankruptcy procedure. For a detailed methodology, see <https://www.doingbusiness.org/en/methodology/resolving-insolvency>.

CHART 4

SOURCE: REFINITIV, WORLD BANK

Other structural factors, specific to each country, partly explain zombification and the differences in its trend between eurozone countries. Several studies stress the importance of the way in which struggling companies are dealt with in different countries. When the restructuring system is efficient, with relatively short and low-cost procedures, the reallocation of bank loans from struggling firms to more productive firms is quicker and the depreciation of assets is more limited. Conversely, when the system is less efficient, the process of “creative destruction” is held back. According to some authors, if “losses” are considered to be significant by banks, it may be in their interest to continue to lend to these vulnerable companies<sup>16</sup>. This perpetuates the zombification cycle. On this point, and based on World Bank estimates<sup>17</sup>, we can see major differences between European countries, with France and Italy both having long bankruptcy processes (over 18 months on average). Expanding our sample to include the rest of the world, Europe is well-positioned overall, with 14 countries in the top 20 of the rankings.

To conclude this section, alongside the macroeconomic causes, we will consider some factors from a firm’s perspective. Is there a ‘typical’ zombie firm? How does a firm turn into a zombie? It is not just a question of macroeconomic conditions: are there prior conditions or propensities? In board terms, zombies are companies that are less

productive, more heavily indebted and less profitable than others. Banerjee and Hofmann (2020) add the following characteristics to this profile: much smaller companies, which recruit and invest less (in physical and intangible assets), negative cash holding, paying fewer dividends, issuing more shares and benefiting from “subsidised” loans (defined here as loans with interest rates that are not significantly higher than those of non-zombie firms despite zombie firms’ lower profitability and higher risk profile). Although they are more heavily indebted, they also generally seek to reduce their borrowing.

#### Why is this worrying?

The increase in the number of zombie firms could have contributed to the downward trend in potential growth in OECD countries since the end of the 1990s, through two channels: the slowdown in total factor productivity (TFP) and lower business investment.

Before becoming zombies, companies experience a deterioration in profitability, productivity and investment levels. Once they have become zombies, these firms remain less productive and tend to invest less than other companies<sup>18</sup>, which slows down productivity gains in the economy. Thus, according to estimates from the Bank of International Settlements (BIS)<sup>19</sup>, when the share of zombie firms in the economy increases by 1%, growth in TFP falls by around 0.3 percentage points (pp). When a large number of non-productive companies remains in the market, the process of “creative destruction” is affected. In theory, better-performing companies should push their weaker competitors out of the market, to enable – through composition effects – an increase in average productivity and a reallocation of workers to more productive firms. Most empirical studies confirm that the survival of insolvent firms is a drag on employment<sup>20</sup>, productivity and allocation of capital to viable firms. The less efficient allocation of labour resources also works through the phenomenon of trapping highly-qualified workers in companies with relatively low productivity, as has been observed in many OECD countries. All these factors eventually damage potential growth.

Maintaining non-viable firms in the market also creates congestion effects in the real economy: an increase in competition, which, without stimulating innovation, puts downward pressure on prices and thus affects profitability at unchanged costs. This also raises barriers to entry for new market entrants. Moreover, inefficient allocation of resources can, by extension, reduce productivity gains, as seen in southern Europe<sup>21</sup>.

In parallel, some studies suggest a crowding-out effect regarding the banking system<sup>22</sup>: supporting zombie firms makes it harder, both directly and indirectly, for viable firms to access credit. According to these studies, the access to credit for healthy firms is limited first indirectly, by damaging competition from zombie firms whose continued existence in the market drives down prices and thus reduces profits for their viable rivals.

18 See footnote, page 4

19 R. Banerjee and B. Hofmann, *The rise of zombie firms: causes and consequences*, BIS, September 2018

20 R. Banerjee and B. Hofmann (2018) show that a 1pp rise in the proportion of zombie firms reduces employment growth in non-zombie firms by around 0.3pp, and the investment rate by 1pp. McGowan et al (2017) carried out a similar study and also found a significant effect on investment and employment, particularly in southern European countries (Spain, Italy, Greece).

21 G. Gopinath et al (2017), *Capital Allocation and Productivity in South Europe*, Federal Reserve Bank of Minneapolis working paper

22 D. Andrews and F. Petroulakis, *Breaking the shackles: Zombie firms, weak banks and depressed restructuring in Europe*, OECD, 2017

14 M. Obstfeld et R. Duval, *Tight monetary policy is not the answer to weak productivity growth*, VoxEU CEPR, January 2018

15 Philip R. Lane, *The monetary policy toolbox: evidence from the euro area*, European Central Bank, February 2020

16 D. Andrews and F. Petroulakis, *Breaking the shackles: zombie firms, weak banks and depressed restructuring in Europe*, BIS background paper, November 2017

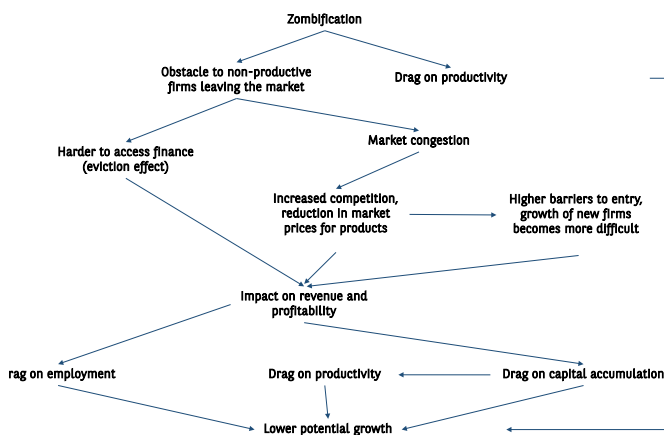
17 These results vary from one estimate to the next. The OECD, for instance, puts France in a higher position when it comes to bankruptcy procedures.



This drop in profits is then viewed negatively by lenders, who are hence less willing to lend for investment projects. On top of this, a direct effect, resulting from bank provisioning, is mentioned by Acharya et al (2019)<sup>23</sup>. This study concludes that less well-capitalised banks can set aside insufficient provisions for losses on non-performing loans. These loans are therefore extended and come to represent a significant share of lending by poorly-capitalised banks; and the balance of lending capacity then becomes insufficient to provide lending to more viable firms. However, the new IFRS9 accounting standards, in force since 2018, seeks to mitigate this effect. The restriction of borrowing options for healthy firms makes it harder to invest, such that once again, zombification holds back potential economic growth.

The economic shock from Covid-19 has hit growth prospects and increased the threat of a spread of zombie firms. Although this is a real concern, this has to be put in perspective.

**MACROECONOMIC IMPACT OF ZOMBIFICATION ON POTENTIAL GROWTH**



SCHEME 1

SOURCE: BNP PARIBAS

**Covid-19 crisis: a risk of an acceleration in zombification?**

**What was the financial condition of private European firms before the pandemic struck?**

The overall financial position of European non-financial companies (NFCs) had improved since the 2008 crisis, in terms of their level of indebtedness, which has fallen in virtually all European countries (Chart 5). Debt reduction was particularly noticeable in Spain and Portugal, where a significant rebalancing took place after the sharp increase in real estate prices. The improvement has continued until 2019. In 2020, NFC debt started to rise again, steeply, against the background of the crisis – driven notably by the substantial loan guarantee schemes introduced by governments. Part of the increase in European NFCs’ debt in 2020 can be correlated with the matching increase, in certain countries (notably France), in deposits, as some

23 V.V. Acharya, T. Eisert, C. Eufinger and C. Hirsch, *Whatever It Takes: The Real Effects of Unconventional Monetary Policy*, *The Review of Financial Studies*, September 2019

companies have stored up this financing to cover future expenditure. Although the situation varies from country to country, margin levels have stabilised overall since the crisis of 2008 whilst the need (or capacity) for financing has reduced (increased). However, this last point saw a degree of deterioration in 2018 and 2019.

**Liquidity (and solvency?) risks have risen during the crisis**

The Covid-19 crisis is unprecedented and three-pronged. It is simultaneously a shock to demand, supply and uncertainty. In contrast to 2008-2009, it is not the result of excessive risk-taking by economic agents. The scale of the contraction in economic activity in 2020 was unprecedented and could leave a lasting mark on the productive fabric of European nations. The economic catch-up process will depend on the resilience of companies as we come out of the crisis and the continuation, or otherwise, of fiscal support over the coming quarters. On a macroeconomic level, potential growth has been affected throughout the crisis, due to in particular the drop in the number of hours worked per employee. According to ECB estimates<sup>24</sup>, by 2022 the level of eurozone potential output would still be 3% below the forecast carried out before the crisis.

By sector, services have been harder hit by health restrictions than industry, especially in countries where these measures were the most stringent (France and Spain for example)<sup>25</sup>. Transport services, retail and hotels and restaurants displayed a particularly sharp fall in their added value during the first half of 2020 (Chart 6).

Firms in these sectors may therefore face a greater lack of liquidity than others, given the rapid drop in their revenues and the limited capacity to adjust their costs in the short term (even though short-time working schemes helped mitigate these costs to some extent). If these same companies faced financial difficulties before the crisis, these liquidity issues could, in the end, increase the risk of defaults.

**NFCS DEBT RATIO (% OF GDP)**

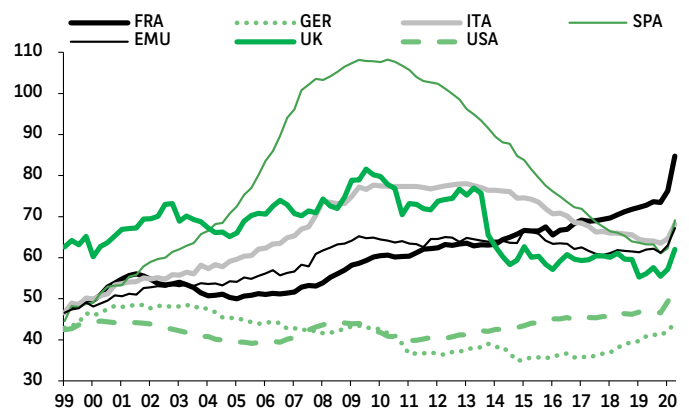


CHART 5

SOURCE: BANQUE DE FRANCE

24 K. Bodnar et al, *The impact of Covid-19 on potential output in the euro area*, *Economic Bulletin Articles*, European Central Bank, November 2020  
25 As shown by Oxford University’s Stringency Index.





**CHANGE IN VALUE ADDED BETWEEN Q4 2019 AND Q2 2020 (IN %)**

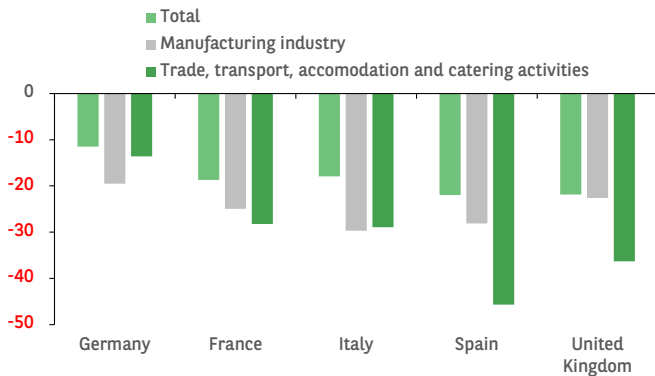


CHART 6

SOURCE: EUROSTAT

**SHARE OF EMPLOYMENT MOST 'AT-RISK' (% OF TOTAL EMPLOYMENT, 2019)**

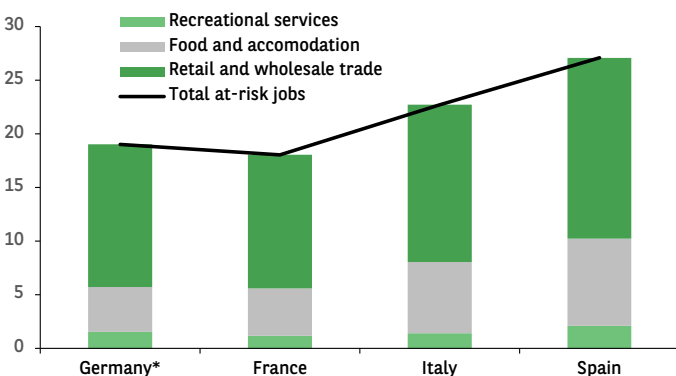


CHART 7

\* DATA FOR 2018  
SOURCE: NATIONAL SOURCES, OECD, BIT

According to estimates from the European Commission in May 2020<sup>26</sup>, between 58% and 75% of the total lack of liquidity in Europe was focused on financially-vulnerable companies (in terms of debt to equity or EBIT to revenue ratios). Among the eurozone's four biggest economies, the ECB's research<sup>27</sup> shows that Spain has the biggest share of firms facing either liquidity problems or with negative working capital and high levels of borrowing. These estimates were confirmed by Bank of Spain research<sup>28</sup>, which indicated that nearly 70% of private firms in the country were likely to have additional liquidity needs between April and December 2020, with sharp increases in financial difficulties in tourism and leisure, the automotive sector and transport services. However, Spain is by no means alone, with a large number of companies experiencing liquidity issues in France and Germany too.

26 Identifying Europe's recovery needs, Commission staff working document, May 2020  
27 P. Lopez-Garcia, *The impact of Covid-19 on potential output in the euro area*, Economic Bulletin Articles, Box 2, European Central Bank, November 2020  
28 R. Blanco et al, *Spanish non-financial corporations' liquidity needs and solvency after the Covid-19 shock*, Occasional Document, Bank of Spain, November 2020

Measures introduced by national governments, such as the massive use of short-time working and government-guaranteed lending by banks, seem, however, to have significantly reduced liquidity risks for European companies. The same Bank of Spain report considers that three-quarters of liquidity needs could be covered by these guaranteed loans.

Firms are also facing difficulties in the labour market. According to the OECD, the share of the most-at-risk jobs is particularly high in Spain (Chart 7), and remains more moderate in Germany and France. The structure of employment and the proportion of public-sector jobs affect these figures.

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**Conclusion: Is the Covid-19 shock an accelerator for zombification? Let's not rush to judgement**

Despite the current difficulties and the likelihood that the health shock will have lasting consequences for the economy, fears of zombification should be tempered somewhat. First, it is difficult at this stage to have a clear view. The exceptional lockdown measures introduced by governments make it difficult at this stage to distinguish between companies suffering only from liquidity problems and those that are insolvent. More precisely, until the economic situation has been fully normalised it will probably be too soon to draw such a distinction and sort the firms worthy of support from the rest.

The Covid-19 crisis raises twin fears: a wave of business failures on the one hand, or an insufficient number on the other. The smaller the wave, the greater the risk of zombification. However, we do not believe that one should worry (or at least not yet) about this political dilemma, which opposes on the one hand massive indiscriminate support that runs the risk of fuelling zombification, and on the other more limited support, allowing creative destruction but at the cost of higher unemployment and the loss of some viable businesses. Faced with the risk of zombification and the benefit of protecting productive and human capital, the latter wins out. The risk of feeding zombification is a lesser evil than that of destroying 'good' capital, especially as the former can be managed further down the line whilst the latter has bigger immediate and long-term consequences, which will be harder to reverse. In other words, the more the policy mix softens the economic shock, the more the consequences of the shock, which carry the risk of increased zombification, will be contained.

Without massive fiscal support, the collapse of European economies would have been much worse than it has been. Financially healthy and productive companies could have been forced to the wall by temporary cash flow problems. The social consequences of the crisis, through a steeper increase in unemployment, would have been even longer lasting (particularly if one acknowledges Europe's imperfect labour mobility between sectors and countries). Concomitantly, the very flexible and accommodating monetary policy from the ECB – and other major central banks – has allowed a widespread decrease in interest rates across a broad spectrum of maturities for all economic agents. In particular, this has facilitated fiscal support. Without it, sovereign spreads (the differences in yields on different countries' government debt) would have widened, the risk of financial fragmentation would have resurfaced and companies in the more vulnerable nations would have suffered for a long time to come.

Then, once the shock had eased and public support been scaled back, the European economy would have remained in a weakened state with corporate debt remaining high. Long-term unemployment could then have taken hold and business bankruptcies seen significant increases. Although business failures have so far been limited by public measures to support cash flow and temporary amendments to the legal framework for bankruptcy procedures – notably through waiving of the requirement for directors to declare a cessation of payments – this is only delaying the inevitable for a number of companies<sup>29</sup>. As we come out of the crisis, attention will turn to borrowing levels at European companies. Already, one can expect a sharp rise in business bankruptcies in Europe in 2021<sup>30</sup>: Germany (+12% compared to the 2019 level), France (+25%), Italy (+27%) and Spain (+41%). As indicated in Section 2.b above, the increases in company bankruptcies and indebtedness will have fewer macroeconomic consequences in case of efficient debt restructuring or liquidation framework in place<sup>31</sup>. In this area, Europe is relatively well positioned.

If the risk of increased zombification cannot be ruled out following the Covid-19 crisis, what can be done to address it? In the near future, one direct remedy is to strengthen firms' balance sheets. This must happen through a strengthening of capital via, for example, participating loans – as included in the France Relance programme – or the transformation of government-guaranteed loans into subsidies, a possibility also raised in France. It might also take the form of a restructuring of the debts of companies considered as viable. More broadly, in terms of macroeconomic policy, improvements to recovery and liquidation processes<sup>32</sup> also form part of the measures to be taken. In the longer term, policies on competition, innovation, training and professional mobility are also powerful ways to tackle zombification, to the extent that they improve the creative destruction process and an efficient (re) allocation of resources. The outcome is that it is easier for firms to enter and leave the market. Taken together, such policies would boost potential growth in Europe, which represents the best way of holding back zombification.

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<sup>29</sup> B. De Moura Fernandes, *Défaillances d'entreprises en Europe: les amendements des procédures juridiques repoussent temporairement l'échéance*, Coface, June 2020

<sup>30</sup> M. Lemerle, *Calm before the storm: Covid-19 and the business insolvency time bomb*, Allianz Research, July 2020

<sup>31</sup> O. Jordà, *Zombies at large? Corporate debt overhang and the macroeconomy*, Fed San Francisco, December 2020

<sup>32</sup> On this point, recent EU directives (shortening procedures and, especially, introducing preventative procedures) have been steps in the right direction. It is worth noting that the French legal system already has effective preventative tools to support firms in difficulty, before they reach the bankruptcy stage.



## GERMANY: THE EFFECTIVENESS OF THE INSOLVENCY REGIME SHOULD CONTAIN THE RISK OF ZOMBIFICATION

According to a recent BIS study (Banerjee and Hofmann, 2020), the share of zombie firms in the total number of listed NFCs is relatively low in Germany compared to other countries. Zombies account for around 10% of German companies, a percentage that has been fairly stable over the past decade.

Recently, Deutsche Bundesbank updated a report on the weight of zombie firms in the German economy using the Bundesbank's database of company financial statements<sup>1</sup>. Zombie firms are defined as those unable to cover interest payments from operating income for a period of three consecutive years. Under another definition, Bundesbank researchers include all companies with negative cash flow for three consecutive years. The study concludes that, whichever the measure used, the share of zombie firms has fallen in recent years. On the first definition, this share dropped from 8% in 2007 to slightly under 6% in 2018. These two approaches do not corroborate the hypothesis that the fall in interest rates increases the phenomenon of zombification in the economy.

There is a risk that the Covid-19 crisis will increase the number of zombie firms, given the introduction of massive government support schemes. According to the latest analysis by a panel of economists, conducted by the Ifo Institute and Frankfurter Allgemeine Zeitung (FAZ), 86% of the panel believe that the number of zombie firms has "increased" or "strongly increased" in Germany since March 2020, for the following main reasons: the temporary waiver of the requirement to submit an insolvency notice, short-time working provisions, and lending and loan guarantees through the intermediary of the German state development bank (KfW).

Thanks to these support measures, the number of corporate insolvencies fell in 2020 to around 17,000, from 18,749 in 2019. The German Economic Institute (IW) in Cologne believes that given a loss of 5% of GDP in 2020, insolvencies would have been expected to rise to 21,560<sup>2</sup>. The Institute therefore concludes that support measures have created some 4,500 zombie firms. But these insolvency cases would only be the tip of the iceberg. In 2018, the country had 2.7 million companies, 330,000 of which had more than 10 employees. That year, 240,000 companies ceased trading, but only 10% of those made use of insolvency procedures.

Last November, the German Chamber of Industry and Commerce (DIHK) estimated that around 44% of German firms had taken advantage of one or more of the support measures available<sup>3</sup>. Despite these measures, many companies could become insolvent. In an earlier DIHK report from May 2020, around 10% of companies indicated that they could face bankruptcy. In June 2020, the Ifo Institute even reported that one-fifth of businesses faced threats to their continued existence<sup>4</sup>.

It is likely that the large majority of companies will return to viability once Covid-19 restrictions are removed. Although the risk of a rise in the number of zombie firms cannot be ruled out, it is unlikely that this will be significant. In particular this is because Germany's rules for companies in difficulty work well (see Chart 3). Under these conditions, banks will probably attempt to recover debts rather than roll over credit lines made available to these struggling companies.

1 Deutsche Bundesbank, 2020, *German enterprises' profitability and financing in 2019*, monthly report, December 2020

2 [https://www.iwkoeln.de/fileadmin/user\\_upload/Studien/Kurzberichte/PDF/2020/IW-Kurzbericht\\_2020\\_Zombifizierung.pdf](https://www.iwkoeln.de/fileadmin/user_upload/Studien/Kurzberichte/PDF/2020/IW-Kurzbericht_2020_Zombifizierung.pdf)

3 <https://www.dihk.de/de/aktuelles-und-presse/coronavirus/umfragen>

4 <https://www.ifo.de/node/56536>

## FRANCE: ZOMBIFICATION RISK IS UNDER CONTROL

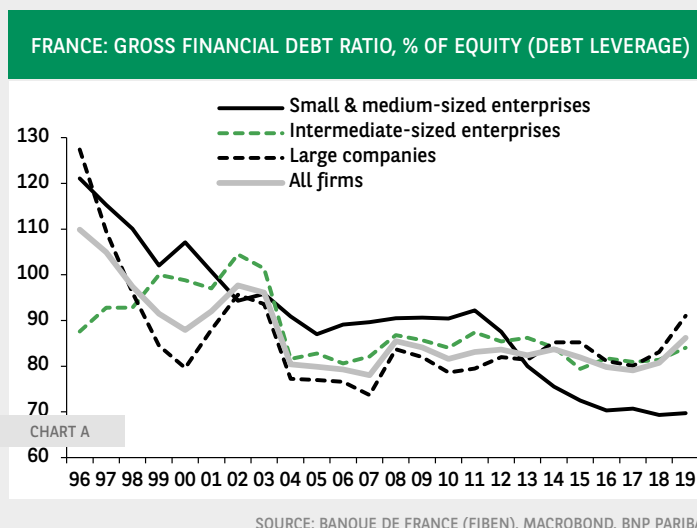
Estimates vary depending on the definition used, but France has a relatively small proportion of zombie firms. According to the Banque de France (2017)<sup>1</sup>, across companies of all sizes, the percentage of zombies was 7.5% in 2014. The proportion was higher amongst SMEs than large companies. According to Coface (2018)<sup>2</sup>, this percentage was 4.6% in 2016; higher than in Germany (3.7%), but less than in Italy (5.3%) or Spain (6.2%). France Stratégie (2019)<sup>3</sup> estimated that, in 2015, zombie firms represented 5.3% of the total number of 'mature' firms, accounting for 4.6% of capital and 5.3% of the workforce. According to the OECD (2017)<sup>4</sup>, zombie firms represented just 2% of total companies in France in 2013, compared to an average of 5% across the nine countries used in the sample (Belgium, Finland, France, Italy, South Korea, Slovenia, Spain, Sweden and the UK). Figures from the BIS (2020)<sup>5</sup> are markedly higher, with zombie firms accounting for around 16% of the total in 2017 (due mainly to the use of a different sample).

Changes over time in the percentage of zombie firms also differ from one study to the other. The figures are relatively stable for the Banque de France (with an observation period from 2006 to 2014), Coface (2013-2016) and the OECD (2003-2013). France Stratégie (2000-2015) reports a slight upward trend between 2010 and 2015, whilst the increase is more marked for the BIS (1980-2017).

This process of zombification remains under control in France mainly because, with regards to the causes of this phenomenon, France ticks only two out of the four boxes: low interest rates and weak economic growth. France does not suffer from the same weaknesses in its banking sector as Italy, Spain or indeed Japan. France Stratégie's analysis also concludes that the laws governing companies in difficulty work well. But this is not to say that there are no areas for improvement, particularly when it comes to reducing the length of collective agreement procedures<sup>6</sup>.

The increase in NFC indebtedness to a high level is a weakness for the French economy. However, the simultaneous increase in liquidity and capital helps limit the problem (Chart A)<sup>7</sup>. Moreover, the various indicators of financial health, by company size, drawn from the Banque de France's FIBEN database, paint a fairly reassuring picture of a strengthened financial structure, particularly amongst SMEs<sup>8</sup>.

The increase in the share of debt due to the substantial use of government-guaranteed loans is a particular cause for concern. This debt burden might prove too heavy relative to profits that have been weakened by the crisis and could thus produce a large number of zombies. Nevertheless, the risk of giving rise to a vicious circle of zombie banks and zombie firms appears limited, given the strength of the French banking system.



1 See footnote, page 2

2 Conference of 16 November 2020, "Impact de la crise et des mesures budgétaires 2020-21 sur les entreprises", Institut des Politiques Publiques

3 Haithem Ben Hassine, Catherine Le Grance and Claude Mathieu, *Les procédures de défaillance à l'épreuve des entreprises zombies*, France Stratégie, Note d'analyse n°62, October 2019

4 See footnote, page 6

5 See footnote, page 4

6 Chloé Zapha, "Accélérer les procédures de restructuration en réponse au Covid-19?", Bloc-notes Éco Banque de France, Billet n°192, 10 December 2020

7 See Marie-Baïanne Khder and Clément Rousset, *Faut-il s'inquiéter de la hausse de l'endettement des entreprises en France?*, INSEE, Note de conjoncture, December 2017

8 Maité Graignon, *Les PME ont abordé la crise de la Covid-19 avec une structure financière renforcée*, Bulletin de la Banque de France n°232/1, November-December 2020. And, for an overall picture, Benjamin Bureau et Loriane Py, *La situation financière des entreprises: forces et faiblesses à la veille de la crise sanitaire*, Bulletin de la Banque de France n° 233/3, January-February 2021



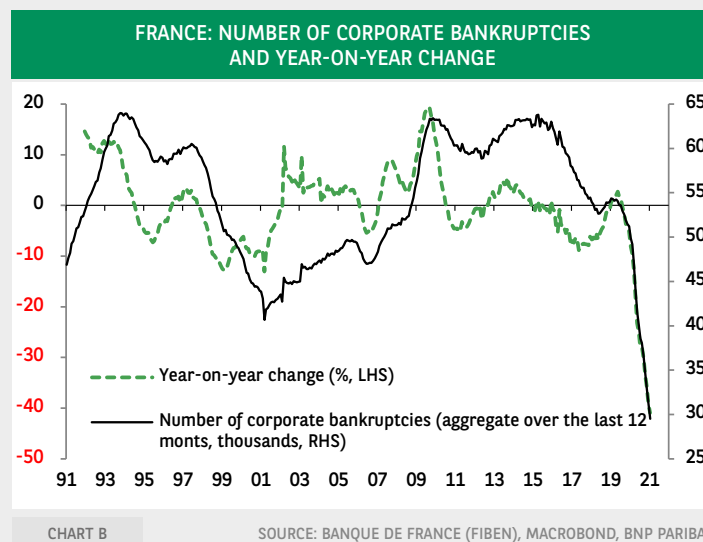


Another set of concerns relates to the indiscriminate support provided to businesses, both viable and non-viable. As with government-guaranteed loans, cash flow support measures (deferrals or exemptions on employer contributions, short-time working schemes, solidarity fund) are available to all firms struggling during the crisis. Furthermore the criteria to receive help have been significantly relaxed and expanded over the months – given the scale of the shock – and now include the largest possible number of firms and situations (this is particularly true for the solidarity fund).

According to IPP (2020), these emergency measures are nevertheless well-targeted on firms having suffered the biggest ‘Covid shocks’<sup>9</sup>. A joint report from CAE and France Stratégie (2020)<sup>10</sup> – and the initial estimates from the French Treasury<sup>11</sup> – show no zombification of the French economy thus far.

The models used by the OFCE (2020)<sup>12</sup> also show that in a counterfactual scenario, excluding Covid-19, some 4% of companies would in any event have faced liquidity problems by March 2021<sup>13</sup>. This figure rises to slightly over 10% in a scenario with short-time working scheme, and 14% in scenarios without it (demonstrating the effectiveness of this scheme). When it comes to the total number of insolvent companies, the models predict a 2% share in the counterfactual, 3.4% for Covid-19 with short-time working scheme and 4.6% for Covid-19 without short-time working scheme. Apart from the contrasting performance between sectors, the greatest difficulties, both in terms of liquidity and solvency, seem to affect micro-companies and large companies, rather than SMEs and mid-sized firms. Micro-companies are most vulnerable to a lack of liquidity, and large companies to excessive level of debt. This study also shows that at times of crisis, market mechanisms become dysfunctional, resulting in a fairly substantial increase in the share of productive companies within the population of insolvent companies, across all sectors and sizes of company.

For the time being, there has been no wave of post-Covid-19 business failures in France. In fact, it is quite the opposite (see Chart B). This might suggest a ‘calm before the storm’, but it is far from certain that there will be a storm. The fact that bankruptcies have not yet increased does not appear to be a sign of on-going zombification. Instead, it shows the effect of the measures taken, notably legislative changes that have temporarily modified the timing and details of the declaration of a cessation of payments. Given that this temporary measure expired on 24 August 2020, and given that there are 45 days in which to make the declaration, such declarations may have increased from October onwards. This moratorium is one of the measures highlighted as a possible vector of zombification. However, the first lockdown would have been the wrong time to unleash the process of creative destruction, and the emphasis was on protecting the productive fabric as a whole as far as possible. This observation holds true for all the measures taken: an exceptional crisis called for exceptional responses.



9 Financial stability report, Box: the impact of the pandemic on the riskiness of firms, Bank of Italy, November 2020

10 Mathieu Cros, Anne Epaulard and Philippe Martin (2020), *Les défaillances d'entreprises dans la crise Covid-19: zombification ou mise en hibernation?*, Focus CAE n° 051-2020 and Point de vue France Stratégie, 14 December

11 Le billet d'Agnès Bénassy-Quéré, "2021, l'année des zombies ?", 7 January 2021, DG Trésor blog

12 Mattia Guerini, Lionel Nesta, Xavier Ragot and Stefano Schiavo, *Dynamique des défaillances d'entreprises en France et crise de la Covid-19*, OFCE policy brief n°73, 19 June 2020

13 Companies in difficulty independently of the crisis are generally smaller, less productive, more heavily indebted and with lower liquidity levels than the others.

## ITALY: A WEAK BANKING SYSTEM AND INADEQUATE BANKRUPTCY PROCEDURES, TWO CATALYSTS FOR ZOMBIFICATION?

Italy is one of the countries most often cited when the presence of zombie firms in an economy is discussed. The OECD (2017) estimates that in 2013, nearly 19% of capital in Italian NFCs was invested in zombie firms, which is one of the highest ratios amongst OECD members. This high proportion of zombie firms can be linked back both to the economic difficulties experienced by the country following the 2008 and 2011 crises and to the weakening of its banking system. According to Schivardi, Sette and Tabellini (2017)<sup>1</sup>, this second factor has led banks to maintain credit lines for firms with low productivity, thus confirming the findings of other studies, notably those from Andrews and Petroulakis<sup>2</sup>.

Gopinath et al (2017)<sup>3</sup> also showed that the fall in real interest rates in Italy – driven by the European convergence – contributed to stimulating investment, but this was directed mainly to firms that were financially solid but relatively less productive<sup>4</sup>.

Although the Italian banking system was experiencing a consolidation period up to the onset of the Covid-19 crisis – with the non-performing loan rate continued to fall<sup>5</sup> – the epidemic will weaken the sector again, with legitimate fears of an amplification of the phenomenon of zombification. Although such risks had been somewhat mitigated by a reduction in NFC indebtedness in the years leading up to the pandemic, the crisis has brought a reversal of this trend, as companies need to borrow in order to address cash flow problems (Chart 5).

Another structural factor often cited as a reason for inefficient allocation of resources is the country's bankruptcy procedures: both too costly and too long<sup>6</sup>, the Italian system does not appear to be efficient enough to support the rotation of assets – both financial and non-financial – required for the performance of the NFC sector as a whole.

What picture should we expect once the Covid-19 crisis is over? Direct government support, together with government-guaranteed loans, covered nearly two-thirds of liquidity requirements between July and December 2020<sup>7</sup>. The BIS<sup>8</sup> believes that business failures will increase by an average of 13.5% in 2020-2021. This is a substantial rise, but lower than those expected in Spain (28.2%) and France (18.6%). Insolvency risks is also likely to affect small and mid-sized Italian companies<sup>9</sup> disproportionately. According to these studies, the risk of a proliferation of zombie firms over the coming months is thus likely to be concentrated on SMEs.

- 1 Fabiano Schivardi, Enrico Sette and Guido Tabellini, *Credit misallocation during the European financial crisis*, Banca de Italia, Working paper n°1139, November 2017
- 2 See footnote 16
- 3 Gopinath et al (2017), *Capital Allocation and Productivity in South Europe*, Quarterly Journal of Economics
- 4 This phenomenon was also identified in Spain
- 5 <https://economic-research.bnpparibas.com/Views/DisplayPublication.aspx?type=document&IdPdf=39537>
- 6 World Bank data
- 7 Financial stability report, Box: the impact of the pandemic on the riskiness of firms, Bank of Italy, November 2020
- 8 Banerjee, Cornelli & Zakrajšek (October 2020), *The outlook for business bankruptcies*, BIS bulletin
- 9 E. Carletti et al *The COVID-19 Shock and Equity Shortfall: Firm-level Evidence from Italy*, Center for Economic Policy Research, June 2020

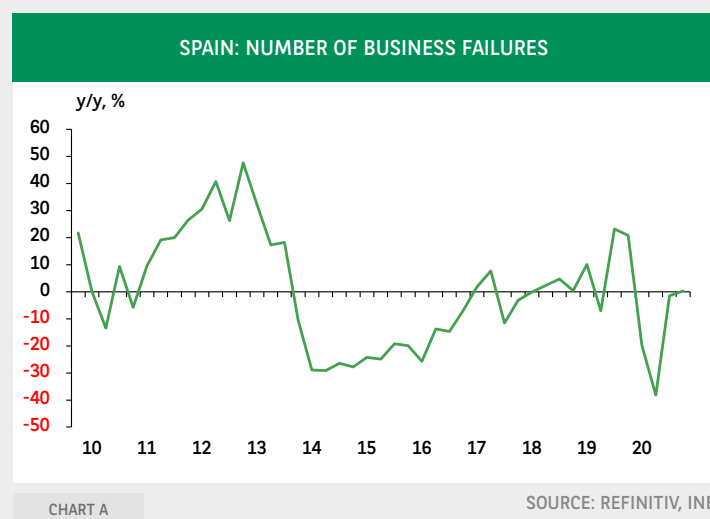
BOX 3



## SPAIN: GOVERNMENT SUPPORT AND RISING ZOMBIFICATION: IS THERE A DIRECT LINK?

Given the substantial economic shock suffered by Spain in 2020, the country may be, more than elsewhere, facing a difficult balancing act between protecting employment and the risk of fuelling zombification. Various estimates prior to the Covid-19 crisis were already showing a relatively high proportion of zombie firms in Spain, compared to France and Germany. The OECD (2017) estimated that 10% of Spanish NFCs could be classified as zombies in 2013<sup>1</sup>. The BIS provide higher estimates for 2017 – around 14%<sup>2</sup> – although this figure was falling slightly, down from above 15% in previous years.

The introduction of the ERTE short-time working scheme – together with a drastic tightening of company liquidation conditions from the very onset of the pandemic<sup>3</sup> – allowed employment to withstand the economic shock in 2020, but it also increased fears that the number of zombie firms would rise sharply. The number of corporate bankruptcies fell sharply in the second quarter of 2020, before, admittedly, recovering in the second half of last year (Chart A).



That said, it would be wrong to draw a direct link between a reduction in bankruptcies and an increase in zombie firms. Companies in financial difficulties during the crisis may well recover once the health crisis is over and the shocks on demand and supply have eased. According to the Bank of Spain, between 2019 and 2020, the share of insolvent companies increased – depending on the hypotheses used – by between 4 and 8 percentage points, relative to their 2019 level<sup>4</sup>. Among these insolvent firms, the Bank's central scenario estimates that more than half are viable, meaning that despite their current difficulties, these companies have the prospect of a return to profit over the long term.<sup>5</sup>

This 'viability ratio' is even higher when the reference indicator is employment, and more still when it is indebtedness. These results would suggest that the increase in zombie firms as a result of the Covid-19 crisis will be relatively limited. In this case, the possible failure of these firms would be comparatively worse for the economy as a whole than the risk of zombification as the result of state support to businesses. Government-guaranteed loans have played a key role in dampening the effects of dwindling cash positions at many companies. These loans covered nearly three-quarters of the cash needs of Spanish NFCs between April and December 2020.<sup>6</sup>

The Bank of Spain observe other indicators, including the net profitability rates of NFCs. Here again, the findings need to be interpreted with care. The median profitability rate would fall by 4 percentage points relative to 2019. However, half of NFCs maintained a positive return on net assets. Beyond the impact of the crisis, a key aspect emerging from this report is the dispersion of profitability across sectors, which is closely linked to activity levels in each of these sectors. Unsurprisingly, median profitability dropped into negative territory in hotels and restaurants, but also in the automotive sector and, to a lesser extent, in transport. For other sectors (manufacturing, construction, retail, and 'other' services), profitability remained positive. This report suggests, therefore, a need to target support for business in a more limited number of sectors, rather than of broad-brush support across all areas of the economy.

1 McGowan et al (2017), *The walking dead? Zombie firms and productivity performance in OECD countries*, OECD working papers

2 R. Banerjee et al, *Corporate Zombies: Anatomy and life cycle*, BIS Working Papers, September 2020

3 The government introduced a decree on 28 April 2020 which suspended bankruptcy procedures during the health emergency, and this measure is currently expected to remain in place until 9 May 2021.

4 See *El Impacto de la crisis del Covid-19 sobre la situación financiera de las empresas no financieras en 2020: evidencia basada en la central de balances*, Bank of Spain Economic Bulletin, December 2020

5 The Bank of Spain's central scenario assumes long-term earnings prospects in 2020 identical to those in 2019.

6 R. Blanco et al, *Spanish non-financial corporations' liquidity needs and solvency after the Covid-19 shock*, Occasional Document, Bank of Spain, November 2020

BOX 4



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