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

Hélène Baudchon, Louis Boisset, Guillaume Derrien, with the participation of Raymond Van Der Putten and Kenza Charef

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.

THE TRAJECTORY OF UK PUBLIC FINANCES AFTER COVID-19

Hubert de Barochez

Before the onset of the Covid-19 pandemic, the United Kingdom had already begun to come out of the "age of austerity", to borrow a phrase from former Prime Minister David Cameron. The massive intervention of UK authorities to support the economy through the Covid-19 sanitary and economic crises has significantly strengthened this trend. The government deficit ran at almost 20% of GDP in 2020, and the ratio of government debt to GDP increased by twenty percentage points to nearly 100%. Once the crisis is over, some adjustments will be needed. That said, the Treasury's eagerness to bring public finances back under control rapidly could be counterproductive if it stifled the economic recovery. Moreover, long-term prospects, particularly demographic trends, suggest that balancing the government's books will be no easy task.

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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[1]. The Bank of France uses another definition, that proposed by Caballero et al (2008) in their pioneering article on zombie firms in Japan[2]: a zombie firm refers to a company that is fragile but that benefits from particularly favourable financing terms[3,4]. Banerjee and Hoffmann (2020) consider a zombie firm to be an unprofitable company with a low market valuation for a two-year period[5]. 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[6]. 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)[7], 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[8].

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[9]. 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), T*he 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)

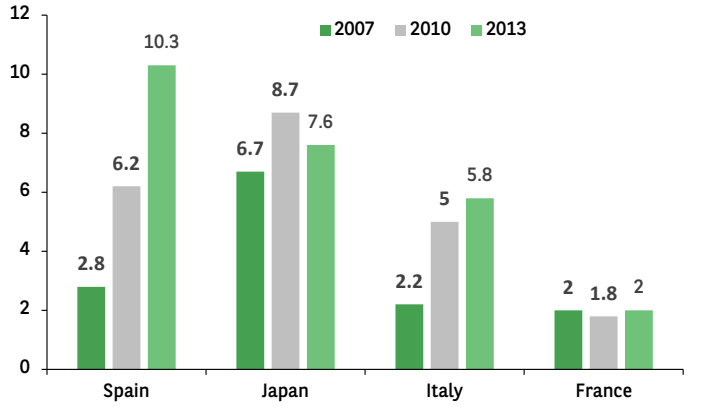


CHART 1 SOURCE: ADALET MCGOWAN ET AL. (2017), OECD

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

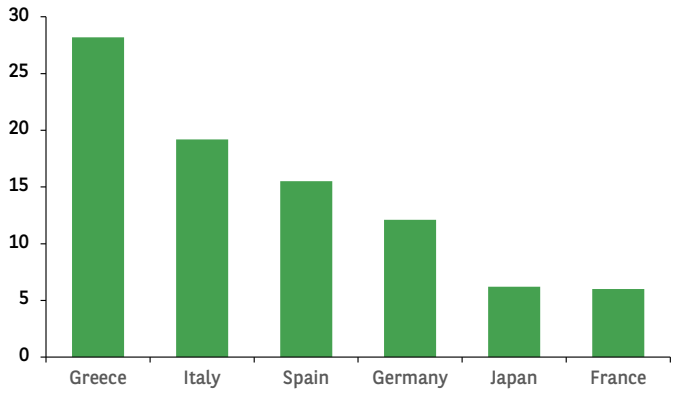


CHART 2 SOURCE: ADALET MCGOWAN ET AL. (2017), OECD

AVERAGE COST OF NEW LOANS TO NFCS IN THE EUROZONE

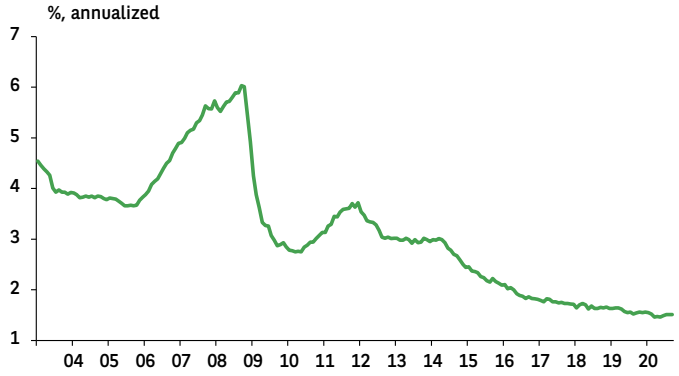


CHART 3 SOURCE: EUROPEAN CENTRAL BANK

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[10]. Other studies (Acharya et al 2020)[11] 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[12]. 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.

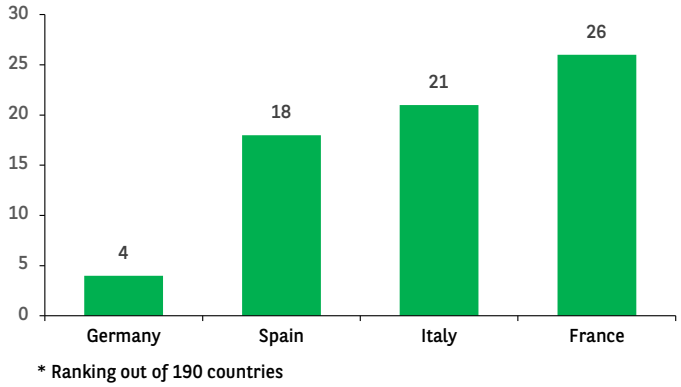
Thus it is difficult to blame low interest rates as the only catalyst for zombification. The best brake on this phenomenon could also be stronger economic growth[13] and a higher level of investment. The issue of the deficit of investment relative to the level of available savings is a pressing topic 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.

10 D. Andrews et al, *Breaking the shackles: Zombie firms, weak banks and depressed restructuring in Europe*, ECB, February 2019
11 V.V. Acharya et al, *Zombie credit and (dis-)inflation: Evidence from Europe*, Federal Reserve Bank of New York, Staff Reports December 2020
12 L. Laeven et al, *Zombification in times of pandemic*, VoxEU CEPR, October 2020
13 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[14]. Meanwhile, without the substantial monetary support of recent years, current GDP levels and inflation in the eurozone would have been much lower[15].

EFFICIENCY OF BANKRUPTCY PROCEDURES: WORLD BANK RANKING*



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[16]. This perpetuates the zombification cycle. On this point, and based on World Bank estimates[17], 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[18], which slows down productivity gains in the economy. Thus, according to estimates from the Bank of International Settlements (BIS)[19], 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[20], 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[21].

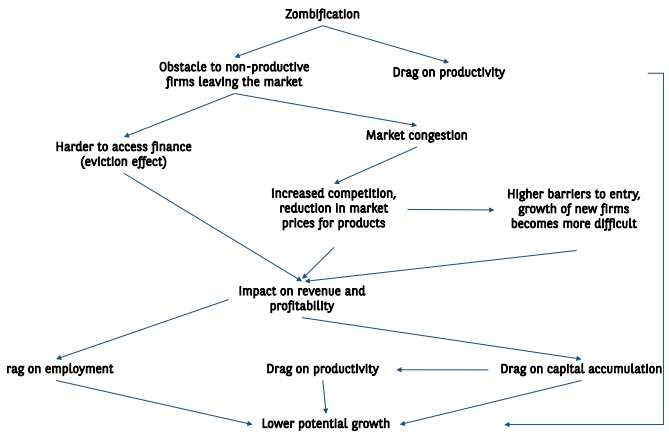
In parallel, some studies suggest a crowding-out effect regarding the banking system[22]: supporting zombie firms makes it harder, both directly and indirectly, for viable firms to access credit. According to these studies, the access to credit for healthy firms is limited first indirectly, by damaging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

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.
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

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)[23]. 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 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[24], 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)[25]. 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)

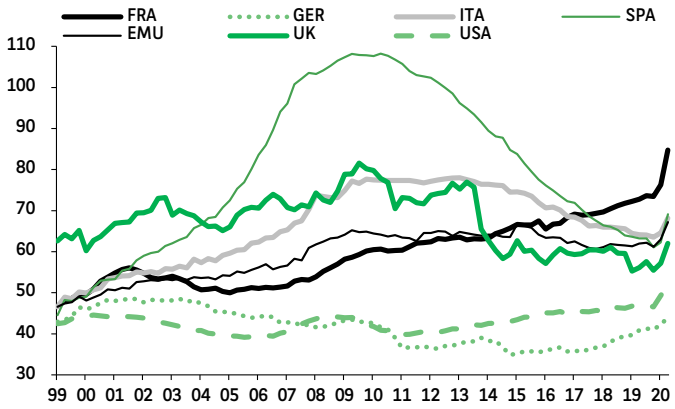


CHART 5

SOURCE: BANQUE DE FRANCE

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

24 K. Bodnàr 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 %)

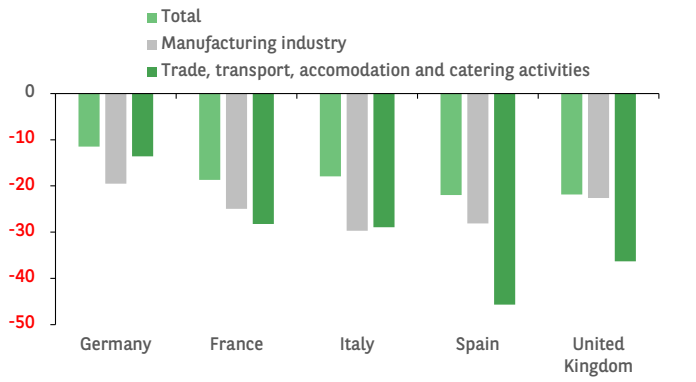


CHART 6 SOURCE: EUROSTAT

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

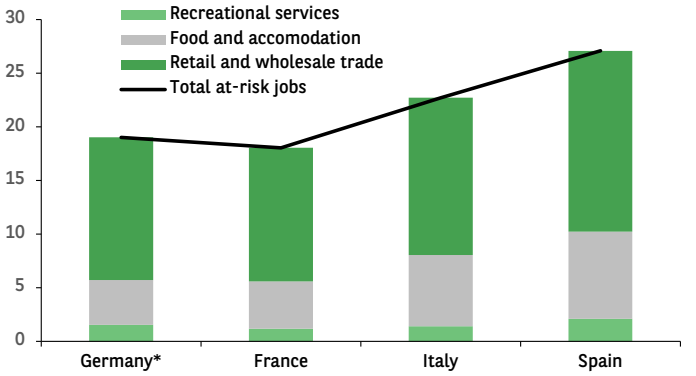


CHART 7 * DATA FOR 2018
SOURCE: NATIONAL SOURCES, OECD, BIT

According to estimates from the European Commission in May 2020[26], 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[27] 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[28], 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.

***

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[29]. As we come out of the crisis, attention will turn to borrowing levels at European companies. Already, on can expect a sharp rise in business bankruptcies in Europe in 2021[30]: 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[31]. In this area, Europe is relatively well positioned.

If the risk of increased zombification cannot be rule 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[32] 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.

Hélène Baudchon
helene.baudchon@bnpparibas.com

Louis Boisset
louis.boisset@bnpparibas.com

Guillaume Derrien
guillaume.a.derrien@bnpparibas.com

Raymond Van Der Putten
raymond.vanderputten@bnpparibas.com

Kenza Charef (apprentice)

29 B. De Moura Fernandes, *Défaillances d'entreprises en Europe: les amendements des procédures juridiques repoussent temporairement l'échéance*, Coface, June 2020
30 M. Lemerle, *Calm before the storm: Covid-19 and the business insolvency time bomb*, Allianz Research, July 2020
31 O. Jordà, *Zombies at large? Corporate debt overhang and the macroeconomy*, Fed San Francisco, December 2020
32 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[1]. 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[2]. 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[3]. 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[4].

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_Zombiefizierung.pdf
3 https://www.dihk.de/de/aktuelles-und-presse/coronavirus/umfragen
4 https://www.ifo.de/node/56536

BOX 1

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)[1], 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)[2], 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)[3] 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)[4], 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)[5] 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[6].

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)[7]. 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[8].

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.

FRANCE: GROSS FINANCIAL DEBT RATIO, % OF EQUITY (DEBT LEVERAGE)

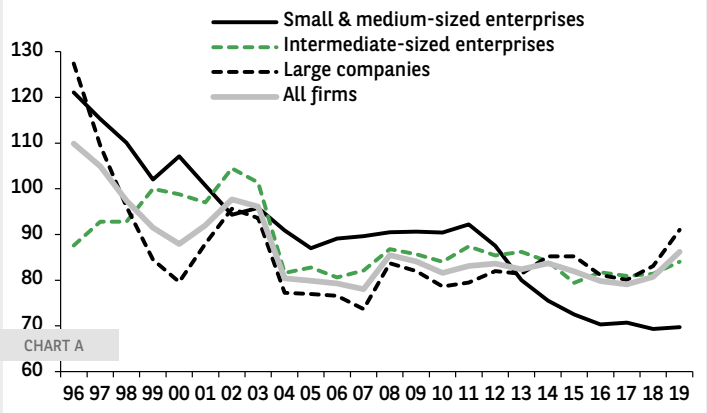


CHART A

SOURCE: BANQUE DE FRANCE (FIBEN), MACROBOND, BNP PARIBAS

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 Maïté 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'[9]. A joint report from CAE and France Stratégie (2020)[10] – and the initial estimates from the French Treasury[11] – show no zombification of the French economy thus far.

The models used by the OFCE (2020)[12] 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[13]. 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.

FRANCE: NUMBER OF CORPORATE BANKRUPTCIES AND YEAR-ON-YEAR CHANGE

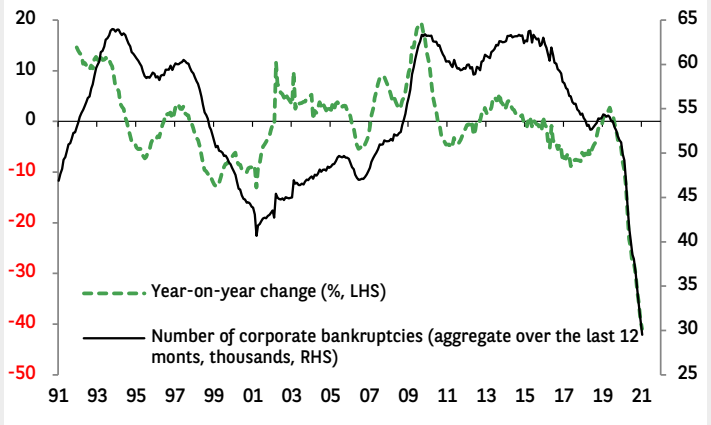


CHART B SOURCE: BANQUE DE FRANCE (FIBEN), MACROBOND, BNP PARIBAS

9 *Financial stability report, Box: the impact of the pandemic on the riskiness of firms*, Bank of Italy, November 2020
10 Mathieu Cros, Anne Épaulard 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 zombis ?"*, 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.

BOX 2

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)[1], 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[2].

Gopinath et al (2017)[3] 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[4].

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[5] – 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[6], 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[7]. The BIS[8] 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[9] 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[1]. The BIS provide higher estimates for 2017 – around 14%[2] – 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[3] – 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).

SPAIN: NUMBER OF BUSINESS FAILURES

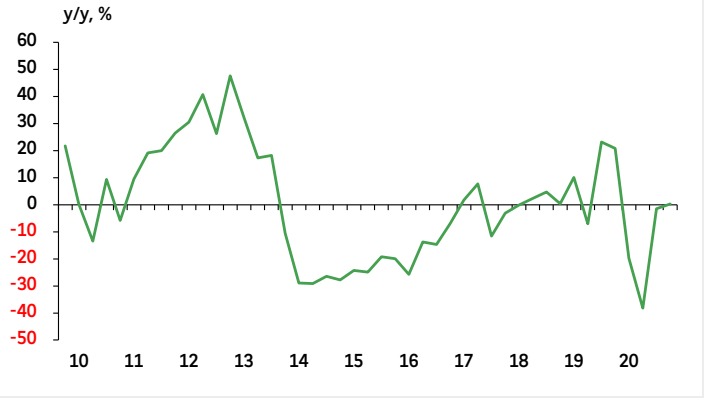


CHART A SOURCE: REFINITIV, INE

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[4]. 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.[5]

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.[6]

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.

BOX 4

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 situacion 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

THE TRAJECTORY OF UK PUBLIC FINANCES AFTER COVID-19

Before the onset of the Covid-19 pandemic, the United Kingdom had already begun to come out of the "age of austerity", to borrow a phrase from former Prime Minister David Cameron. The massive intervention of UK authorities to support the economy through the Covid-19 sanitary and economic crises has significantly strengthened this trend. The government deficit ran at almost 20% of GDP in 2020, and the ratio of government debt to GDP increased by twenty percentage points to nearly 100%. Once the crisis is over, some adjustments will be needed. That said, the Treasury's eagerness to bring public finances back under control rapidly could be counterproductive if it stifled the economic recovery. Moreover, long-term prospects, particularly demographic trends, suggest that balancing the government's books will be no easy task.

The Covid-19 crisis hit at a time when UK fiscal policy was beginning to be loosened after years of austerity. A combination of a massive increase in government spending, collapsing fiscal receipts and the measures taken by the Bank of England has pushed the UK's government debt sharply higher over the past months. This document attempts to analyse the past trends and future trajectory of public finances. The first section reviews the state of UK public finances before the Covid-19 crisis. The second examines the health crisis and its impact on the economy. The third details the measures taken by the UK authorities and the effect of the crisis on government spending, receipts, deficit and debt. The final section then considers the long-term outlook for the public finances, and discusses the government's strategies to ensure the sustainability of the country's sovereign debt.

The state of the public finances

The structure of public spending[1]

The total amount of government spending, known as Total Management Expenditure (TME), is split between the resource budget, covering current expenditure, and the capital budget, dedicated to investment spending. Each of these categories then splits into two sub-divisions. Departmental Expenditure Limits (DEL), set during Spending Reviews or, occasionally, Comprehensive Spending Reviews (CSR), set maximum spending over three years for predictable current and investment spending. This is the case for administrative costs, such as operational costs and payroll. The other subsection includes spending that is harder to control and thus to predict, such as welfare, tax credits and public sector pensions. This spending, known as Annually Managed Expenditure (AME), is reviewed annually.

Chart 1 shows the breakdown of UK government expenditure for the 2019-20 fiscal year[2]. Public sector current expenditure accounts for around 90% of total government spending. The remaining 10% is split almost equally between investment and depreciation, which together form public sector gross investment.

Where does public spending go?

Social protection is by far the main public expenditure item. Its stabilisation, and even slight reduction, in real terms since the beginning of the last decade is the main explanation for the slowdown in spending growth.

This trend has clearly reflected the spending cuts introduced under the austerity programme launched after the Global Financial Crisis (see next section). However, it has also been helped by the sharp reduction in unemployment since 2012, which has had the effect of reducing the government's benefits bill. UK unemployment fell from 8.5% in 2011 to 3.9% just before the onset of the Covid-19 crisis.

1 How to understand public sector spending, United Kingdom Government, 29 May 2013.
2 UK fiscal years run from April to March of the following year.

BREAKDOWN OF TOTAL MANAGED EXPENDITURE (TME)

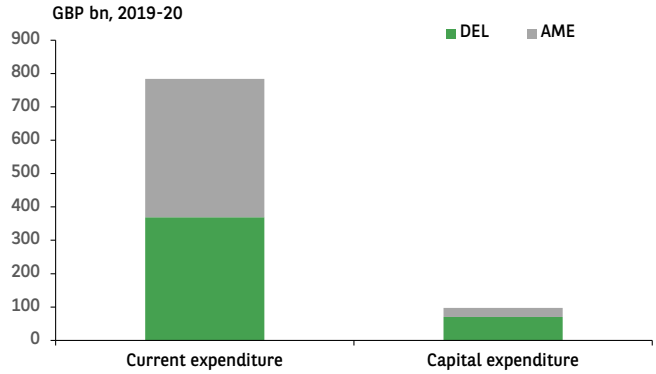


CHART 1 SOURCE: HM TREASURY

PUBLIC SECTOR EXPENDITURE FOR MAIN FUNCTIONS

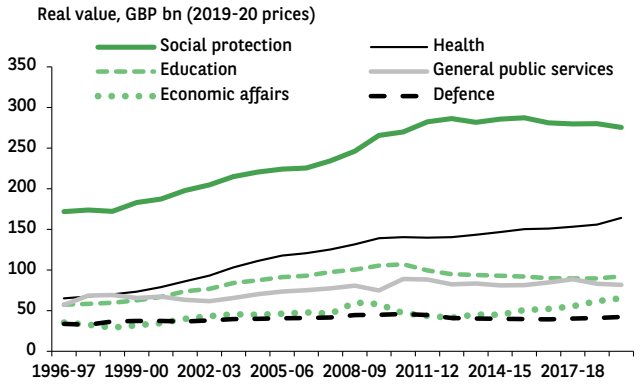


CHART 2 SOURCE: HM TREASURY

Healthcare is the second largest item of expenditure, followed by education, public services, economic affairs and defence (see Chart 2).

Pre-crisis trends

In 2018, UK public spending accounted for around 40% of GDP. This makes the UK government one of the lowest spenders among European OECD members (see Chart 3).

GENERAL GOVERNMENT SPENDING

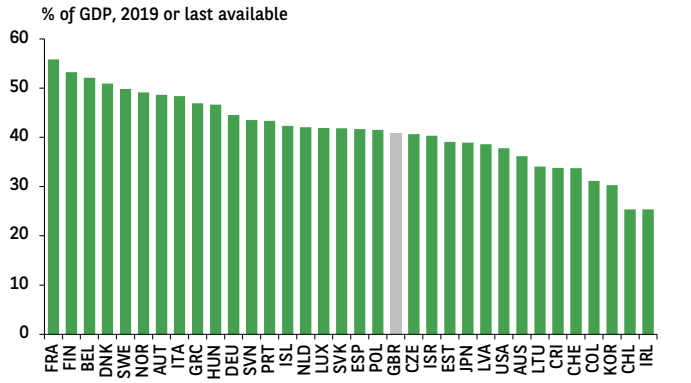


CHART 3 SOURCE: OECD

TOTAL MANAGED EXPENDITURE

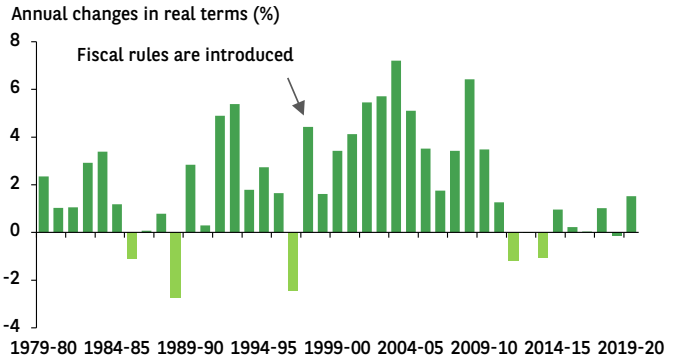


CHART 4 SOURCE: HM TREASURY

Successive UK governments over the past twenty years have sought to respect fiscal rules when drawing up their spending plans. These rules were first set out in 1997 by Gordon Brown, then Chancellor of the Exchequer. Initially, there were two rules. The first, the 'golden rule', stated that over the course of an economic cycle the government could only borrow to invest, and that current spending would be financed by tax receipts. The second sought to maintain government debt below 40% of GDP over an economic cycle. These rules have since been repeatedly dropped and replaced.

The three fiscal rules now in place were set out in the Conservative Party's manifesto for the 2019 elections[3], which led Boris Johnson to the prime ministership. The first stipulates that the current budget must be balanced no later than during the third year of the forecast period. The second limits net public sector investment – that is to say excluding depreciation – to 3% of GDP. The third calls for a reassessment of spending plans in the event that debt servicing costs exceed 6% of government revenue.

However, while the aim of the fiscal rules is to keep public spending in check, spending growth has accelerated in real terms after they were introduced nearly twenty-five years ago (see Chart 4).

It was only thanks to the austerity programme launched after the Global Financial Crisis that the government managed to rein in public spending. The programme, introduced by Chancellor George Osborne, aimed to balance the current budget over a moving five-year forecast period and to reduce the ratio of debt to GDP. As a result, growth in spending slowed significantly over the last decade. TME even fell by more than 1% in real terms in the fiscal years 2011-12 and 2013-14.

However, successive governments over the past three years have repeatedly promised to bring to an end what future Prime Minister David Cameron called the "age of austerity" in 2009. In her speech to the Conservative Party conference in October 2018, Prime Minister Theresa May announced that austerity would soon end, and this pledge was reiterated by Chancellor Philip Hammond in his 2018 Budget speech[4]. A few months later, when presenting the 2019 Spending Review, then Chancellor Sajid Javid stated being *"turning the page on austerity"*[5]. Lastly, Chancellor Rishi Sunak unveiled a budget in March 2020[6] that would have had the effect of stabilising, rather than reducing, the debt-to-GDP ratio. It should be noted that this budget contained only the premise of the recovery package later introduced by the government in response to the Covid-19 crisis. This package, detailed below, has clearly marked the end of the "age of austerity".

The Covid-19 crisis

The health crisis

Because the government was slow to introduce restriction measures, the Covid-19 pandemic initially spread rapidly in the UK. As a result, the country's first lockdown, which was finally imposed on 23 March 2020, was particularly long – non-essential shops only reopened in the middle of June, while the tourism and accommodation sectors had to wait until early July. Faced with a resurgence in the epidemic, a second lockdown was introduced in early November. While it was lifted after a month, a mutation of the virus, making it particularly contagious, led to the introduction of a third lockdown in early January. This will only start to be lifted in March, and some restriction measures will remain in place at least until mid-June. With a total of more than 100,000 deaths, the UK is the world's fifth most affected country, behind the United States, Brazil, Mexico and India, and thus the hardest hit in Europe. Moreover, according to the Government Stringency Index from the Oxford Covid-19 Government Response Tracker (OxCGRT)[7], the UK maintains restriction measures among the strictest in Europe.

The economic impact

Given the length and severity of restriction measures, it is hardly surprising that the UK economy has been hit particularly hard by the Covid-19 crisis. The collapse in consumption and output, notably resulting from restriction measures and the sharp slowdown in global trade, led to a massive drop in GDP in the second quarter of 2020

3 Our Plan, Conservative Manifesto 2019, Conservative Party.

4 Budget 2018: Philip Hammond's speech, United Kingdom Government, 29 October 2018.
5 Spending Round 2019: Chancellor Sajid Javid's speech, United Kingdom Government, 4 September 2019.
6 Budget 2020: What you need to know, United Kingdom Government, 11 March 2020.
7 Coronavirus Government Response Tracker, Blavatnik School of Government, University of Oxford.

(see Chart 5). Over 2020 as a whole, GDP fell by nearly 10%, the biggest contraction of any G7 country in real terms. Admittedly, this partly reflects how the volume of non-market output is recorded, and particularly how the provision of healthcare and education is captured. Nevertheless, even when accounting for this, the ONS estimates that the UK is the G7 country that suffered the biggest drop in GDP over the first three quarters of 2020[8]. According to the Bank of England, by the end of 2023 the supply capacity of the economy will be around 1.75% lower than it would have been in the absence of the pandemic.

Setting aside the level of economic activity, the authorities' response – detailed in the following section – was determined by the effect of the crisis on two other major economic variables. Indeed, these will continue to guide the authorities' response over the coming months, and could thus have an indirect but prolonged impact on the UK's public finances.

GDP OF THE UNITED KINGDOM

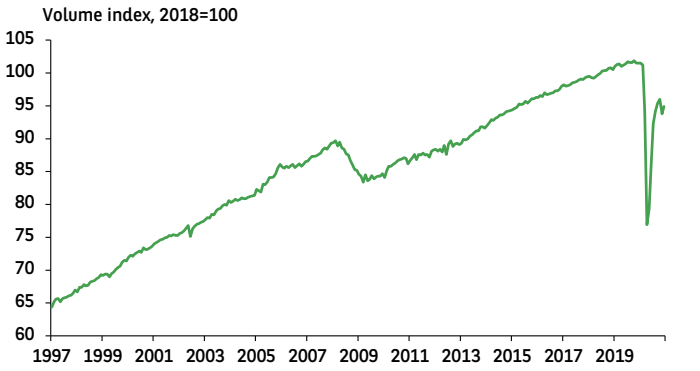


CHART 5 SOURCE: ONS

The first is the unemployment rate. In fact, it has not shot up as much as might have been expected given the abrupt and extended collapse of economic activity. This is thanks to the proactive response from the authorities, which rapidly introduced a furlough scheme to limit redundancies and a support programme for the self-employed (see following section). As a result, while the unemployment rate rose by more than three percentage points during the Global Financial Crisis, reaching 8.5% in late-2011, its increase since the beginning of the health crisis has so far been limited to only a little bit more than one percentage point. In the three months to December 2020, the unemployment rate was 5.1%. However, this limited rise can also be explained by an increase in the number of inactive people – those who are not employed but not looking for work either, and who are not included in the unemployment numbers. According to the Office for National Statistics (ONS) more than 700,000 jobs have been lost since early February 2020[9].

8 International comparisons of GDP during the coronavirus (COVID-19) pandemic, ONS, 1 February 2021.
9 Labour market overview, UK: February 2021, ONS, 23 February 2021.

The second significant variable when looking at the official response to the current crisis is inflation. At the beginning of 2020, the annual rate of increase of the Consumer Price Index (CPI) was close to the Bank of England's 2% target. As a result of the pandemic's impact on demand, the collapse in oil prices in the first quarter of 2020, and some government measures such as temporary cuts in VAT for certain sectors, this rate fell to 0.5% in May and has not exceeded 1% since[10]. Against this background – and with its secondary objective of supporting the government's economic policy in mind – the Bank of England's Monetary Policy Committee (MPC) loosened its monetary policy significantly over 2020 (see following section).

The strong response from the authorities

The government has spent without limit…

To meet the challenges stemming from the sanitary and economic crises, the UK government has devoted substantial resources to support public services, companies and individuals.

First, nearly GBP130 bn have been paid out in 2020-21 to support public services, and around GBP60 bn have already been earmarked for 2021-22. These funds have notably been aimed at supporting the healthcare system through the sanitary crisis.

The government's measures targeted at companies have included subsidies, tax cancellations and deferred contributions. According to initial estimates from the Office for Budget Responsibility (OBR), which is responsible for providing independent forecasts to the Treasury, these measures will have a total cost of nearly GBP35 bn in 2020-21. On top of this, Chancellor Rishi Sunak has promised more than GBP300 bn in guarantees for loans to companies. To date, the various government programmes (Bounce Back Loans Scheme, BBLS; Coronavirus Business Interruption Loan Scheme, CBILS; and Coronavirus Large Business Interruption Loan Scheme, CLBILS) have provided more than GBP70 bn in financing. Meanwhile, nearly GBP85 bn have been approved for issuance under the Bank of England's Covid Corporate Financing Facility (CCFF). However, the impact of these programmes on the government's budget is likely to be inferior to these amounts, close to GBP30 bn in 2020-21 according to the OBR. That is because most of the loans will be repaid and therefore not need government intervention.

As far as households are concerned, the government has put in place a furlough scheme (Coronavirus Job Retention Scheme, CJRS) and a support programme for the self-employed (Self-Employment Income Support Scheme, SEISS) in order to limit redundancies and protect workers' incomes. More than ten million people have benefited from these programmes, which are estimated to have cost the UK government more than GBP70 bn in 2020-21. Lastly, households have also benefited from an increase of around GBP8 bn in welfare payments.

All in all, the OBR estimates that these measures will have an impact of GBP280 bn (14% of GDP) on the 2020-21 deficit and of more than GBP50 bn on that of 2021-22 (see Table 1).

…while its revenues collapsed

In the meantime, government revenues have decreased significantly due to tax cuts and the contraction of economic activity, which reduced tax receipts. The OBR believes that the shortfall for 2020-21 will be more than GBP55 bn compared to 2019-20 receipts, a fall of nearly 7%. The drop in receipts from VAT, income tax, corporation tax, National

10 Consumer price inflation, UK: January 2021, ONS, 17 February 2021.

Insurance Contributions (NICs), and taxes on non-residential property (business rates) should account for around three quarters of the shortfall (see Chart 6).

EFFECTS OF VIRUS-RELATED SUPPORT MEASURES ON PUBLIC DEFICIT

GBP bn

	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25	2025-26
Public services	0.0	-127.1	-58.8	0.1	0.3	0.0	0.0
Employment support	-1.8	-73.3	2.5	0.0	0.0	0.0	0.0
Loans and guarantees	0.0	-31.4	-0.4	0.0	0.0	0.0	0.0
Business support	-0.2	-34.1	6.5	-0.6	0.0	-0.1	-0.1
Welfare spending	0.0	-8.3	-1.7	-1.3	-0.8	-0.5	-0.3
Other tax measures	0.1	-5.7	-0.8	-0.1	-0.2	-0.1	-0.1
Total	**-1.8**	**-280.0**	**-52.7**	**-1.9**	**-0.7**	**-0.7**	**-0.5**

TABLE 1 SOURCE: OBR

EXPECTED CHANGES IN CURRENT RECEIPTS BETWEEN 2019-20 AND 2020-21

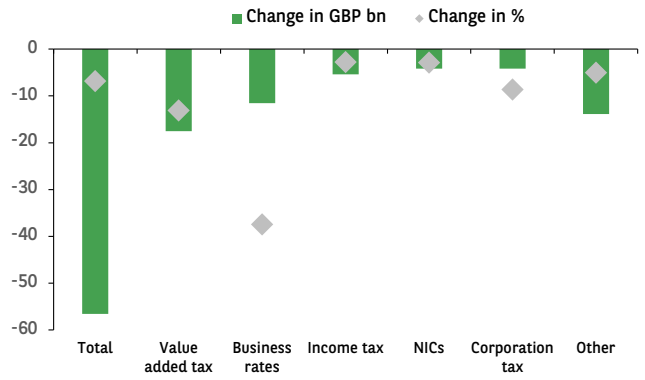


CHART 6 SOURCE: OBR

The Bank of England in support

In parallel, the Bank of England has also acted to limit the effects of the crisis on the economy. Although some measures have had no direct impact on the public finances[11], others have affected public sector net debt (PSND)[12] and the government deficit (public sector net borrowing, PSNB)[13].

This is notably the case for the extension of its quantitative easing (QE) programme, which the central bank manages through the Asset Purchase Facility (APF). Before the crisis, it had a target of GBP435 bn for its stock of UK government bonds (gilts), a figure that has now been raised to GBP875 bn. Similarly, the central bank has doubled its target for purchases of corporate bonds to GBP20 bn. All of these purchases have an instantaneous effect on net debt and a continuous effect on the deficit[14].

The instantaneous effect on government debt of the purchasing of gilts comes from valuation effects. While the APF purchases these from the private sector at market prices, as liquid assets they are recorded at face value in the calculation of net debt, that is to say at the level of the principal that will be repaid at maturity. As falling yields have pushed up gilt prices in recent years, their market prices are now higher than their nominal value. The value of reserves issued to finance the purchase of gilts is therefore greater than the accounting value of these liquid assets. Therefore, public sector net debt increases as a result of the APF's purchases. When it comes to corporate bonds, these are not recognised as liquid assets, so the increase in net debt is equal to the total amount of reserves issued, and thus to the bonds' market price.

The continuing effect on the deficit from bond purchases results from the fact that central government no longer pays interest on the gilts to the private sector but to the Bank of England, which is part of the public sector. The central bank, in turn, pays the banks that sold it the gilts at the rate it pays on the reserves that it has created on their accounts to finance these purchases. This is Bank Rate, the policy rate of the Bank of England. Overall, this is as if the government refinanced itself at Bank Rate. Since the global financial crisis, this rate has been lower than the average interest rate the government has paid on its debt stock. This means that the UK government's debt service costs are reduced by the APF's purchases, which therefore leads to a smaller deficit. The APF's purchases of corporate bonds also reduce the government's deficit, as the interest rates on these bonds are also generally higher than the base rate paid on the reserves created to buy them.

The Bank of England's financing scheme for banks (Term Funding Scheme with additional incentives for SMEs, TFSME) also has an instantaneous effect on public sector debt. Through this programme, the central bank provides commercial banks with loans financed through the issue of reserves. As with purchases of corporate bonds, the loans added to the Bank of England's assets are not recognised as liquid assets. In the calculation of net debt, the increase in reserves on the liabilities side of the central bank's balance sheet is therefore not offset by a simultaneous increase in liquid assets. The effect of the programme on the deficit is virtually inexistent, as the average interest rate on these loans is very close to Bank Rate.

The OBR's estimates of the impact of the Bank of England's measures on public sector debt are summarised in Table 2.

SOURCES OF YEAR-ON-YEAR CHANGES IN PUBLIC SECTOR NET DEBT

GBP bn, OBR forecasts

	2020-21	2021-22	2022-23	2023-24	2024-25	2025-26
Year-on-year change in PSND	473.4	204.6	123.8	118.7	-6.8	102.6
Public sector net borrowing	393.5	164.2	104.6	100.4	99.6	101.8
Financial transactions	66.8	43.3	29.1	16.3	-97.2	-1.1
Bank of England schemes	**54.7**	**30.2**	**0.1**	**1.7**	**-117.1**	**-16.8**
Term funding scheme	**42.9**	**20.0**	**0.0**	**0.0**	**-125.0**	**-20.0**
Other effects	**11.7**	**10.2**	**0.1**	**1.7**	**7.9**	**3.2**
Other financial transactions	12.1	13.1	29.1	14.6	19.8	15.7
Valuation effects	13.0	-3.0	-10.0	2.1	-9.2	1.8

TABLE 2 SOURCE: OBR

11 Among these, the Bank of England cut its policy rate (Bank Rate) by 65 basis points to 0.10%, its lowest ever level. It also launched a scheme to provide liquidity to market participants (Contingent Term Repo Facility, CTRF) and, in cooperation with the Treasury, a programme to finance businesses (Covid Corporate Financing Facility, CCFF). Lastly, the central bank has expanded the use of the "Ways and Means facility", which provides direct short-term financing to the government, and has entered into swap agreements with the US Federal Reserve.

12 Net debt = Debt - Liquid Assets

13 The public sector includes the Bank of England; PSND ex BoE and PSNB ex BoE are the measures of debt and deficit, respectively, that exclude it.

14 The direct fiscal consequences of unconventional monetary policies, OBR, 13 March 2019.

The impact on the government's deficit and debt

All in all, the crisis will have a significant effect on government deficit and debt. In 2020-21, the deficit has increased due to higher spending and lower receipts, which have largely overweighed the relief provided by the reduction in debt service costs stemming from both lower interest rates and the continuing effect of the BoE's QE programme. In the central scenario of its latest Economic and Fiscal Outlook (EFO) report[15], published in November, the OBR predicted a deficit of nearly GBP400 bn in 2020-21, which would be equivalent to 19% of GDP (the forecasts in the rest of this section are also based on that scenario).

This increase in the deficit and the instantaneous effect of the QE programme have raised public sector net debt. For the first time in history, this debt has exceeded GBP2,000 bn. Moreover, the steep drop in GDP has contributed to pushing up the ratios of deficit and debt to GDP (see Charts 7 and 8). In January, the ratio of public sector net debt to GDP stood at nearly 100%[16]. The OBR predicts that it will exceed this threshold over the next few months, and remain above it for the next five years at least.

PUBLIC SECTOR NET BORROWING (PSNB)

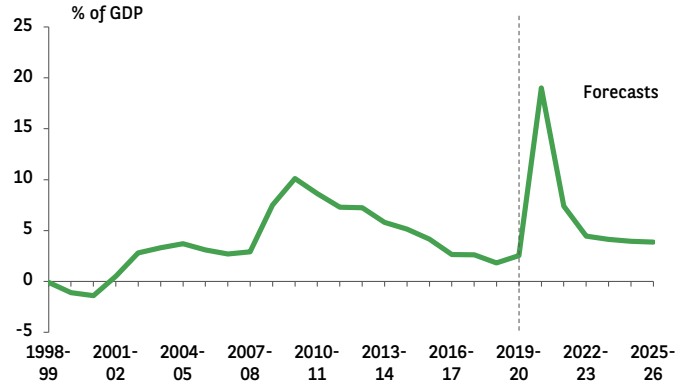


CHART 7 SOURCE: ONS, OBR

PUBLIC SECTOR NET DEBT (PSND)

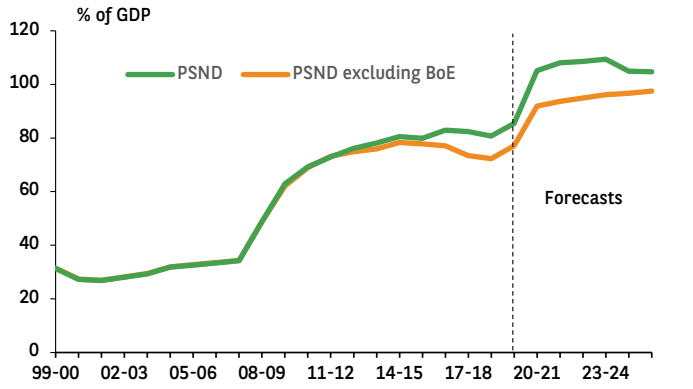


CHART 8 SOURCE: ONS, OBR

15 Economic and fiscal outlook – November 2020, OBR, 25 November 2020.
16 Public sector finances, UK: January 2021, ONS, 19 February 2021.

The future of the public finances

Adjustments will be needed...

Given the significant deterioration of the public finances, a tightening of fiscal policy will at some point become necessary. The improvement will at first be mechanical. As the sanitary situation will improve, the authorities will be able, on the one hand, to restart the economy by loosening restriction measures and, on the other hand, to gradually withdraw its support measures. The deficit will thus automatically shrink as spending falls and receipts rise.

However, this will certainly not be enough. First, the Covid-19 crisis has resulted in a smaller economy, and will therefore lead to lower tax revenues in the coming years. The Institute for Fiscal Studies (IFS) estimates that tax rises of over GBP40 bn a year will be needed by 2025 to "stop debt spiralling upwards"[17].

EXPECTED CHANGE IN POPULATION BY LIFE STAGE (%)

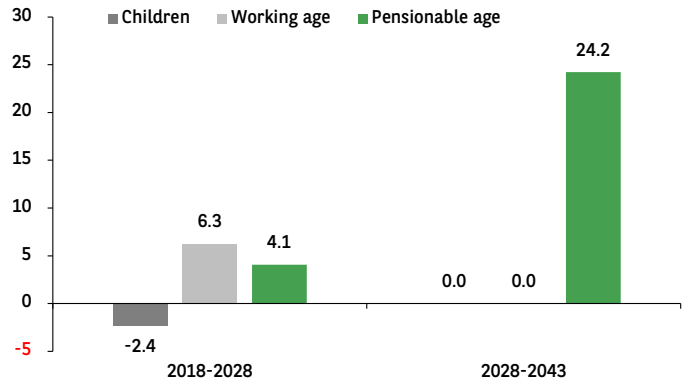


CHART 9 SOURCE: ONS

Second, OBR projections produced before the Covid-19 crisis were already pointing to an unsustainable rise in the deficit and public debt over the next decades. This is due to the fact that, like most developed nations, the UK will be confronted with the ageing of its population. The baby boom that followed World War II contributed to strong economic growth in the following decades. However, baby boomers are now reaching retirement age, and the birth rate in the UK has stagnated since the 1980s below the generational replacement rate[18].

17 Current, necessary, fiscal largesse will need to be followed by tough decisions as we deal with a smaller economy, rising demands on government and elevated debt, IFS, 13 October 2020.
18 Remplacement des générations, INED.

According to ONS projections[19], the gap between births and deaths will close over the next twenty years. From the end of the 2030s, immigration will be the sole engine of population growth in the UK.

This major demographic challenge could start to weigh heavily on the public finances and the trajectory of debt at the end of this decade. Between now and 2028, it is expected that the working age population will grow at a rate slightly faster than that of the pensionable population[20]. However, between 2028 and 2043, the former category should stagnate while the latter grows by nearly 25% (see Chart 9).

In light of these demographic trends, spending on healthcare and adult social care will be the two main factors driving growth in public spending according to the OBR, the third being state pensions spending[21].

GOVERNMENT RECEIPTS

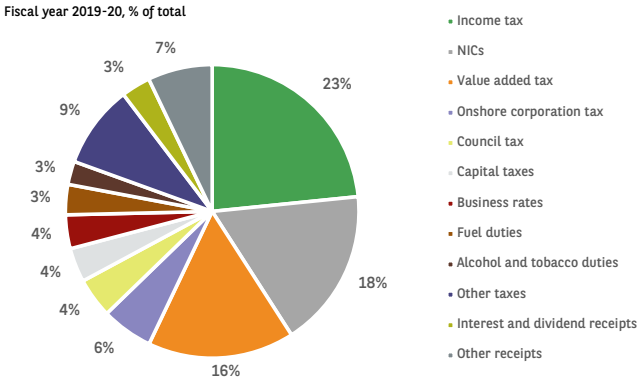


CHART 10 SOURCE: OBR

CORPORATE, INCOME AND VALUE-ADDED TAX RATES (%)

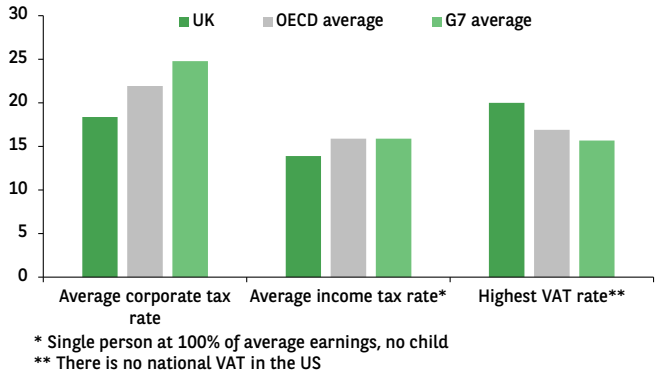


CHART 11 SOURCE: OECD, USCIB

Moreover, the Covid-19 crisis could result in an increase in financing for the National Health Service, which would further weigh on the government's budget in this area. Given that welfare and healthcare are the two main items of government spending – accounting for more than half of total spending – a reduction in total public spending will be hard to achieve.

Thus, any improvement in the public finances will almost certainly have to come through an increase in government receipts. An increase in taxes, the main source of revenue for central government (see Chart 10), therefore seems unavoidable.

With that in mind, the average corporate tax rate looks fairly low compared with the rest of OECD and particularly the other G7 nations (see Chart 11). Similarly, the average personal income tax rate is somewhat lower than in other developed countries, and a recent poll suggests that UK households would be willing to accept tax rises to help finance the response to the Covid-19 crisis[22]. One other possibility would be to increase VAT. The broad base of this tax – the net price of all goods and services exchanged – means that a small increase could give a substantial boost to government receipts. However, the poorest households – who spend a greater share of their income on consumption – would be the most affected by this measure, after having been among the hardest hit by the Covid-19 crisis. What's more, the VAT rate is already higher in the UK than in most other advanced economies. There could also be an increase in employer and employee National Insurance contributions (NICs), which represent a fifth of government revenue (see Chart 5 again). This would be the logical consequence of an increase in the cost of funding pensions.

However, on the first page of his manifesto for the 2019 general election, Boris Johnson pledged not to increase income tax, VAT or NICs. Although the Covid-19 crisis would certainly give him some leeway to renege on some of his promises, he seems determined to keep this one. This means that, among the possibilities discussed above, only an increase in corporation tax would appear possible. Indeed, this would fit with the change of tack that began prior to the Covid-19 crisis. At the end of 2019, Boris Johnson announced the cancellation of a corporation tax cut, from 19% to 17%, that had been due to take effect in April 2020. What's more, Chancellor Rishi Sunak is reported to be considering an increase in the corporate tax in the 2021 Budget, which will be presented on 3 March. Other options could also be considered, such as raising tax rates for Internet giants, establish a carbon tax, or even institute a wealth tax[23].

... but there is little immediate danger

Against this backdrop, the Chancellor appears to be willing to restore the UK's public finances quickly. In a speech during the Conservatives' annual party conference in October 2020, he vowed to always balance the government's books. However, tightening fiscal policy in 2021 could be premature. After all, England will still be locked down when the 2021 Budget will be announced, and the country's GDP will probably contract in the first quarter of 2021. In fact, tightening too quickly could be counterproductive. This is because any reduction in spending or increase in taxes could delay the economic recovery, which could already be hindered by the UK's exit from the EU's single market[24]. In its

19 National population projections: 2018-based, ONS, 21 October 2019.
20 The working age and pensionable populations are determined by the State Pension age (SPA). Under current legislation, this will be 67 for both men and women between 2028 and 2043.
21 Fiscal sustainability report – July 2020, OBR, 14 July 2020.
22 UK workers prepared to pay extra 4% income tax to fund £300bn pandemic bill, AJBell, 3 June 2020.
23 Report of the UK Wealth Tax Commission, LSE, 9 December 2020.
24 United Kingdom: What will be the economic consequences of a hard Brexit?, BNP Paribas, 20 November 2020.

October 2020 report discussed above, the IFS warned that it was *"not the time for tax increases or any other form of fiscal consolidation"* and that, over the following eighteen months, the government needed to be *"focussed on supporting the economy almost irrespective of short-term impacts on borrowing"*.

Moreover, the government is under no pressure from financial markets. There are several reasons for this.

First, First, the massive rise in government borrowing has been largely covered by additional purchases from the Bank of England. And while the UK went into the crisis with a fairly high debt-to-GDP ratio – around 85% in March 2020 – its position is not particularly worrying compared to other developed economies. According to OECD data, only Germany and Canada had lower levels of government debt among G7 countries[25].

Furthermore, the debt stock is not a comprehensive indicator of solvency. Debt service costs also need to be taken into account, as they measure the weight of debt repayments and interest charges on the government's finances. Also, while the ratio of debt to GDP compares a stock to a flow, the ratio of debt service to GDP compares two flows.

Admittedly, the stock of government debt has increased sharply since the late 1980s, both in nominal terms and relative to GDP. However, over the same period the cost of this debt – the weight of interest charges[26] – has fallen steeply as the result of lower real interest rates and inflation. Over this period, the interest burden has fallen from nearly 4% of GDP to 1.5% (see Chart 12). According to the OBR, this trend has accelerated over the course of the crisis, as the increase in debt has been overshadowed by the falls in real interest rates and inflation that followed the Covid-19 crisis. One of the main reasons for these falls is that global central banks have loosened monetary policy even further. The Bank of England has notably cut its policy rate by 65 basis points, to 0.10%, and extended its QE programme (see previous section). According to the minutes of its last meeting, the Monetary Policy Committee has no intention to tighten policy "at least until there is clear evidence that significant progress is being made in eliminating spare capacity and achieving the 2% inflation target sustainably"[27]. Admittedly, in its Monetary Policy Report for February[28] the Bank of England forecasts a rapid rise in inflation in 2021. However, it expects it to stabilise at around 2% until at least 2023, which would allow the MPC to maintain an accommodative monetary policy during this period.

Meanwhile, there aren't any particular concerns when it comes to the repayment of principal over the short and medium terms. The repayment schedule for UK government debt is largely spread over the next decades (see Chart 13).

In fact, the UK's government debt has an average maturity that is very high relative to those of other G7 countries, according to the Treasury's Debt Management Report[29], the Debt Management Office and the National Savings and Investments (NS&I) (see Chart 14).

OUTSTANDING GOVERNMENT DEBT BY MATURITY

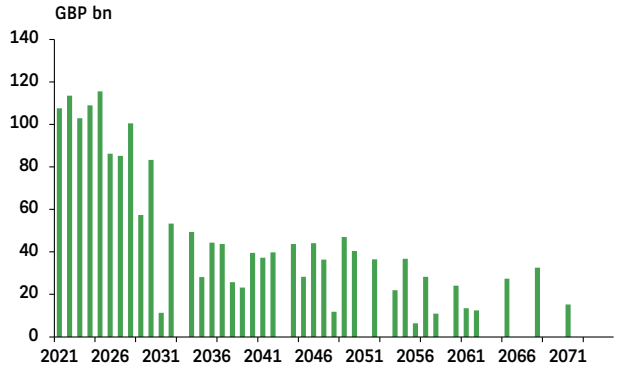


CHART 13 SOURCE: REFINITIV

CENTRAL GOVERNMENT DEBT INTEREST (NET OF APF)

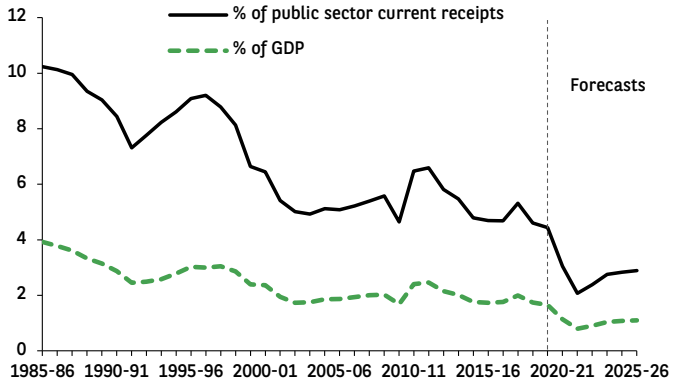


CHART 12 SOURCE: OBR

AVERAGE MATURITY OF THE PUBLIC DEBT STOCK AT END 2019

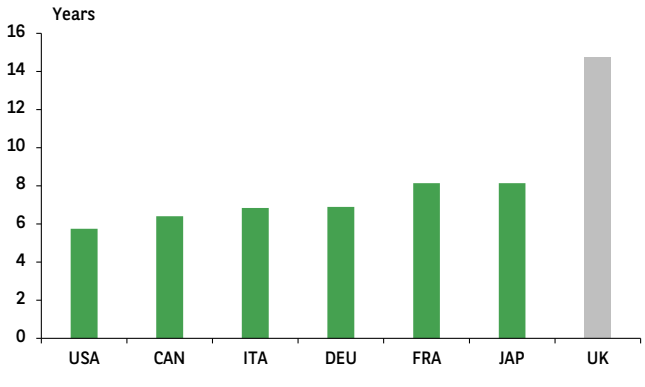


CHART 14 SOURCE: BLOOMBERG, DMO

25 General government debt, OECD.
26 Debt service = Principal + Interest
27 Bank Rate maintained at 0.1% - February 2021, Bank of England, 4 February 2021.
28 Monetary Policy Report - February 2021, Bank of England, 4 February 2021.
29 Debt management report 2020 to 2021, UK Government, 11 March 2020.

This indicates that UK government debt will mature much later, and therefore that its refinancing requirements over the next few years will be lower. All in all, there is little reason to be concerned by UK public debt at the moment.

* * *

Like many developed countries, the UK will be confronted to the ageing of its population over the next decades, which will probably put a big strain on public finances. What's more, addressing this challenge has been made more complex by the pandemic. In fact, the UK government is now facing a dilemma. On the one hand, failing to maintain control over its books could have serious implications. That is because a larger debt stock is more sensitive to changes in interest rates, and a rise thereof can never be entirely ruled out. Moreover, should investors become worried about the state of the public finances during a future crisis, the government's ability to support its economy could be inferior to what it has been during the Covid-19 pandemic. On the other hand, tightening fiscal policy too quickly could delay the recovery from the current crisis, which could already be hindered by Brexit. The European Union made this mistake after the global financial crisis, and payed it with years of depressed growth afterwards. Overall, the UK government is facing a difficult balancing act in order to keep its finances on a sustainable track. Some hints on how it will solve this puzzle could be given when the 2021 Budget is presented on 3 March...

Hubert de Barochez

GROUP ECONOMIC RESEARCH

William De Vijlder Chief Economist	+33 1 55 77 47 31	william.devijlder@bnpparibas.com

ADVANCED ECONOMIES AND STATISTICS

Jean-Luc Proutat Head – United States	+33 1 58 16 73 32	jeanluc.proutat@bnpparibas.com
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BANKING ECONOMICS

Laurent Quignon Head	+33 1 42 98 56 54	laurent.quignon@bnpparibas.com
Laure Baquero	+33 1 43 16 95 50	laure.baquero@bnpparibas.com
Céline Choulet	+33 1 43 16 95 54	celine.choulet@bnpparibas.com
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EMERGING ECONOMIES AND COUNTRY RISK

François Faure Head – Argentina	+33 1 42 98 79 82	francois.faure@bnpparibas.com
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Hélène Drouot Korea, Thailand, Philippines, Mexico, Andean countries	+33 1 42 98 33 00	helene.drouot@bnpparibas.com
Salim Hammad Latin America	+33 1 42 98 74 26	salim.hammad@bnpparibas.com
Johanna Melka India, South Asia, Russia, CIS	+33 1 58 16 05 84	johanna.melka@bnpparibas.com

CONTACT MEDIA

Michel Bernardini	+33 1 42 98 05 71	michel.bernardini@bnpparibas.com

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