

Covid and the UK Economy – Speech by Clare Lombardelli, Chief Economic Advisor, HM Treasury

Thank you, Jon, the Strand Group and the Corporation of London for inviting me to speak this evening. And thanks to you all for coming. It's really great to be with you.

I'm going to talk this evening about the Covid pandemic and the UK economy, from the perspective of the Treasury. Specifically:

1. What was the size and the nature of the shock to the economy?
2. How did we understand the economic impact in the Treasury? What data and tools did we use?
3. How did we design the economic policy response?
4. And what might some of the long-term economic impacts of Covid be?

What I want to share with you tonight is how we thought about the Covid crisis in the Treasury. And what it was like at the heart of economic policy making during an extraordinary and unique time.

This won't be an exhaustive commentary. It will be for the Covid-19 Public Inquiry to examine the Government's Covid response. Nor will this be a discussion of the policy decisions taken by ministers.

The size and nature of the Covid shock

So, first, the size and nature of the shock.

First and foremost, Covid was a human crisis. Hundreds of thousands of people in the UK lost their lives. Many more lost people they loved. And everyone suffered because of the restrictions on activity and contact that were put in place to control the virus.

Tonight, I am going to talk about the economics. But we can't and shouldn't separate that from the human tragedy of Covid. And I will discuss how the economic impacts have very human consequences.

As of this month, the UK has had recorded over 22 million confirmed cases and there have been nearly 200,000 deaths mentioning Covid.[\[1\]](#)

Between March 2020 and July 2021, the Government implemented a series of restrictive measures, most notably three national lockdowns.[\[2\]](#)

It will be years before we fully understand the impact of the pandemic on the economy. But tonight I'm going to describe the most immediate economic impact in three big numbers.

First, economic activity: In 2020 UK GDP fell by an estimated 9.3 percent.[\[3\]](#)
The largest hit to economic output in one calendar year since the post-World War I recession.[\[4\]](#)

This is the combined effect of the economic hit from the pandemic, the restrictions put in place to control it, and the economic policies implemented to support people and businesses.

Second, borrowing: The Government borrowed an additional £330 billion across 2020-21 and 2021-22.[\[5\]](#) This was to fund the response to Covid and because of the fall in economic activity. This was record peacetime borrowing and has caused the nation's debt rise to a level not seen since the early 1960s.[\[6\]](#)

And finally, unemployment: A 10 percent 'ish' hit to activity could reasonably have led to unemployment reaching 9-12 percent.[\[7\]](#)

In the event, UK unemployment peaked at 5.2 percent.[\[8\]](#)

The story is of an extraordinary hit to the size of the economy. And a massive rise in government borrowing. In truly unprecedented circumstances for an economic shock.

But a story of a limited rise in unemployment.

The nature of this shock was very different to any other of the post-war period.

Where recessions have been driven by economic shocks to demand and to supply.

Usually, economics gives us a playbook on how policy should respond.

And, depending on the balance of shocks, the typical response of the Government is then to:

- support activity;
- and/or to encourage reallocation of labour and capital across the economy;
- and to support those facing the most painful consequences.

Even wars have a more textbook response – to divert economic activity to the most pressing needs.

The Covid shock was different. It was a public health crisis.

This had not happened before, at scale, to a modern, complex economy. There was no playbook here.

Covid required the temporary shut-down of parts of the economy to reduce close contact and the number of contacts.

The point here is that often in a crisis, you are trying to stimulate economic activity. Whereas, during the pandemic, we were implementing public health measures that would inevitably suppress activity. As an economist that

was an extraordinary thing.

There was no immediate need to fundamentally restructure the economy to facilitate a structural reallocation of labour or capital.

Social consumption was not dead; it was put into hibernation for the period of the virus.

This had significant implications for what the Government's economic objectives were and the policy interventions developed.

Economic data, modelling and forecasting during the pandemic: what it could and couldn't do

So what were we focusing on behind the scenes? And what were we not doing?

To answer this, I'll move on to my second theme – how we used data, modelling and forecasting in the Treasury to understand the economy and develop the policy response.

Understanding what was going on in the economy, in real time, was very difficult.

In the early stages much about the virus itself wasn't known – its severity, transmissibility, and the length of time the pandemic would be with us. We also didn't know how effective the measures implemented to control the virus would be.

And there was a set of things that were critical to understanding the economic impacts, that were also uncertain. We didn't know how individuals and businesses would respond to the virus itself. And we didn't know how people would respond to the restrictions put in place to control it.

Let me start by talking about data.

The availability of timely data was a challenge.

In February, March and April 2020 the situation was changing very rapidly.

Under normal circumstances, official statistics are the best way to understand the economy. They provide high standard, quality assured data.

But they take time to produce.

For example the earliest official GDP data is published 45 days after the end of each month.

And a week is a long time in a pandemic.

To deal with this, we used four approaches:

First, official statisticians really stepped up to the challenge.

Sir Ian Diamond, Sam Beckett and their teams at the Office of National Statistics rapidly adapted the production of stats. They stood up the world class Coronavirus Infection Survey. And they introduced other key surveys such as the Business Impacts and Conditions Survey (BICS).

They also introduced new data on prices, spending and trade so economic activity could be tracked closer to real-time.[\[9\]](#)

Some of these surveys were up and running by early April 2020 – just ten days after lockdown began.

Second, we turned to new measures of activity.

We used many data sources from the private sector as indicators of economic activity. Some of these were openly available. For instance, in March 2020 the restaurant platform OpenTable began publishing daily information on restaurant bookings. And we used Google's mobility data on transport usage and time spent in different locations, like at home or in shops.

And we accessed new, private sources of data. Companies, such as Revolut, shared the information they had with government to help us understand what was happening in real-time.

This was a transformation – fast and big data being used in a way we never had before.

Third, we learnt from other countries.

International data helped us understand the experience and behaviour of populations in other countries.

In the early stages we learnt how the economic impact might evolve from countries like China and Italy who saw earlier increases in transmission than the UK.

We looked at comparisons between similar countries taking different approaches such as Sweden and Norway. This helped us to better compare how economic activity responded to the virus and guidance, and how economic activity responded to restrictions.

We learnt about zero Covid strategies from Australia, New Zealand and many Asian countries.

And observing, for example, the experience in France and Spain, helped us understand the impacts of measures like testing and vaccine certification.

Fourth and finally, we drew on the economics profession.

We reached out to economists in academia, research institutes and the private sector to hear their take on what was happening.

I am particularly grateful to the Royal Economic Society, with whom we developed a rapid match-making service. We asked them specific questions, or

about particular topics we were grappling with, and the best placed academics gave us their answers on topics, such as the impacts on inequality or implications for future healthcare provision.

Let me turn to how we used this data and information.

Economics provides a wide range of potential models and tools for us to draw on. Some of these are long-standing, others more recent.

Typically, economic models look at relationships between parts of the economy to explain or understand what is going on. However, during Covid, the relationships between economic variables changed, and kept changing.

The uncertainty meant it was not possible to meaningfully model the overall 'economic cost of lockdown' for two reasons.

First – to estimate the cost of an intervention, you have to know what would happen in the absence of that intervention. It wasn't possible to know what would have happened to the virus if there had been no lockdown. And we couldn't have known how the economy – how people and businesses – would have responded to the virus without a lockdown. There was no reasonable counterfactual.

Second – we couldn't estimate how people and businesses would respond to the restrictions. There were no past episodes to provide reasonable approximations of what the economy and individuals were going through. And this is a really critical point – the way the economy responded changed over time. The economy showed a remarkable ability to learn and adapt.

Let me illustrate this. In the first lockdown, in March 2020, 24 percent of firms reported they had paused trading. In the second lockdown, in November of that year, this had fallen to 11 percent of firms. Within the food and accommodation sector, the effect was even more stark. 82 percent of firms were not operating in April 2020, in the second lockdown, 55 percent closed for business.[\[10\]](#)

So, any attempt to estimate the economic impact of later lockdowns or restrictions, based on experiences earlier in the pandemic, would have hugely over-estimated the associated economic cost.

We did undertake lots of analysis in the Treasury. We sought to understand how much isolation, ill health and death could impact on labour supply. This gave some sense of the possible impact of testing and isolation.

We also looked at the goods and services different households typically consumed, to understand the impact of the pandemic and restrictions on demand.

And we examined 'epi-macro modelling', which rapidly developed in the economics community. This type of modelling combines epidemiological and economic relationships. It estimates how characteristics of the virus and of control policies affect both transmission and economic activity. So it provides a framework to compare the effects of different policies – such as

masks, testing, isolation, and lockdowns. It gave a sense of the relative impacts of these measures.

But, epi-macro modelling proved to have limited practical applications. It is highly sensitive to underlying assumptions and small changes can cause large differences in the outputs of these models.

Economic modelling played a role in helping us think through how different parts of the economy could respond. But we were in a world where we were learning about the virus and behaviour over time. And the virus and behaviours were changing all the time. Meaning economic modelling was not suited for rapid policy design.

To put this another way, we could have constructed and estimated economic models all day long, and they would have been wrong. What we did do was think hard and look very carefully at all the data and evidence available and we used this to form our understanding and design the policy response.

Alongside data and models, we used economic forecasts to understand the economic impact of Covid. And to inform the development of the economic policy response.[\[11\]](#)

Through February and March 2020, the level of concern within the Treasury about the scale of the economic impacts of Covid was rising. In March 2020, the Office of Budget Responsibility[\[12\]](#) shared with the Treasury some estimated impacts – of a severe 35 percent hit to GDP in the second quarter of 2020, before a sharp bounce back by the fourth quarter.[\[13\]](#) In the same scenario, they estimated unemployment would rise to 10 percent. This eye watering judgement confirmed our fears.

As it was, the restrictions lasted longer but, thankfully, the economic hit was less severe.

Forecasting continued to be tough, especially as some of the Government's interventions, like tax deferrals, distorted the data.

Nonetheless, the OBR rose to the challenge, adapting their forecasts and producing more 'scenarios', which reflected the ongoing uncertainty.[\[14\]](#) Their forecasts were pretty good and became more accurate over time.

Cash and forecasts for borrowing

Amongst the risks and uncertainty of those early Covid weeks, a fundamental issue for the Treasury was ensuring the Government could meet its cashflow needs – so that benefits could be paid, public sector salaries met, vaccines bought, and so on.

Perhaps not the most glamorous job, but essential. And getting this right was one of the most critical elements of the early period of the pandemic.

The Government generally borrows money by issuing gilts – UK sovereign bonds. The UK Debt Management Office is the Treasury's agent in the wholesale government debt market. And over a financial year they raise enough money to

fund the Government's needs.[\[15\]](#)

A strength of the UK system is its transparency and predictability. Every spring the Treasury sets out the borrowing plans for the next financial year. And then the Debt Management Office gives the market notice on what gilts will be available to buy and when. Before Covid, the Treasury had tasked the Debt Management Office with borrowing £156 billion in 2020-21.

As the country entered lockdown, with millions of people furloughed, falling tax receipts, immediate NHS costs and a rising benefits bill, the Government's financing requirement sky-rocketed.[\[16\]](#)

So we asked the Debt Management Office to tear up previous plans and rapidly scale its borrowing.

But we didn't know how much money we needed to borrow. We didn't have a fiscal forecast from the OBR. And we couldn't wait for one. So we made our own estimates for what the Government's short-term need would be. Initially, we asked the Debt Management Office to raise £45 billion in April alone.[\[17\]](#)

In fact, the DMO raised over £58 billion in April – and went on to raise, just shy of, half a trillion pounds through gilt sales in 2020-21. This was three times more than the pre-Covid plan. And more than double the previous record high in the financial crisis.[\[18\]](#)

My appreciation goes to Sir Robert Stheeman and colleagues at the UK Debt Management Office for their critical and excellent work to ensure public services could be funded and benefits and wages could be paid.

The policy response to Covid

So how was the economic policy response developed?

The Government was clear in its objectives; these were to prevent the spread of Covid-19 and to protect the economy.

So on the first objective – protecting lives and preventing the spread of virus:

The Government grounded its response in science. The strategy was based on limiting the spread of the disease; testing and isolation; investing in treatments; and vaccination.[\[19\]](#)

The best thing for the economy was to control the virus. This meant limiting close contact between people. Inevitably, this prevented some economic activities and restricted others. And it meant providing direct support for the businesses and households affected.

One way we think about the effectiveness of economic policies is their multiplier – how much economic growth can we expect per pound of spending. By this measure, spending on vaccine development and roll out is the most effective spending ever seen in a major government programme. It enabled the

lockdowns to be lifted and the economy reopened in the first half of 2021.[\[20\]](#)

In protecting the economy, there were three broad issues we were concerned about:

First – preventing long-term unemployment.

Our most immediate fear for the economy was that restrictions would lead to very high levels of unemployment. We saw this in the US, where unemployment shot up to 14.7 percent by April 2020.[\[21\]](#)

Economic history shows the long term economic and social costs of very high levels of unemployment. In 1984, UK unemployment hit 11.9 percent and remained in double digits for much of the 1980s.[\[22\]](#) We know the correlation between long-term unemployment and hardship for individuals, families and communities. We were determined to do what we could to prevent this.

But the Covid shock was temporary. And it was not driven by a need for structural change. This meant unusual policy options were available to policy makers to minimise these risks.

More specifically, there was a clear economic case for the Government to step in, temporarily, to keep people attached to their jobs – knowing that once the restrictions were lifted, those jobs would be viable in the medium term. This logic provided the basis for both the furlough scheme and self-employed income support scheme.

Second – there was a desire to protect the most vulnerable and avoid unfair impacts.

We knew the economic costs of the pandemic would not be felt equally. Some of the most vulnerable people would suffer most, such as those in insecure employment. We used available data, and sought new sources, to understand distributional impacts. So policy could be designed to supplement economy-wide schemes with targeted support where these were most needed.

We analysed data across different groups. For example, we looked at age, geography, gender, income and different sectors to help build a picture of what was going on.[\[23\]](#) And we drew on external analysis. The Institute for Fiscal Studies found that low earners were seven times as likely to work in a sector closed by restrictions. People under 25 about 2.5 times as likely, and women about one third more likely to work in a closed sector.[\[24\]](#)

Furlough disproportionately supported those sectors most impacted by restrictions. This meant it benefited poorest households the most, as a proportion of their pre-Covid income.[\[25\]](#)

This was combined with wider support for those on low incomes, including temporary uplifts to benefits.[\[26\]](#)

And further schemes targeted specific sectors that were disproportionately hit. Such as the VAT cut for hospitality and leisure, and the 'Eat Out to

Help Out' scheme. The Eat Out to Help Out Scheme intentionally sought to change behaviour. To encourage consumers to return to activities which in turn provided employment, particularly for young people and the lower paid.

We couldn't be so granular as to ensure this was entirely successful. But we tried to design policies to allocate support to those most in need.

Our third objective in protecting the economy was to ensure and enable a rapid recovery once restrictions lifted.

Critical to the design of the policy package was this judgement that Covid was temporary and would not lead to a fundamental restructuring of the UK economy. The vast majority of economic activity would resume. The structure of the economy 'after Covid' would be similar to early March 2020. With a larger health sector and some new business innovations and adaptations.

We expected a strong economic bounce back when the economy reopened. And wanted businesses and households to resume activity as soon as possible. Bottlenecks and supply shortages on reopening would be inevitable, but we were seeking to minimise these. This was another reason to seek to preserve millions of job matches and keep capital invested in the hundreds of thousands of viable, productive businesses disrupted by Covid.

The Furlough

Before moving on from policy, I want to discuss the furlough scheme in a bit more detail given its size and its significance. I'm using the familiar term furlough throughout, but of course its official name is the Coronavirus Job Retention Scheme or CJRS.

Short-term job support exists in other countries, such as Germany. But the furlough was the first of its kind in the UK where, since the 1990s, the political consensus here has been for a work-first, flexible labour market approach. And this has delivered high employment and low unemployment.[\[27\]](#)

The furlough cost the UK taxpayer £70 billion in total, and supported nearly 12 million jobs.[\[28\]](#) Peak usage was just shy of 9 million jobs in May 2020. For context, the total UK labour force is normally around 35 million people.[\[29\]](#)

We don't know what would have happened to unemployment in the absence of furlough. But based on historical trends and how much GDP fell in 2020, we would have expected unemployment to have reached somewhere between 9 and 12 percent.[\[30\]](#) As it was, UK unemployment peaked well below that at 5.2 percent.[\[31\]](#)

The decisions around how to remove the furlough were difficult. We wanted to support activity to return across the economy. And we wanted to avoid locking labour and capital in their current use, rather than moving to where they are most productive.

But we didn't want to trigger a large rise in unemployment. We were concerned about what would happen to firms and 1.2 million people still on furlough at

the point when the scheme closed. We wanted to ensure support wasn't withdrawn prematurely.

So we introduced employer contributions into the furlough once the outlook was more certain, as the labour market began to tighten last year, we set out a path for unwinding the scheme altogether. In the event, the scheme closed in September 2021 without an increase in unemployment.[\[32\]](#)

We don't yet know the role the furlough played in enabling a fast reopening of the economy – whether it facilitated or inhibited firms from restarting activity. Critics may say that, by freezing job matches, it may have contributed to the supply bottlenecks that followed Covid. But that would be too simple.

Around the world, supply has recovered less quickly than economists expected. Those bottlenecks exist everywhere, including in the UK and the US – two countries which took very different approaches. Differing policy approaches led to different outcomes for unemployment, movement between sectors, and demand and supply pressures as economies reopened. But what we can conclude, is that the economic forces that determined supply following the pandemic are greater than any policy response could have been.

Huge in size and implementation, furlough did prevent mass unemployment. It supported incomes, including for those who needed it most, and it aided a swift return of normal economic activity. But the huge cost will be funded by future taxpayers.

We can expect calls for similar policies to be used in other circumstances. However, the unique nature of the Covid shock meant the decision to use a job retention scheme was relatively simple despite the incredible cost:

- Because the shock was not structural in source,
- and because the shock was temporary.

Concerns about preventing needed reallocation were lessened. This is not the case in most economic shocks or recessions.[\[33\]](#) In future crises, the balance of pros and cons would need careful consideration, and in other circumstances would be different.

Long-term economic impacts of Covid

Finally, I will turn to some of the longer-term impacts of Covid.

Economics doesn't stop. The UK and world economies are in a challenging place. The Russian invasion of Ukraine continues to disrupt global energy and agricultural markets, with huge impacts around the world.

This comes on top of continuing global economic challenges from the pandemic:

- The rapid growth in global demand as economies reopened, especially the demand for goods;
- supply taking longer to return; and

- ongoing restrictions in some countries, especially those critical to supply chains – most obviously China.

We have a long way to go before we fully understand the long-term economic impact of Covid.[\[34\]](#) There will be many long-term economic implications. Some will be positive such as advances in science and technology. Sadly, more are expected to be negative.

So, I'm afraid I want to leave you with two things to worry about.

First: the sharp rise in economic inactivity. You will have heard of the 'Great Resignation' or the 'Big Quit'. The latest estimates tell us UK employment is 460,000 people below where we would have expected.[\[35\]](#) This is primarily accounted for by people in their 50s and 60s leaving the labour market.[\[36\]](#)

The UK is one of the few countries where inactivity among older age groups is still higher than it was pre-pandemic.[\[37\]](#) The increase is evident in most regions and across all education levels. And the emerging evidence suggests this is not confined to those who can leave work in their 50s and 60s and enjoy a financially comfortable retirement. [\[38\]](#)

This is a human problem. Economic inactivity can be damaging to individuals, risking lower living standards, lower retirement income, and potentially poorer physical and mental health.

It is also a macroeconomic problem. The fall in labour availability limits the potential size of the economy and increases the pressure on inflation.

Much remains uncertain and there is further work underway to understand and tackle this trend. Earlier this year the Office for National Statistics published the Over 50s Lifestyle Study to help better understand the picture. And the Government is implementing a number of policies to increase participation, such as the Way to Work campaign.

The second long-term impact of concern is the educational disruption in 2020 and 2021. The closure of schools, further education and universities slowed the accumulation of skills. This will affect productivity. With most of the impact falling on those, particularly young people, whose education has been disrupted.

We know that much of distributional differences observed in the UK – for example across income groups, and across geographies – are driven by differences in skills.[\[39\]](#)

The Institute for Fiscal Studies has estimated the cost of educational disruption from Covid to be £90-350 billion across the lifetime of affected students in the UK, with younger children and those from disadvantaged backgrounds worst affected.[\[40\]](#) The impacts go beyond the monetary, of course, as school closures harmed health and wellbeing as well.[\[41\]](#)

The Government has and continues to tackle this. Expanding support to recover children and young people's learning lost as a result of the pandemic.[\[42\]](#)

A further worry is the impact of the pandemic on mental health. ONS data shows that mental health worsened substantially (by nearly 10 percent), alongside increases in anxiety and a reduction in life satisfaction.[\[43\]](#)

It is too early to know the long-term economic impacts from the pandemic. And it will never be possible to isolate the separate effects of the pandemic, the restrictions and government policy.

We will want to interrogate and evaluate measures taken in the UK, the trade-offs made, and what can be learnt from other countries. With the benefit of more data and more time. The circumstances were unique. But there will be useful lessons to learn about what worked, why and what lessons to take for future policy design.

Conclusion

To conclude, let me take you back to where I started and remind you of the three numbers. They speak for themselves:

- the greatest fall in annual GDP in over 100 years;
- the greatest increase in government borrowing in over 50 years; and
- the risk of exceptionally high unemployment but a risk that, fortunately never crystallised.

Throughout the pandemic, our objective was to have the best possible picture of what was happening through a rapidly changing environment – hopefully I've given a glimpse here of how we did that.

I want to close by sharing with you a few things that I have learnt from being at the heart of the Treasury during this extraordinary public health and economic crisis.

First the nature of the crisis dictates the nature of the response. Economics provides a useful framework and toolkit to think through problems. But in unique and fast changing circumstances, data and models need careful interpretation and their limitations need to be understood. And sometimes, rarely, it is right to throw the rulebook out the window.

Second the long-term economic impact of Covid is mostly the human impact – departures from the labour market, the lost education and the damage to mental health.

And finally a reminder that the economy has a remarkable ability to adapt, at speed. We saw huge changes over time in how people and businesses responded to the virus and to restrictions. This resilience and adaptability of the economy should be remembered by economists and policy makers as they face the next crisis.

[ENDS]

I would like to thank Eleanor Hallam, Sussie Moran, Freya Owen and officials across HM Treasury for their help in preparing this speech.

[1] UK Summary Coronavirus Dashboard, <https://coronavirus.data.gov.uk/>; as of 29/06/22.

[2] To differing degrees, these lockdowns prevented some forms of economic activity from taking place altogether and severely restricted others. Some sectors, like tourism and hospitality with high levels of physical contact faced particularly severe restrictions.

[3] [Gross Domestic Product: Year on Year growth: CVM SA %](#)

[4] Estimates of the fall in GDP during 2020 have generally been revised up slightly. The first estimate suggested GDP fell by 9.9 percent, which would have been the largest since the Great Frost of 1709, when GDP contracted by 13 percent. On the latest estimated data the fall in GDP in 2020 is the largest since 1921, when GDP fell 9.7 percent. The fall over the year masked a very large fall in the first and second quarters, and a large rebound when the economy reopened from the third quarter. Over the first and second quarters of 2020, covering the first national lockdown, GDP fell by over 20 percent – the equivalent of 16 years of economic growth. Historical data prior to official statistics from 1948 can be found in the Bank of England's historical database:

<https://www.bankofengland.co.uk/statistics/research-datasets>

[5] This figure is comparing the latest outturn data from Public Sector Finances published by the Office for National Statistics on 23 June 2022, against the forecast published by the Office for Budget Responsibility in March 2020.

[6] [Public Sector Net Debt was 95.9 percent in 2021-22 according to the ONS](#) compared to 98.3 percent in 1962-63 according to the [OBRs public finances databank](#). This percentage includes Bank of England asset purchases.

[7] This figure is from HMT analysis, calculated by adjusting observed shortfall in GDP relative to pre-pandemic projection, to account for the effect of CJRS in supporting household incomes and consumer spending. Combining Okun's Law – which observes that changes in the unemployment rate is typically half the percentage point change in GDP – with the change in activity implies that the unemployment rate could have risen to between 9 percent and 12 percent. This calculation depends on the period over which the fall in GDP is calculated and the sensitivity of unemployment to economic activity.

[8] [ONS Labour Force Survey, covered in dataset A01: Summary of labour market statistics](#)

[9] The ONS tracked activity in various ways, such as via the weekly card payments data (CHAPS) or data on workforce absences by sector (BICS). The ONS

also revamped their Opinions and Lifestyle Survey that allowed for valuable insights on preferences on working habits, concerns over the virus, and adherence to rules and guidance.

[\[10\] ONS Business Impacts and Conditions Survey \(BICS\)](#)

[\[11\]](#) HMT used OBR forecasts and scenario analysis in combination with epidemiological evidence when making judgements about policy response. For example, CJRS was informed by OBR forecasts for unemployment in the absence of government support.

[\[12\]](#) The Government's economic and fiscal forecasts are produced by the Office of Budget Responsibility which was established in 2010.

[\[13\]](#) 'Coronavirus lockdown to deliver large (but hopefully temporary) shock to the economy and public finances', 14 April 2020, OBR website. Once HMT had a few early and experimental real-time indicators of how consumers and businesses were reacting to lockdown, and official data from the final days of March from which we could extrapolate, we used an approach that modelled output industry by industry using official and real time indicators suggested a hit around 20-25 percent.

[\[14\]](#) The OBR produced scenarios in July and November 2020 to provide a greater understanding of the range of uncertainty. These showed the effects of different assumptions for the path of the virus, non-pharmaceutical interventions, and the availability of an effective vaccine.

[\[15\]](#) The DMO also uses short-term money markets to ensure sufficient funds are available to meet the government's daily cashflow needs.

[\[16\]](#) HMRC tax receipts and National Insurance contributions for the UK (Annual Bulletin) – GOV.UK (www.gov.uk)

[\[17\]](#) The Treasury continued to set further partial remits in April, June and July, before finally producing a full-year remit in November to the end of March 2021, alongside an updated OBR forecast.

[\[18\]](#) The previous record high was set in 2009-10, when the DMO raised £227.6 billion via gilt sales.

[\[19\]](#) The government made rapid investments in scientific research and huge spend on immediate health service provision. This included over £7 billion of rapid investment in vaccines and the associated roll-out [total budget (not actual spending) for Covid-19 vaccine procurement, manufacturing and deployment allocated over FYs 20/21 and 21/22]; £39 billion allocated to test and trace [total budget (not actual spending) for the programme allocated over FYs 20/21 and 21/22], and a £142 billion injection into public services [OBR EFO March 2020, Table A.7\]](#)

[\[20\] Budget 2021 details how the success of the UK's vaccine programme meant the UK could chart a clear course out of lockdown, paragraph 1.3, page 15](#)

[\[21\] OECD, Unemployment – Harmonised unemployment rate \(HUR\) – OECD Data.](#) The

OBR's April 2020 scenario estimated UK unemployment could be in the region of 10 percent [see C1.3 within charts and tables, <https://obr.uk/coronavirus-analysis/>]

[22] [ONS Labour Force Survey, covered in dataset A01: Summary of labour market statistics](#)

[23] Some of this analysis was published by HM Treasury in July 2020, and alongside the March and October 2021 Budgets: HM Treasury, [Impact of COVID-19 on working household incomes: distributional analysis as of May 2020](#), July 2020; HM Treasury, [Impact on Households: Distributional Analysis to accompany Budget 2021](#), March 2021; HM Treasury, [Impact on Households: Distributional Analysis to accompany Autumn Budget and Spending Review 2021](#), October 2021.

[24] <https://ifs.org.uk/publications/15291>

[25] HMRC statistics showed that just over half (51 percent) of employments on furlough in autumn 2021 were on low incomes. These people had an estimated annual pay of £15,000 or less. [Coronavirus Job Retention Scheme statistics: 16 December 2021](#)

[26] Targeted support for those on low-incomes included a £20 per week increase to the Universal Credit standard allowance and Working Tax Credit basic element for 2020-21; a temporary suspension of the Universal Credit Minimum Income Floor for self-employed claimants; and an increase in the Local Housing Allowance rates for Universal Credit and Housing Benefit claimants.

[27] [ONS Labour Force Survey, covered in dataset A01: Summary of labour market statistics](#)

[28] [Coronavirus Job Retention Scheme statistics: 16 December 2021](#)

[29] [Coronavirus Job Retention Scheme statistics: 16 December 2021](#)

[30] Internal HMT analysis. Calculated by adjusting observed shortfall in GDP relative to pre-pandemic projection, to account for the effect of CJRS in supporting household incomes and consumer spending. Combining Okun's Law – which observes that changes in the unemployment rate is typically half the percentage point change in GDP – with the change in activity implies that the unemployment rate could have risen to between 9 percent and 12 percent. This calculation depends on the period over which the fall in GDP is calculated and the sensitivity of unemployment to economic activity. A number of studies have considered the use of Okun's law. Ball, Leigh and Loungani (2017), *Okun's Law: Fit at Fifty?*, find that the Okun Law relationship has been strong and stable in most countries they assessed. A coefficient of 0.5 has been used by the Bank of England, Haldane, A (2020) *Avoiding economic anxiety*, and by the OBR (2011) *Economic and Fiscal Outlook*, March 2011, Box 3.7.

[31] [ONS Labour Force Survey, covered in dataset A01: Summary of labour market statistics](#)

[\[32\] ONS data show the 16+ unemployment rate declined from 4.3 percent in Q3 to 4.0 percent in Q4](#)

[\[33\]](#) While research suggests that short-term work schemes can help limit the rise in unemployment for temporary fluctuations, it also suggests they are likely to inhibit reallocation, while other interventions – such as unemployment insurance – may be better suited to more persistent shocks which require people to move jobs to those which will be higher productivity in the medium term – i.e. those which will pay better and prove more secure. See [Giupponi, Landais & Lapeyre \(2022\) Should We Insure Workers or Jobs During Recessions?](#)

[34]](#_ednref34) There is clear evidence that past recessions have led to scarring, but the scale and nature of the economic scarring depends on the characteristics of the recession. The International Monetary Fund's April 2021 World Economic Outlook highlights that epidemics and pandemics have led to more economic scarring compared to typical recessions, but less scarring than those following financial crises. As an indication of the fiscal impact, if GDP was 1 per cent lower across the forecast (consistent with 1 percent scarring), borrowing could rise by £12-14bn in each year of the forecast, as a result of higher spending and lower tax revenue. However, this precise fiscal effect will also be affected by the composition of scarring [FSP].

[\[35\] Subtracts the weighted average of the employment level in Q1 & Q2 2022 in the OBR March 2020 Economic & Fiscal Outlook](#)) from the latest figure for UK employment in the ONS [Labour Force Survey, dataset A01: Summary of labour market statistics](#)).

[\[36\] ONS Labour Force Survey, covered in dataset A05: Employment, unemployment and economic inactivity by age group \(seasonally adjusted\)](#)

[\[37\]](#) A shortfall of 460,000 on pre-pandemic expectations equates to 1.4 percent of the labour force. According to data from the OECD, the UK is an outlier internationally, being one of the few countries where the rate of economic inactivity among older age groups is still higher than it was pre-pandemic. The ONS recently ran a survey of 50–70-year-olds who had left their job since the pandemic, and the evidence suggests retirement was the main reason for leaving work (47 percent), with individuals also reporting pandemic-related issues (15 percent) and illness (13 percent). The majority said they left their previous job sooner than expected and just under six in ten said they are not considering returning to work.

[\[38\]](#) Data from the Annual Population Survey shows that while the trend can be seen in most regions, the highest increases are in the East Midlands, the North East and Yorkshire and The Humber. Evidence from the ONS based on analysis of the Longitudinal Labour Force Survey also suggests these movements to inactivity have increased most among those with degrees, but we have seen increases across all education levels. And while we have seen most increases in flows to inactivity among higher-skilled occupations, we have also seen significant increases among medium-skilled occupations too.

[\[39\]](#) Gibbons, S., Overman, H.G. and Pelkonen, P., 2014. Area disparities in

Britain: Understanding the contribution of people vs. place through variance decompositions. Oxford Bulletin of Economics and Statistics, 76(5), pp.745-763.

[40] Sibieta, L. (2021), "The crisis in lost learning calls for a massive national policy response", IFS. Available at: <https://ifs.org.uk/publications/15291>. Educational attainment data from a series of DfE reports (2022) also indicate the creation of a 'disadvantage gap', with pupils on free school meals (FSM) seeing an additional learning loss when compared to their peers. This impact was particularly significant in secondary schools, with FSM pupils seeing an additional month and a half loss in reading ability by Autumn 2021 (Department for Education (2022). Pupils' progress in the 2020 to 2022 academic years. [online] Available [here](#))

[41] UCL Paper for SAGE 2021, [UCL: Impacts of school closures on physical and mental health of children and young people – a systematic review, 11 February 2021](#). Separate OECD (2020) estimates suggest school closures could lead to a 4.4 percent reduction in UK annual growth over the next 50 years, though these estimates are illustrative and do not adjust, for example, for the impact of interventions on education recovery or for any grade inflation if that occurred: Hanushek, E.A. and L. Woessmann (2020), "The Economic Impacts of Learning Losses", OECD. Available at: <https://www.oecd.org/education/The-economic-impacts-of-coronavirus-covid-19-learning-losses.pdf>

[42] Total investment to specifically support education recovery has nearly reached £5 billion since academic year 20-21.

[43] [Coronavirus and depression in adults, Great Britain: June 2020](#)