How businesses are surviving the Covid-19 shock

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As the economy locked down in March 2020, there were big concerns about how businesses would survive being unable to open normally with retail premises, offices, factories and construction sites closed. There was a fear that these pressures could trigger a "domino effect" that would ripple through the business sector, leading to widespread job losses and bankruptcies.

The Corporate Sector Agent-Based (CAB) Model was developed to look at these questions, taking into account the differences across firms in their activities and financial strength, how firms interact with each other through customer-supplier networks, the rule-of-thumb adjustments firms make and the risk of bankruptcy. Agent-based models are simulation models that build up the behaviour of the aggregate economy from the interaction of individual units. This can lead to insights on aggregate and microeconomic behaviour.

The CAB takes a data-rich approach to building a model of the United Kingdom business sector based on the Input-Output connections between sectors, firm characteristics from ORBIS data and evidence on network connections between firms. In the real world, many firms are heavily reliant on a small number of suppliers and customers. Matching final demand to the downturn in UK output during the Covid-19, the model sheds light on the mechanisms at work and alternative policy scenarios.

In the absence of any policy response, the Covid-19 shock would have led to a large and lasting fall in output: over 15%

of firms would have failed in the first two years, far above the normal rate and similar to during the Global Finanicial Crisis. Almost a quarter of firms in the Accommodation and Food sector would have failed. The reasons for individual firm failure are multi-factored and simple "domino effects" are rare.

The UK rapidly mobilised a large-scale firm-level support programmes from spring 2020, including the Coronavirus Job Retention Scheme (CJRS) "furlough" program and a credit guarantee that helped businesses to borrow.

The massive policy response has been highly effective in supporting output and avoiding firm failure. The initial fall in output was reduced and the policy support allows activity to recover after two years to close to what it would have been without Covid-19.

Figure 1. With massive policy support, the depth and persistence of the Covid-19 loss of output has been reduced
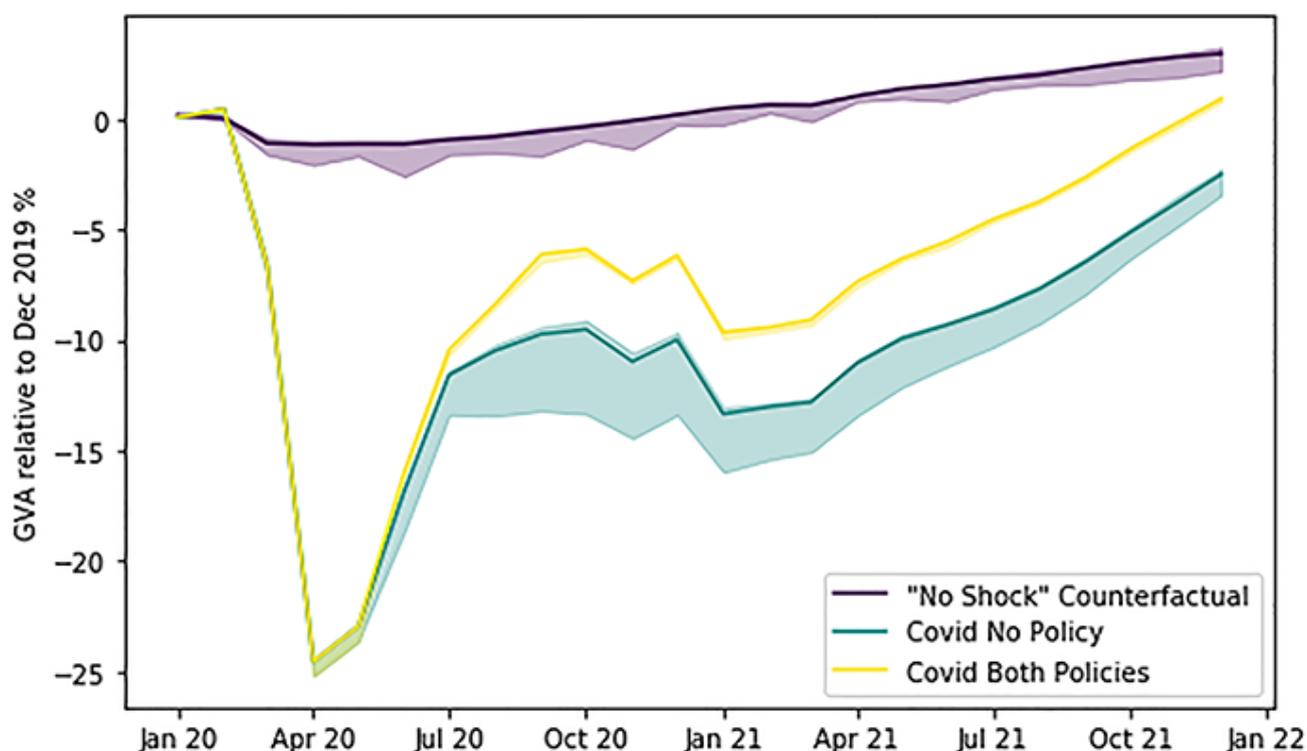
Source: Authors' calculations based on CAB model.
The model predicts that the rate of firm failures with this

policy support should be lower than in normal times, as has been observed in the UK bankruptcy statistics to date. As the Table shows, this counterintuitive outcome reflects the fact that policy has protected almost all the previously profitable firms that would have failed as result of the Covid-19 shock, but also allowed more than half of firms that would have failed in normal times to survive.

Table 1. Policy supports have protected firms hard hit by Covid-19 and also supported firms that were already vulnerable
% share of firms

"No Shock" Counterfactual	Covid-19 and policy	
	Survived	Failed
Survive	89.1	0.4
Fail	5.8	4.7

The survival of less productive firms raises the risks in the years ahead of unproductive "zombie firms" weighing on productivity. They may be joined by other firms that were previously successful, but whose business models have been permanently disrupted by Covid-19 and its effects. These firms may be able to survive financially for a long time, but have little prospect of contributing to the growth of the economy.

Could policy have been better targeted? An approach, for example, of only helping previously profitable firms or those in severely affected sectors would have led to fewer inherently weak firms surviving, but at the cost of lowering incomes for workers and slowing the recovery. Given the many challenges of targeting, the use of broad supports during the Covid-19 crisis appears justified.

Further reading

Barnes, S., R. Hillman, R., G. Wharf and D. McDonald et al. (2021). "The impact of Covid-19 on Corporate Fragility in the United Kingdom: Insights from a new calibrated firm-level Corporate Sector Agent-Based (CAB) Model", OECD Economics

Department Working Papers, No. 1674, Paris, OECD Publishing

Demmou, L. et al (2021), "Insolvency and Debt Overhang Following the Covid-19 Outbreak: Assessment of Risks and Policy Response", I OECD Economics Working Paper, No. 1651, Paris, OECD Publishing

Hillman, R., S. Barnes, G. Wharf and D. McDonald et al. (2021). "A new firm-level model of corporate sector interactions and fragility: the Corporate Agent-Based (CAB) Model", OECD Economics Department Working Papers, No. 1675, Paris, OECD Publishing.