Paying it forward

How to stop corporate debt killing off the recovery

Angus Groom
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Angus Groom

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Summary of the argument
The response to the coronavirus recession has so far focussed overwhelmingly on how quickly consumer confidence, and with it spending, will recover. Consumption is important. But there is a risk it is a category error: the real problem being the financial hit that businesses have taken to date and the debt they have accumulated since March. This paper considers how the exogenous shock of the pandemic has affected firm balance sheets as we emerge from lockdown—and what it means for investment, jobs and growth as we enter the recovery.

It is hard to underestimate the effect of lockdown on firm balance sheets. At the height of the lockdown, in the worst-affected industries over 80% of businesses were forced to close. This meant lost revenue and so losses that affect their ability to function. There can be little doubt therefore that the unprecedented level of taxpayer support issued through the CBILS and CJRS prevented a catastrophe. Without it we estimate that 12% of firms would have failed due to the lost revenues causing a cash flow crisis. This would have resulted in an additional 5 million people unemployed, or a headline unemployment rate of 18.8%, the highest level since before the Second World War.

This government support means that a cash flow crisis has not been realised. A considerable amount of government support, however, has come in the form of additional firm-level debt. While a loan provides immediate and needed cash it comes at the cost of a long-term liability. This is in principle a sound instinct—taxpayers should expect to be repaid for taking on private investors’ risk. But in practice the rapid growth of firm-level debt creates numerous longer-term problems.

First, the additional debt will push some firms’ net asset position into technical insolvency, meaning they may not be able to access further support. This accounts for 4.3% of firms in our sample employing an estimated 1.8 million workers. If they can continue to meet their day-to-day commitments these firms will be able to continue operating, but if dissolved they would not have the assets to cover their liabilities.

Second, if firms remain technically solvent the additional debt they are forced to take on could lead to zombification. Zombie firms are firms laden with so much debt that their profits only just cover their debt interest payments—or in some cases they can not cover them at all. Depending on the classification of zombies used, we estimate 1-4% of firms have become zombified since March, bringing the total share of zombie firms in the economy to over one in every five firms (21%).
These headline figures, startling as they may be, hide two important facts that should give policymakers further pause. First, these results are the result of modelling financial outcomes up to the end of August. The implicit assumption is that these are the conclusions that would arise from the demand side of the economy recovering immediately from now. Every day that spending remains below pre-crisis level these numbers will worsen.

Second, there is considerable heterogeneity within the economy, with firms in different industries experiencing very different outcomes. Some industries have made it through the crisis relatively unscathed. In the Information and Communications sector, for example, only 7.2% of firms have faced financial difficulties as a result of the drop in aggregate demand and only 1.4% of firms have become zombified. For those working in Professional, Scientific and Technical activities 8% of firms have seen difficulties with only 1.3% of firms becoming zombies.

But other industries have faced an unprecedented financial challenge. The Accommodation and Food Service sector and the Arts, Entertainment and Recreation sector collectively account for over 10% of employment in the UK. Even in late June over 40% of these firms were unable to re-open and it is far from clear when they will be able to return to their full capacity, with 20% still closed at the start of August. Without support, 35% of firms in these sectors would have faced financial difficulties. Even with current government policies, 23% will need to take on additional debts to prevent a cash flow crisis that forces them to close down permanently. Taking on additional debt means 13-19% of these firms have either failed or become accounting insolvent, and using a broad definition we estimate 40% of firms in these industries are now zombies.

This rise in zombie firms will have an knock-on effect across the economy, with our estimates suggesting that without further action business investment will be reduced by £42 billion a year, slower employment growth that could mean over 400,000 fewer jobs created in a recovery that takes over twice as long, and lower productivity leading to £41 billion of lost growth over 5 years—more than £500 per person.

This all suggests that the Government will need to go substantially further to support firms over the medium term, and specifically to help firms manage high levels of debt. Given that much of this debt is either wholly or majority underwritten by HM Treasury, the Chancellor has a number of options, ranging from restructuring to debt to equity swaps through to partial or outright forgiveness. None of these options are uncontroversial and
each involves varying degrees of moral hazard, taxpayer loss and engineering complexity. However our solemn conclusion is that some form of action is unavoidable.

In a previous paper, Bounce Back, Onward set out these options and the merits of each, arguing primarily for a debt restructuring agency to be established to manage up to £30 billion of bad debt and for the capitalisation of equity vehicles. In this paper, we go one step further and argue for the creation of a New Start Scheme that allows firms to convert their new coronavirus debt into an income contingent loan collected as a share of trading profits. This approach combines the flexibility and overhang benefits of equity swaps with the administrative and bureaucratic advantage of a government-coordinated loan scheme. The negative effects of the growth in zombie firms outlined above would be avoided whilst still recovering as much as possible of loans that would otherwise have been written off—maximising taxpayer value for money together with an investment in the economy.

Alongside measures to reduce the private sector’s reliance on destabilising debt financing and to promote a regime of government-supported macroeconomic insurance more broadly, these measures would invigorate the private sector to allow employment growth and investment to drive the economy through recovery and into a new and more sustainable growth phase.
Challenges
This section examines how the hard stop on economic activity in March—and the subsequent difficulties firms have faced in reopening—has affected the circular flow of money that keeps the economy running.

In a recession, the flow of money slows. Once confidence and demand return to the economy this flow can return to its previous rate—many might at that point hail the end of economic worries. However even when demand returns to normal the financial cost of the downturn can leave a permanent mark on firm-level balance sheets through accumulated debt. Even if the economy appears to have recovered, below the surface there is a heightened risk of cash flow crisis, insolvency and an excessive debt burden, as well as reduced investment and employment as firms deleverage.

The specific hit to firm balance sheets from the coronavirus pandemic, and the distributional effect of lockdown across different industries, means that this risk is higher in this crisis than in similar recessions. This risk is such that further policy action is needed even if demand recovers quickly as lockdown measures are relaxed. Many firms would have been unable to continue trading without the already announced policy support and even with it firms are being forced to take on additional debt to balance their trading losses.

**The coronavirus hit**

The first contribution of this report is to present the industrial decomposition of the revenue impact of coronavirus as documented in the ONS Business Impact of Coronavirus Survey (BICS). Each wave of this survey covers a two-week period starting from 9th-22nd March and we document the results of the 11 waves released to date.

For all industries these weeks were all reported as being on average worse than normal for this time of year and most industries saw their worst performance during the second wave of the survey (23rd March to 5th April), coinciding with the start of the government-imposed lockdown. This is where the ability to make broad statements ends. The graphs below show the diversity in the experience of the crisis across sectors.

In the Accommodation and Food Service and the Arts, Entertainment and Recreation sectors over 80% of businesses had to close at some point and more than 45% of those still open were making less than half of their normal takings. In the Information and Communication sector, by contrast, only 10% of firms ever had to close and the median
firm experienced no change from their normal revenue for most of the survey period. The persistence of the shock has also been highly varied, with firms in Wholesale and Motor Industries seeing a substantial shock followed by a steady recovery and those in Transportation and Storage experiencing a shock that was initially less severe but much more persistent. In the customer-facing Food and Arts industries the shock has been severe and persistent, with over 80% of firms either closed or seeing less than half their usual revenue.

The details of the shock and its differentiated effect between sectors can be seen in Table 1. The results show the impact of the shock at its height, normally during wave two of the survey which coincided with the start of the lockdown period.

**Table 1: Percentage change in revenue of firms by industry at the height of the crisis**  
*Source: Onward analysis of BICS data*

<table>
<thead>
<tr>
<th>Industry</th>
<th>Not trading (revenues down 100%)</th>
<th>Revenues down 50%+</th>
<th>Revenues down from normal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Accommodation and Food Service Activities</td>
<td>83.2%</td>
<td>93.8%</td>
<td>96.6%</td>
</tr>
<tr>
<td>Administrative and Support Service Activities</td>
<td>11.8%</td>
<td>37.7%</td>
<td>75.0%</td>
</tr>
<tr>
<td>Arts, Entertainment and Recreation</td>
<td>83.3%</td>
<td>91.1%</td>
<td>96.9%</td>
</tr>
<tr>
<td>Construction</td>
<td>29.4%</td>
<td>63.4%</td>
<td>91.3%</td>
</tr>
<tr>
<td>Education</td>
<td>14.3%</td>
<td>26.3%</td>
<td>77.6%</td>
</tr>
<tr>
<td>Human Health and Social Work Activities</td>
<td>6.6%</td>
<td>17.9%</td>
<td>50.5%</td>
</tr>
<tr>
<td>Information and Communication</td>
<td>10.5%</td>
<td>18.2%</td>
<td>55.1%</td>
</tr>
<tr>
<td>Manufacturing</td>
<td>23.1%</td>
<td>40.4%</td>
<td>71.2%</td>
</tr>
<tr>
<td>Professional, Scientific and Technical Activities</td>
<td>7.6%</td>
<td>20.4%</td>
<td>67.5%</td>
</tr>
<tr>
<td>Transportation and Storage</td>
<td>8.8%</td>
<td>35.9%</td>
<td>79.7%</td>
</tr>
<tr>
<td>Water Supply, Sewerage, Waste Management and Remediation Activities</td>
<td>11.3%</td>
<td>34.4%</td>
<td>75.9%</td>
</tr>
<tr>
<td>Wholesale and Retail Trade, Repair of Motor Vehicles and Motorcycles</td>
<td>27.3%</td>
<td>53.1%</td>
<td>76.4%</td>
</tr>
</tbody>
</table>
Box 1

The Good (or at least less bad)

Some industries have made it through the crisis relatively unscathed so far. Firms in the Human Health and Social Work Activities sector have unsurprisingly not seen a substantial fall in demand in what has been a public health crisis. At the worst point during the lockdown only 6.6% of firms had to stop trading and the median firm saw no change in its revenues. Over 3% of firms even saw an increase in their revenues over this period.

A number of other sectors appeared to be following a similar positive path. Firms in the Education sector, the Information and Communication sector and the Professional, Scientific and Technical Activities initially only saw a smaller decline in their revenues. Only 39.6%, 30.2% and 25.5% of firms in these sectors respectively saw a decline in their revenues in the first wave of the survey and just under a third of these firms saw a decline in revenues of less than 20%. The situation in these sectors, however, slowly got worse throughout the lockdown period and by the end of the survey period the majority of firms in each sector had seen a decline in their revenues. Most declines were still in the below 20% fall in revenues category and so these declines whilst regrettable are not as severe as those seen in other sectors.

The Bad

Firms in the Administrative and Support Services sector and the Transportation and Storage sector, being more public-facing, saw a more sustained decline in their revenues. The median firm saw their revenues decline by 20-50% for most of the sample period and over 25% of firms in both sectors saw revenues fall by more than 50%. Perhaps even more worryingly the proportion of firms seeing a decline in revenues seems to only slightly reduce throughout the survey period.

Firms in the Construction sector, the Manufacturing sector, the Water Supply, Sewerage, Waste Management and Remediation Activities sector and the Wholesale and Retail Trade; Repair of Motor Vehicles and Motorcycles sector saw a more substantial shock to their revenues but this shock also faded away more quickly than the firms mentioned in the previous paragraph. At the start of the lockdown 29%, 23%, 8% and 27% of firms in
these industries respectively had to cease trading and 54%, 35%, 28% and 50% of firms saw revenues fall by more than a half. Despite this by the end of the survey period as lockdown restrictions had eased each industry was in a better position with fewer than 0-3% of firms closed and 5-10% of firms seeing a decline in their revenues of more than 50%.

The Ugly

The most consumer-facing industries faced the combination of both the negatives outlined so far—seeing a shock that is both large and sustained. At the start of the lockdown 81% of firms in the Accommodation and Food Service Activities sector ceased trading such that they were making no revenues and of those still open 47% were taking less than 50% of their normal trading revenues. For firms in the Arts, Entertainment and Recreation sector the equivalent numbers are 83% and 44%. For six weeks these numbers barely changed and even though the situation minorly improved by the end of July still 48% and 60% of these firms are closed and making nothing, and 50% and 57% and those firms still open were bringing in less than 50% of their normal takings. In August the position continues to gradually improve with fewer businesses closed, but still 35% and 57% were either closed or open and making 50% less than normal, and over 80% are making less than their average for this time of year.

Most industries have seen revenues recover at least partially since the height of the crisis. Table 2 shows the effect of on-going public health measures on revenues as reported in the final survey wave (27 July to 9 August). Figure 1 shows the evolution of this shock across each industry, giving a richer visual demonstration of the different impacts each has faced.
### Table 2: Percentage change in revenue of firms by industry at the start of August

*Source: Onward analysis of BICS data*

<table>
<thead>
<tr>
<th>Industry</th>
<th>Not trading (revenues down 100%)</th>
<th>Revenues down 50%+</th>
<th>Revenues down from normal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Accommodation and Food Service Activities</td>
<td>9.57%</td>
<td>34.94%</td>
<td>79.11%</td>
</tr>
<tr>
<td>Administrative and Support Service Activities</td>
<td>7.6%</td>
<td>24.70%</td>
<td>61.17%</td>
</tr>
<tr>
<td>Arts, Entertainment and Recreation</td>
<td>24.89%</td>
<td>57.71%</td>
<td>86.62%</td>
</tr>
<tr>
<td>Construction</td>
<td>2.40%</td>
<td>10.58%</td>
<td>51.15%</td>
</tr>
<tr>
<td>Education</td>
<td>3.5%</td>
<td>15.14%</td>
<td>67.35%</td>
</tr>
<tr>
<td>Human Health and Social Work Activities</td>
<td>1.2%</td>
<td>5.23%</td>
<td>39.28%</td>
</tr>
<tr>
<td>Information and Communication</td>
<td>6.8%</td>
<td>13.37%</td>
<td>44.30%</td>
</tr>
<tr>
<td>Manufacturing</td>
<td>0.0%</td>
<td>6.87%</td>
<td>53.28%</td>
</tr>
<tr>
<td>Professional, Scientific and Technical Activities</td>
<td>4.9%</td>
<td>10.91%</td>
<td>53.23%</td>
</tr>
<tr>
<td>Transportation and Storage</td>
<td>2.21%</td>
<td>20.82%</td>
<td>59.99%</td>
</tr>
<tr>
<td>Water Supply, Sewerage, Waste Management and Remediation Activities</td>
<td>1.8%</td>
<td>5.40%</td>
<td>46.45%</td>
</tr>
<tr>
<td>Wholesale and Retail Trade, Repair of Motor Vehicles and Motorcycles</td>
<td>1.81%</td>
<td>7.84%</td>
<td>47.2%</td>
</tr>
</tbody>
</table>
Figure 1: The change in revenue seen in each wave of the Business Impact of Coronavirus Survey.

*Source: ONS analysis of BICS data*

- Revenue up more than 50%
- Revenue up 20 to 50%
- Revenue up less than 20%
- Revenue up unchanged
- Revenue down less than 20%
- Revenue down 20 to 50%
- Revenue down more than 50%
- Closed temporarily
- Closed forever
Figure 1 continued: The change in revenue seen in each wave of the Business Impact of Coronavirus Survey.

Human Health and Social Work Activities

Information and Communication

Manufacturing

Professional, Scientific and Technical Activities

Transport and Storage
Figure 1 continued: The change in revenue seen in each wave of the Business Impact of Coronavirus Survey.

Each wave lasts two weeks and waves run from early March to August.

The full impact of the shock

As documented here in detail for the first time one can see the full scale and nature of the shock the public health crisis and accompanying lockdown has caused for businesses. Using data on the universe of UK firms it is possible to model forward the impact that this shock to revenues has on firm cash flow, solvency and debt levels.

The BICS results presented above are combined with firm-level financial data to estimate the knock-on effect of this shock to demand. Data on financial information from the universe of firms taken from Bureau van Dijk’s FAME database are randomly matched with BICS outcomes according to the probability distribution derived from the survey and according to industrial classification. A microsimulation model then calculates the effect of this shock to firm revenues on levels of working capital and the firm’s net asset position. To the extent that firms are losing money and so need to borrow to maintain their working capital stocks this can also be seen and so the growth in corporate debt can also be estimated. This random simulation process is then repeated a large number of times and the central estimate is presented below—although the confidence intervals for any
particular statistic tended to be below 1 percentage point. This simulation was completed for a range of policy options, including a counterfactual where the government did not intervene to support the economy.

The shocks identified in the Business Impact of Coronavirus Survey mean lost revenues and with fixed costs that still need to be paid, profits are reduced or even turn negative to losses. Figure 2 shows the proportion of firms across the economy who are making losses for the year so far, with the start of the lockdown forcing the majority of firms into a loss-making regime during April before a peak during May at 55% and slowly declining thereafter, with projections beyond the survey period shown assuming the same results from the final survey are replicated in the future.

**Figure 2: Proportion of firms making losses**
*Source: Onward analysis of ONS BICS data and Bureau van Dijk FAME microdata*

These losses reduce the working capital buffers that firms have, the readily liquidated short-term assets with which they meet their day-to-day liabilities. When levels of working capital fall below the working capital needs of a firm they may not be able to meet their liabilities as they fall due and so they are at risk of bankruptcy: prompting a cash flow crisis. The chart below shows the proportion of firms who by July are in this cash flow crisis situation due to the lack of working capital, as well as those who are at risk of this
crisis which is defined as their working capital buffers having been reduced by more than 50%. This is decomposed by industry as specified.

In aggregate we estimate that without the Government’s support 12% of firms would have suffered a cash flow crisis due to the lost revenues, meaning that their working capital falls below what they need to continue trading. This amounts to over 350,000 firms who in total employ 5 million people. The especially badly hit industries such as Accommodation and Food (15% of affected firms) and Arts and Entertainment (18% of affected firms) make up many of these firms at risk as one would expect, and other industries that saw a more moderate shock also feature due to their larger size such the Professional Scientific and Technical Activities (12% of affected firms) and the Wholesale and Motor Vehicles (18% of affected firms) industries. The firm size profile of those affected matches closely the firm size distribution in the general population of firms, with a small skew towards larger businesses who are more likely to have large fixed costs.

The top panel of Figure 3 shows the proportion of firms in the industry who are modelled to be in and at risk of a cash flow crisis by the end of July in the absence of any government support. The bottom panel shows the number of workers employed by firms who are in this situation, accounting for the fact that some industries employ more workers than others. The majority of industries see fewer than 10% of firms in a crisis, although these do still imply over 100,000 workers at risk in all but one of the industries. The Accomodation and Food Service Activities sector and the Arts, Entertainment and Recreation sector see the biggest shock, with over 30% of firms in each industry in crisis and over 45% of firms at risk of a crisis. This is as a result of the fact that these industries have not only seen the largest shock to demand but are also most exposed due to large rents and fixed costs and so a particular reliance on keeping revenues high. Despite the fact that these industries are some of the smallest by employment the numbers of workers at risk in these industries are still among the most of any sector, so great is the shock in these areas. In each of these industries over 500,000 workers are employed in firms in crisis and over 800,000 workers are in firms at risk of a crisis.
Figure 3: Cash flow crisis in absence of fiscal support

Source: Onward analysis of ONS BICS data and Bureau van Dijk FAME microdata
The CJRS scheme and various forms of grant support make the situation substantially better, as seen in Figure 4 below that shows the reduction in the shock. The implied proportion of firms in crisis and at risk falls by up to 75% as a result of the support across industries, with most industries seeing a fall between 20-50%. The two most exposed industries of Accommodation and Food and Arts and Entertainment see typical reductions of 40% and 25% respectively, showing that the support did not particularly target those industries who were worst affected by the crisis. Even so the total number of workers in firms in crisis or at risk is 2.2 million and 3.6 million, with unemployment rising by the lower figure leading to a headline unemployment rate of just over 10.5%: the highest rate seen in the UK since 1993.

Figure 4: Cash flow crisis after the effect of the furlough scheme

Source: Onward analysis of ONS BICS data and Bureau van Dijk FAME microdata
Figure 4 continued: Cash flow crisis after the effect of the furlough scheme

Source: Onward analysis of ONS BICS data and Bureau van Dijk FAME microdata

New debt to fill the gap

In order to cover the trading losses during the lockdown period firms have had to take on more debt, either using conventional lending products or through the specially designed schemes such as CBILS and the Bounce Back Loan Scheme. This debt is a liability. In the accounting sense that it weighs down their balance sheet and moves them closer to technical insolvency: where their total assets are lower than their total liabilities.
Figure 5: Technical insolvency as a result of debt accumulation

*Source: Onward analysis of ONS BICS data and Bureau van Dijk FAME microdata*
As seen in Figure 5 above there is a moderate increase in the share of firms insolvent across most industries. This increase is below 2.5 percentage points in all but the two worst hit industries, but in the Accommodation and Food Service Activities sector the percentage of insolvent firms grew by 6.3 percentage points from 6.7% to 13%. In the Arts, Entertainment and Recreation sector the proportion of insolvent firms increased more than 16 percentage points, growing from 2.4% to 19%.

This is making the optimistic assumption the firms’ asset positions stay strong throughout the crisis and are not marked down in value, something that is likely to happen in a downturn. A firm that is technically insolvent will not necessarily need to close down, as long as they can meet their liabilities as they fall due, but they will likely find it harder to access additional financing if they need it, and they are a sign of an economy that has tied itself in knots. Insolvent firms have no remaining equity and no remaining economic value.

The secondary effect of additional debt is that firms are able to trade but do so weighed down by debt, so that when their trading profits recover they are only just covering their interest payments. The growth in corporate debt over recent years has prompted much discussion of “zombie firms” who go on trading and survive through recessions due to easy money without which they would likely have failed. Whilst there is debate over what exactly is a zombie firm, here two definitions are used. A narrow definition defines a zombie as a firm whose trading profits are lower than their debt interest payments (in line with Andrews, McGowan and Millot, 2017), and a wide definition defines a zombie as a firm whose trading profits are below 2.5 times their interest payments.

Whilst the wide definition may seem to cover firms that are currently profitable and able to return profits to shareholders even after interest, interest rates on their debt need only rise by 2.5 times for this to no longer be the case. Especially at a time of unprecedented low interest rates a 2.5 times increase may only be a small percentage point increase in the interest rate and so even a wide definition zombie is substantially at risk. Furthermore much of the literature on the wider effects of zombie firms in the economy that is surveyed in the next subsection shows that these effects appear for a range of definitions used to identify zombies.

Figure 6 shows the growth in zombie firms as a result of the extra debt firms have had to take on to cover their trading losses during the lockdown period. As before there has been a growth in the proportion of firms who are zombies in each of the industries, but as before this increase is by far the most pronounced in the two industries that have been
shown to be taking the majority of the damage. According to the wide definition, which is likely more useful in a crisis that is far from over, the proportion of firms who are zombies in the Accommodation and Food Service Activities sector increases by 61%. In the Arts, Entertainment and Recreation sector the increase is by 128%.

**Figure 6: The growth of zombie firms**
*Source: Onward analysis of ONS BICS data and Bureau van Dijk FAME microdata*
Figure 6 continued: The growth of zombie firms

Source: Onward Analysis of ONS BICS data and Bureau van Dijk FAME microdata

This increase has a micro effect: it means firms that are unable to deliver a return to their shareholders and physical and financial capital is tied up in unproductive use. But there is also a macro effect, where zombification becomes systemic and employment, investment and productivity suffers across the economy.

The knock-on effects of debt

Zombie firms are not new, but are in fact one of the lingering shadows of the last financial crisis and the Great Recession that followed it. Normally a crisis, whilst disastrous for those who lose their jobs, incomes and businesses, has the benefit that it engages what economist Joseph Schumpeter called “creative destruction”. The fall in demand in a normal crisis means that consumers spend less, and focus their spending on things that matter most to them. The businesses that go bust in a crisis—or so the theory argues—are the ones that are less productive, making fewer profits and which are collectively less valuable to society. Furthermore the fact that these businesses have gone under means
that, in the long term, the resources that were stored up in them will find a new and more creative use such that they produce greater value for society.

The problem with creative destruction is that it requires a strong and unmitigated recession and, for perfectly valid reasons, governments and central banks would generally rather avoid those. In the UK when the financial system looked on the brink of collapse the Bank of England took the then unprecedented measures of pushing nominal interest rates to near zero and Quantitative Easing to improve the state of financial balance sheets. These measures were intended to prevent further bank failure and corporate insolvency more broadly through easier access to credit, and so to that extent they succeeded, but they also had the side-effect of by-passing the creative destruction process that normally pulls resources from unproductive uses and into more valuable ones. This led to the terming of “zombie firms” for firms which ought to have died but are alive simply due to the easy access to credit—combined with the actions of banks, worried about acknowledging the bad debts they hold, who would rather roll over a poorly-performing loan than call it in.

It is perfectly reasonable to argue that slower productivity growth due to mis-allocation of resources is a reasonable price to pay to keep business afloat and people in their jobs, especially at a time of crisis. Zombie firms have another negative side-effect though: their high levels of debt mean they are particularly likely to fail if credit conditions worsen or if they would otherwise need to take on even more debt such that they would be accounting insolvent. Coming into this COVID shock with a higher level of zombies means less room for extra corporate debt, and a compounding of its negative effects.

Analysis by KPMG in May 2019 found that around 8% of listed companies displayed three or more of what they categorised as zombie-like symptoms: ranging from low ICRs to slow revenue growth. Between sectors these numbers ranged from 2% to 14%. 60% of firms displayed at least one zombie symptom, showing just how widespread the problem is.

Research from the OECD (Andrews, McGowan and Millot, 2017) put the number of zombie firms lower at around 4%, although definitions vary quite substantially between analyses. They attribute the growth in zombies to capital misallocation and slower technological diffusion, and ultimately part of the lower trend growth rates that have been seen internationally after the crisis compared to before it. They cite evidence that a one
standard deviation increase in zombies leads to 1% lower employment and, if zombies are there instead of new young firms, a multi-factor productivity gap of just over 12%.

Researchers at the Bank of International Settlements (BIS) report similar findings (Banerjee and Hofmann, 2018). They show that a one percentage point increase in the prevalence of zombie firms means slower employment growth (by 0.25 percentage points) and a capital investment rate that is lower by around 17% relative to the non-zombie baseline, and aggregate productivity growth lower by 0.3 percentage points.

Using the most conservative set of assumptions, the increase in the percentage share of zombie firms as a result of coronavirus excess debts is 1.31%. Incorporating this result with the findings above suggests that employment growth would be lower by 0.33 percentage points, the capital investment rate would be lower by 22%, and TFP growth would be lower by 0.39 percentage points.

The UK’s recovery from the financial crisis was marked by rapid employment growth, but with a higher level of zombie firms this return to high employment would have been much slower. Figure 7 shows the recovery path of UK employment after 2008 as well as how that recovery path would have been different had employment growth been lower by 0.33 percentage points. The return to 2008 employment levels would have taken two years longer (occurring in 2014 rather than in 2012), and in the decade after the crisis the lower employment growth rate would have implied more than a million fewer new jobs than actually occurred.
This conclusion can also be applied to the OBR’s assumed path for unemployment according to the central forecast in their July Fiscal Sustainability Report. According to their analysis unemployment will peak at 11.9% in Q4 2020 before recovering to a stable level of 5.1% in Q4 2024 after 16 quarters. Assuming slower employment growth by 0.33% gives the slower path of recovery as seen in Figure 8 below. The growth of zombie firms suggests that by Q4 2024 the unemployment rate would still be at 6.37%, higher by 1.27%, amounting to an additional 422,000 people unemployed. Full recovery to the stable level would, according to this adjustment on the OBR’s analysis, take until Q1 2030—more than doubling the time to recovery of unemployment.
A reduction in the business investment rate of 22% means that annual business investment would fall by £42 billion simply due to the impact of zombie firms, with additional falls due to the uncertain economic and public health landscape also likely. A total factor productivity growth rate that is lower by 0.39 percentage points means that over five years there is over £500 in missing GDP per capita, or missing growth equal to 1.9% of current GDP—total GDP being lower by £41 billion. Even if demand recovers instantly with the lifting of lockdowns, the financial effect of the fall in demand will have a permanent effect on balance sheets that, in the absence of further action, will have real economic effects.

Collectively the evidence shows that zombie firms have a number of negative effects. They mean greater vulnerability to shocks in the future and less nimble businesses, lower long-term productivity growth, and they also mean slower employment growth as firms recover from a crisis and the economy seeks to return to its normal level. An NBER working paper (DeAngelo, Goncalves and Stulz, 2016) published in November 2016 argued that in the aftermath of the financial crisis corporate deleveraging has been a much more painful and prolonged process, meaning the effects of this extra corporate debt are likely to be with us for many years to come.
Solutions
While there is growing awareness of the short-run rise in corporate indebtedness, particularly given the growing liabilities of HM Treasury, there has been relatively limited discussion of how to mitigate the negative effects of debt on corporate investment and employment decision-making as the recovery gathers pace.

There was no mention of corporate debt, for example, in the Chancellor’s Summer Statement and while the Bank of England’s August 2020 Financial Sustainability Report noted the possibility that “corporate debt burdens may also contribute to a ‘debt overhang’ and weigh on investment in the recovery phase, as more highly leveraged companies may prioritise paying down existing debt”, it offered limited guidance for how that risk might be allayed.

This section considers the options available to the Government to reduce the risks posed by corporate indebtedness, and the trade-offs associated with each. As the previous chapter showed, it is clear that the Government will have to do something about corporate debt. The question is what will best protect the taxpayer and aid the recovery.

**Debt-for-equity swaps**

The idea that the Government should convert some or all of the debt issued to businesses through the CBILS and BBLs schemes into equity has gained currency in recent months. Lord Myners, the former Labour Treasury Minister, has argued for a government vehicle similar to the Industrial and Commercial Finance Corporation to convert government-issued debt into equity stakes in businesses.

This approach has theoretical merit but a variety of practical problems. Exchanging debt for an equity stake in the company frees up financial resources from loan repayments and gives the opportunity to reinvest its trading profits for long-term growth. That long-term growth can then allow the company to turn a profit that is returned to the equity holder and the company might eventually be in a position to buy back the equity stake. For the authority that issued the initial loan this swap is an intermediate action short of forgiving the debt altogether that offers support and retains a stake in the future success of the company.

If this reduction in short-term debt liabilities improves the company’s future prospects such that more repayments are made than had support not been offered, and equity swaps can also lead to more repayments being made in the long run and less debt
needing to be written off. Often this swap would be in the form of new non-cumulative preferred stock that allows the company to not pay a dividend whilst it is recovering but which requires a dividend on the new stock whenever the company wants to return money to other shareholders. A more strategy-proof alternative has been suggested by Bullow and Klemperer (2015) in the form of Equity Recourse Notes.

However this theoretical discussion has often ignored or obscured the administrative complexity of issuing new equity and the cost associated with debt-equity swaps. Debt-equity swaps are usually used by listed companies and for the 2,600 companies listed and traded on the London Stock Exchange pricing stock and issuing equity is relatively straightforward. Doing this for private companies is much harder as there is no market evaluation of price and no guarantee of a suitable existing equity structure. As the OECD notes, “A key challenge in completing a debt-for-equity swap could be the difficulty in reaching a fair price of swaps acceptable to both shareholders and creditors. This is especially true when information asymmetries are high and/or negotiations involve numerous parties. Determining a fair price could be particularly difficult when the concerned company is privately held, lacking market evaluation.”

These problems become more intractable when considering the scale of financial assistance and volume of firms receiving government-backed loans in the last few months. As of 2nd August, 1,135,575 and 58,595 loans have been issued under the BBLS and CBILS schemes respectively. This is many orders of magnitude greater than the 350-400 applications that the Industrial and Commercial Finance Corporation made each year in the 1970s. Moreover, many of the firms that have taken on government debt will be SMEs, owned by a single or small number of shareholders, with no applicable equity structure and limited experience negotiating a complex financial restructuring. Many will also be wholly unsuited to equity ownership by the taxpayer.

The cost of managing equity stakes in potentially hundreds of thousands of businesses could also exceed the cost of simply forgiving the bad debt. The success of the CBILS and BBLS rollouts have been how a streamlined scheme has been designed by the government and then implemented by banks. Equity stakes would need to be dealt with on a case-by-case basis by an authority on behalf of taxpayers. For this reason, the Chancellor recently told the Treasury Select Committee: “I’m not entirely sure it would be sensible for the Government to have individual equity stakes in millions of very small businesses.”
Debt restructuring and forgiveness

An alternative proposal to deal with debt overhang is to restructure or partially forgive debts that have gone bad. A recent report by the CityUK Recapitalisation Group estimated that by March 2021 up to £100 billion of corporate debt would have gone bad and proposed the creation of a new UK Recovery Corporation with the aim of rearranging liabilities in a more manageable way.

Crucial to this approach is the recognition that the current insolvency regime only seeks to save businesses at the point of failure, at which point it is too late to make a real change to a business’ long-term potential. The Recapitalisation Group outline a range of schemes to convert loans into tax liabilities, issue new equity as preference shares as outlined above, and create new equity investment to create a more manageable overall debt position.

As with a debt-to-equity swap these proposals have merit in reducing debt liabilities, improving performance, and eventually even increasing repayments if the company would otherwise have failed. But there are nonetheless well-placed concerns about the dynamic incentive structures and moral hazard risks inherent in such schemes. In particular, greater support for restructuring debt obligations might lead to businesses taking on more debt initially that they know they will be unable to repay, as businesses can have greater confidence they will be bailed out on the other side.

For as long as government guarantees exist, it would therefore simply mean lower value for taxpayer money with little to no reduction in the debt overhang. A more generous restructuring regime may make sense after firms are no longer able to simply increase their debt. But the public health and economic effects of the lockdown suggest that many companies will need additional support in the months ahead and ministers will be wary of it cutting off to avoid choking off the recovery.

These problems are magnified when the discussion moves from restructuring of liabilities to partial or outright debt forgiveness. There are clearly moral hazard arguments when writing off debt to distressed businesses that well-managed businesses have not had to take on. Even so it could be argued that the current crisis emerged through no fault of any businesses and there is a public benefit from avoiding large-scale firm level failure. It is certainly the case that large numbers of businesses may struggle to pay their debts and could collapse if the government does not do something.
Even if some debt forgiveness is necessary for some businesses, and it yet may be, we believe there is an alternative that could prevent debt from dragging down the recovery without leaving a considerable liability for the taxpayer.

**Giving businesses a New Start**

If one option is to swap corporate debt into equity or forgiveness, another is to convert it into a longer term tax liability. We propose a scheme, New Start, whereby HMRC allows debt issued through the CBILS and BBLS schemes to be swapped for an income contingent repayment plan paid as a surcharge on taxable profits and shareholder salaries.

Under such an arrangement, firms would only pay when they became profitable again, much like under the existing student loan system for tuition fees. The firm could delay the liability of their debt repayments at a time when the company is not performing or the economy is depressed, whilst avoiding the time commitment and strategic problems that are often associated with debt restructuring events. Most importantly, this could be done quickly through current institutional frameworks and without the need to move debts onto the Treasury balance sheet (although lower debt repayments would impact government revenues).

As a claim on a firm’s trading profits, this has many of the features of an equity swap. Financially it has the same advantages for overhang by automatically delaying repayments to such a time as they are affordable, allowing the company to focus on recovery. However it does so without the administrative complexity, cost and pricing difficulty that would accompany debt-to-equity swaps for hundreds of thousands of private businesses.

Such a scheme would also allow the government to generate the benefits of restructuring in an automated and intelligent way. Trading profits (including shareholder salaries that would normally be taxed through Income Tax rather than Corporation Tax, as well as other payments from the company such as a consultancy fee diverted through another company of which the shareholder is a beneficial owner) would see an increased rate of tax to repay the loan for as long as the original loan and interest is outstanding. There would also be the option to make lump-sum payments on the loan if the company was in
the position to do so—analogous to a company buying back shares issued during a debt-to-equity swap.

Some income-contingent loan schemes have been criticised on the grounds that businesses will artificially reduce profits by increasing salaries or investment. We propose the inclusion of shareholder income alongside trading profits within the scope of the tax surcharge to mitigate the risk of artificial salary inflation. More generally, higher levels of investment in employees and capital infrastructure is one of the purposes of the scheme.

There may also be a risk that companies delay repayment until such a time as the tax liability expires. We propose that the liability exists in perpetuity. In this way, the scheme mimics the financial structure of an equity issue and thus aligns the interest of shareholders with the lender. Both want the company to return to profitability and both know that only when this occurs can they together be compensated for their financial stake in the company.

The sale of the student loan book suggests that such a scheme could function independently of who owns the underlying loan asset. This would give the Government the opportunity to sell some or all of their liability to realise their investment in the short-term for the sake of the Government balance sheet. However, as has not always been the case with the student loan book, this should be done on the basis of regular and transparent valuations and given the relationship of the income-contingent guarantees to tax liability, the Government may be best placed to manage them itself.

One criticism of such a scheme is that it to an extent does favour businesses who took on loans initially by offering them more generous terms after the event. Unfortunately this is a feature of all schemes to support companies with excessive levels of debt. However, with this kind of scheme, moral hazard problems are reduced as those firms who swap debt for tax liability put their own future profits at risk in doing so. This means that forgiveness and the value of benefit for these indebted firms are explicitly linked to their needs and their long-term prospects in a way that maximises taxpayer value.

Moreover, if there were some businesses or sectors that the Government particularly wanted to provide additional support to through outright forgiveness, this would be possible through the New Start scheme. For example, the government could forgive interest on certain loans (such as the BBLS loans) or cap the loan liability to be repaid
through profits are less the original face value of the loan. This is analogous to the way the Government caps student loan repayments at 30 years.

This proposal has some similarities to the Business Repayment Plan proposal put forward by TheCityUK Recapitalisation Group which also involved converting the loan into a tax liability. The use of such a “tuitions fee loan” model has also been discussed more widely in other countries such as Australia. The Business Repayment Plan (BRP) was presented alongside other options, such as a Business Recovery Capital (BRC) scheme and a Growth Shares for Business (GSB) that provide growth equity capital among other instruments. These schemes are envisaged to be run out of a new UK Recovery Corporation and they also envisage a series of more bespoke debt restructuring events through a Restructuring-Led Recapitalisation Solution.

Whilst each of these policies have their merits, the financial and bureaucratic costs of implementation will likely increase dramatically as the complexity of the proposed system rises. A single scheme such as the New Start Scheme should be sufficient for all but the very largest CLBILS loans, with the possibility to cover 99.96% of new Government-supported coronavirus loans. Having a single scheme that can be rolled out through the existing network of banks would allow for the loan to be kept on the bank or government balance sheet, or even sold on as the student loans book has been, resulting in a more streamlined and flexible process.

Additional reforms such as the introduction of new bodies or broader recapitalisation and restructuring policies may be justified in themselves but these should be judged on their own merits and should not be considered a prerequisite to this kind of intervention. Additionally the streamlined process means that the requirement for bank-side agreement and a “Potential Default Conclusion” can be done away with—the choice of converting debt to the income-contingent liability is to an extent strategy-proofed and companies will only choose to do so when they will genuinely be able to benefit from the restructuring.

**A coherent framework for the future**

The problem of debt overhang is one of many symptoms of a society obsessed by debt. As Onward recommended in Bounce Back, there is a case in the longer run to remove the tax advantages of debt financing over equity and for equity financing to be boosted more broadly for SMEs in the UK. Both must remain longer term goals.
In the interim, there is a case for the kind of innovative tax contingency scheme proposed in this paper, to reduce the short term drag effect of debt and avoid the complexity of debt-to-equity swaps without creating the taxpayer costs of forgiveness. This would give UK businesses a New Start as they seek to rebound from the recession and spur the recovery.

In addition, banks should be encouraged to use these kinds of income-contingent loans for future business financing. This would allow the benefits of equity financing to be realised at the same time as allowing for the administrative efficiency and tax advantages of debt financing. This would be an important transitional step in the journey towards a more equity-heavy corporate finance structure.

Ministers should also consider ways to reduce the risks of similar crises in the future. Historically there has been a general assumption toward risk being addressed at an individual level through the insurance market, but there are also positive externalities that arise from this preventative behaviour.

Companies should therefore be encouraged and where possible incentivised to take out insurance policies that cover similar risks in the future. This can be done independently through the insurance sector, with many policies that cover unforeseen business interruption already available and in use, or it could be done in a partially socialised manner. The Flood Re scheme has seen insurers working with the Government to help those especially at risk of flooding to access insurance, trading off the desire to keep premiums affordable with the need for policies that genuinely reflect the underlying risk.

Socially supported insurance that covers a broader range of macro risks across the private sector, including pandemic risk, would need to be more wide-ranging and ambitious than the Flood Re scheme but would still enable businesses to better protect themselves from the next catastrophe.
Conclusion
The scale and category of the economic shock the country has faced is without precedent. Without further action, a recovery in demand will not be enough to bring the private sector back to normal: The scarring effect of the crisis on balance sheets and debt is simply too great.

The debt overhang caused by additional unsustainable debt will have real economic consequences. We estimate that the growth in zombies means that over five years there will be over 400,000 fewer jobs and over £40 billion in missing GDP due to slower productivity growth.

There are many possible solutions to the debt overhang, but a New Start scheme that allows loans to be paid back through taxes on profits would provide the economic flexibility and administrative efficiency needed to overcome this crisis, maximising taxpayer value for money at the same time.
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