

D2N2 Analytical Group – COVID-19 Employment and Output Risks
Analysis of local employment, output and business risk exposure due to lockdown

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Introduction

This paper follows discussion in recent meetings of the D2N2 Covid-19 Analysis Group of the potential benefits associated with translating national research for use by D2N2 in order to inform planning for recovery while also minimising duplication of analytical efforts relating to the economic impacts of the current pandemic.

This paper therefore serves two purposes:

- 1) It presents an analysis of local employment risk and projected output losses due to lockdown for the D2N2 area and its constituent local authorities; and
- 2) Does this in a manner intended to demonstrate the potential value of translating national research evidence for use in a D2N2 context.

The paper follows three methodologies to provide an indication of the potential employment and output impacts of the COVID-19 lockdown in the D2N2 LEP area. The methodologies used are based on two national reports – the [Institute for Fiscal Studies \(IFS\) briefing note](#) and the [Office for Budget Responsibility \(OBR\) Coronavirus reference scenario – and the latest monthly Decision Maker Panel data \(DMP\) for May 2020](#). The data from IFS and OBR refer to data collected earlier in the pandemic (early to mid-April) and the DMP data refer to later in the pandemic (May).

This analysis is intended to enable local policy makers and planners to better understand the broad scale, nature and spatial distribution of the potential employment impacts that may arise from the present pandemic. Readers are cautioned against treating the scenarios presented in this paper as a 'forecast'.

Key findings

- Exposure to employment risk due to shut-down sectors in D2N2 is broadly in line with national estimates. However, some local authorities in the LEP area face considerably higher exposure to employment risk. Approximately a quarter of the Derbyshire Dales and Newark and Sherwood workforce is in shut-down sectors.
- About a fifth of D2N2 businesses are in shut-down sectors – similar to the national estimate. Nottingham and Chesterfield have a slightly higher share of businesses in these sectors.
- Young people and females are over-represented in shut-down sectors. D2N2 has a similar rate of these groups in its working-age population as the national rate. Nottingham is particularly exposed in this regard, with almost double the national rate.
- The OBR approach gives greater focus on the impact of manufacturing on the economy. The IFS approach does not take manufacturing into account. DMP covers all sectors of the UK economy.
- GVA in D2N2 is projected to fall by more than the national average. Following the OBR/CPP approach, the South Derbyshire economy could shrink by almost a half in the second quarter of 2020.
- The majority of the projected output losses are caused by a decline in manufacturing, wholesale & retail, education, and construction. Local authorities that are more reliant on these sectors are more likely to suffer higher output losses.
- The projected unemployment rate associated with the OBR/CPP approach indicates large discrepancies in D2N2 ranging from a low of 5.9% in Derbyshire Dales to a high of 17% in Nottingham.

- The projected unemployment rate masks further discrepancies between low earners, younger workers and women.
- Businesses expect the lockdown to have an immediate negative impact on their sales and investment by 42% and 43% respectively in the second quarter of 2020.
- Businesses expect their employment to decrease by 6% in the second quarter and 9.7% by the end of 2020.
- Employment could decline by 11.3% in Derbyshire Dales by the end of 2020.
- Recovery of sales, employment and investment to pre-crisis levels is not expected before the second quarter of 2021. Employment effects lag other indicators because laying off workers is costly and may have been further dampened by the CJRS furlough measures.

IFS – Employee exposure to risk due to sector shutdowns

In April 2020, the IFS published a briefing note showing which workers are likely to be most affected by the COVID-19 lockdown across the UK. The report calculates the share of employees in shut-down sectors* and disaggregates these by age group. The main findings indicate that lower earners, females and under-25s are disproportionately represented in shut-down sectors.

Data on earnings, age and gender by sector are subject to restrictions. However, the IFS findings are generalisable across the country. The following analysis follows the IFS methodology and provides a breakdown of employment in shut-down sectors. Where data are not available, we provide headline statistics on the composition of the labour force to highlight the degree of exposure by local authority in D2N2.

Table 1 provides a breakdown of employment and businesses in shut-down sectors across D2N2. The data show that D2N2 has a slightly lower exposure to employment risk than national estimates but a slightly higher exposure than the East Midlands. Within D2N2 there is considerable variability amongst the local authorities. Derbyshire Dales has the highest share of employees in shut-down sectors (27.6%) and Chesterfield has the lowest (14.4%). The percentages do not reflect the resident populations of these areas as the data is workplace-based. That is, the population effects will be spread across the travel-to-work areas associated with each local authority.

Just under a fifth of businesses in D2N2 are in shut-down sectors. This is in line with the national and East Midlands estimates. Although there is low variability within D2N2, Nottingham and Chesterfield have slightly higher shares (slightly more than a fifth) than elsewhere. Whilst the figures in Table 1 provide a relative order of magnitude, they do not indicate absolute levels or rates of job losses and business closures.

Local authorities that have a high rate of employment in retail and accommodation & food services are exposed to higher employment risks based on this analysis.

* The list of sectors classed as being directly affected by the lockdown are as follows (4-digit SIC codes in brackets): Non-food, non-pharmaceutical retail (4719, 4730-4772, 4776-4799); passenger transport (4910, 4931-4939, 5010, 5030, 5110); accommodation and food (5510-5630); travel (7911-7990); childcare (8510, 8891); arts and leisure (9001-9329 except 'artistic creation' 9003); personal care (9601-9609 except 'funeral and related activities' 9603); domestic services (9700).

Although the same methodology has been used in the D2N2 analysis, figures may differ slightly to the original analysis.

Table 1. Direct employment effects[†]

Area	Employment (number)	Employment (%)	FT Employment (number)	FT Employees (%)	PT Employment (number)	PT Employees (%)	Businesses (%)
Great Britain	5,403,550	18.2%	2,662,400	13.2%	2,741,100	28.5%	19.4%
East Midlands	342,085	16.5%	153,305	10.9%	186,465	28.0%	19.2%
D2N2	158,640	17.0%	70,990	11.3%	86,085	28.4%	19.4%
Derby	20,930	15.3%	9,010	9.4%	11,975	29.1%	20.1%
Derbyshire	52,605	17.7%	23,215	11.7%	29,280	31.1%	19.0%
Amber Valley	8,010	16.4%	3,450	10.2%	4,425	30.1%	19.5%
Bolsover	4,850	17.0%	2,410	11.8%	2,520	31.0%	18.2%
Chesterfield	7,405	14.4%	3,180	9.2%	4,160	23.6%	21.3%
Derbyshire Dales	9,385	27.6%	3,940	19.3%	5,345	42.0%	19.3%
Erewash	7,060	18.1%	3,355	12.3%	3,600	28.8%	18.1%
High Peak	6,155	18.6%	2,625	11.9%	3,505	31.4%	20.5%
North East Derbyshire	4,050	14.6%	1,815	9.8%	2,355	28.0%	16.4%
South Derbyshire	5,060	15.6%	2,240	9.5%	2,670	29.6%	17.1%
Nottingham	31,725	16.2%	15,410	11.8%	16,240	24.9%	21.1%
Nottinghamshire	52,195	17.3%	23,520	11.7%	28,955	28.1%	18.9%
Ashfield	6,035	11.1%	2,730	7.3%	3,280	20.7%	20.5%
Bassetlaw	8,245	16.2%	3,735	10.9%	4,555	29.3%	18.8%
Broxtowe	6,605	18.1%	2,655	11.0%	4,015	32.0%	18.8%
Gedling	5,810	18.8%	2,370	12.6%	3,365	28.6%	18.3%
Mansfield	6,660	16.6%	2,785	10.6%	3,870	26.4%	20.5%
Newark and Sherwood	11,580	24.4%	5,610	17.7%	6,080	36.9%	18.1%
Rushcliffe	7,640	18.0%	3,455	13.1%	4,100	26.7%	16.2%

Table 1. Authors' calculations using ONS data based on IFS methodology.

[†] Totals might not agree due to rounding.

When analysing exposure to employment risk, the IFS briefing note places particular emphasis on the composition of the labour force. The key findings of the IFS are that:

- employees aged **under 25** are about two and a half times more likely than other employees to work in a sector that is now shut down;
- **low earners** are seven times as likely as high earners to have worked in a sector that is now shut down; and
- **women** are about one third more likely to work in a sector that is now shut down than men.

Table 2 outlines the share[‡] of the D2N2 population that falls within these categories. D2N2 has a higher share of younger people and young females than Great Britain. Within D2N2, Nottingham has the highest share of young and female people in its working-age population, indicating a higher exposure to employment risk than implied in Table 1.

Median earnings for males are below national and East Midlands levels in Derbyshire. Whereas female median earnings are particularly low in Derby, Derbyshire and parts of Nottinghamshire.

Table 2. Share of population and businesses most exposed to risk

Area	16-24 (% of working age population)	Females 16-24 (% of working age population)	Male median annual gross pay (£) [§]	Female median annual gross pay (£)
Great Britain	17.1%	8.8%	29,074	17,784
East Midlands	18.1%	9.4%	30,880	19,775
D2N2	18.3%	9.1%	29,861	17,303
Derby	19.3%	10.2%	29,535	16,846
Derbyshire	15.0%	7.3%	24,718	16,817
Amber Valley	14.7%	7.4%	29,382	17,635
Bolsover	15.5%	7.9%	28,994	17,086
Chesterfield	15.5%	8.0%	29,379	16,031
Derbyshire Dales	14.2%	7.4%	28,301	-
Erewash	15.0%	7.7%	36,678	20,153
High Peak	15.1%	7.7%	24,054	18,002
North East Derbyshire	14.7%	7.5%	29,910	17,602
South Derbyshire	15.0%	7.9%	27,356	17,937
Nottingham	31.2%	15.7%	31,021	17,535
Nottinghamshire	15.3%	7.4%	29,778	17,344
Ashfield	15.6%	8.0%	29,986	16,705
Bassetlaw	15.4%	8.1%	25,097	16,556
Broxtowe	16.1%	8.3%	27,351	16,080
Gedling	14.6%	7.5%	35,439	22,531
Mansfield	14.8%	7.6%	29,074	17,784
Newark and Sherwood	15.4%	7.9%	30,880	19,775
Rushcliffe	15.3%	7.9%	29,861	17,303

Table 2. Authors' calculations using ONS data based on IFS methodology.

[‡] Although the measure of median earnings does not indicate a share of the population, it highlights that some local authorities have lower overall earnings.

[§] Residence-based median annual gross pay for 2019, ONS.

OBR – Impact of COVID-19 on regional output and unemployment

The OBR's Coronavirus Reference Scenario forecasts a national fall in real GDP of 35.1% and an associated increase in the rate of unemployment to 10% in the second quarter of 2020 (see figures 1a and 1b). The methodology used to forecast the decline in real GDP uses a sectoral approach – a methodology replicated by the [Centre for Progressive Policy \(CPP\)](#) at a local authority level**. Following this methodology we provide a projection of GVA losses for local authorities within D2N2 and extend the regional analysis to draw conclusions regarding the potential impact on employment.

Output analysis

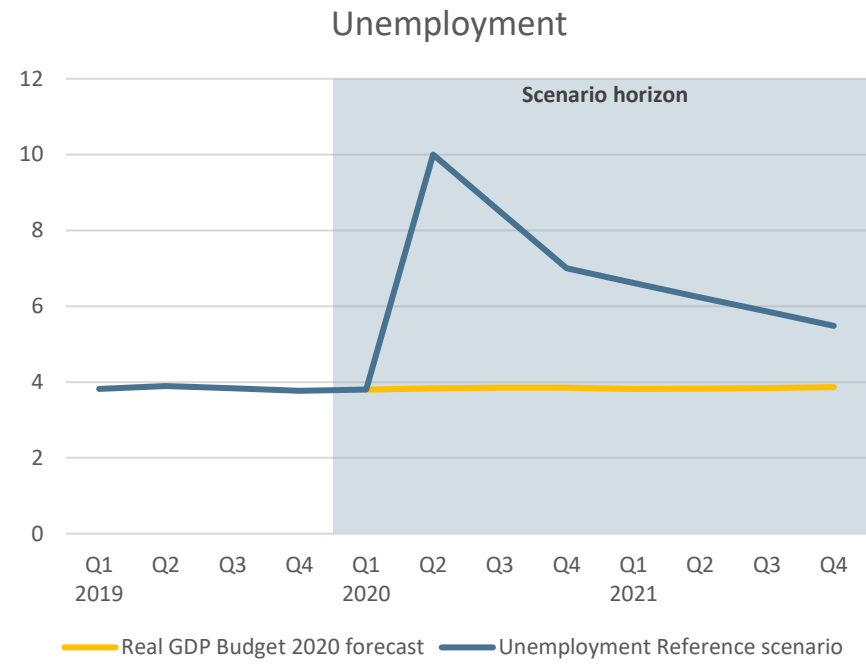
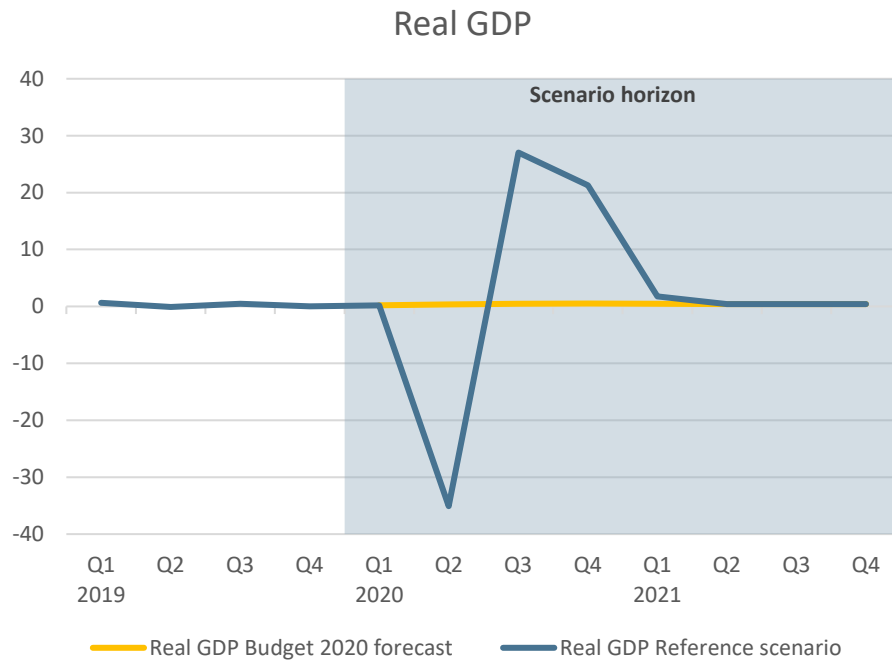
Figure 2 summarises the projected GVA decline in Q2 2020 for each local authority. Using the OBR/CPP methodology, GVA in D2N2 is projected to decline by 37.5% in the second quarter of 2020 – this is higher than the national projection of 35.1%. Within the LEP area there is considerable divergence, with the highest projected percent decline in South Derbyshire (48%) and the lowest percent decline in Nottingham (31.5%). Out of all D2N2 local authorities, only Nottingham and Chesterfield are projected to suffer output losses below the national projection.

The projections are affected by the sectoral composition in each local authority. Table 3 provides some insight into how this occurs. The “primary sector” column shows the sector which contributes the most to a local authority's GVA losses. The “secondary sector” column shows the second most influential sector for each local authority. For example, 25.7% of Amber Valley's projected GVA decline is due to the manufacturing sector and 23.1% is due to the construction sector. The remaining 51.2% of its projected decline is attributed to all other sectors.

Almost 70% of South Derbyshire's projected GVA losses are due to only two sectors (manufacturing and wholesale & retail). Two sectors account for more than half of the projected GVA losses in Ashfield, Gedling, Bassetlaw and Derby as well.

** The CPP uses GVA and the OBR uses GDP. Whilst the use of different statistics calls for some caution in interpreting the results of the analysis, given that GDP and GVA follow very similar paths in relative terms, the findings are consistent with those of the OBR.

Figure 1a and 1b. OBR projections of real GDP and unemployment



Figures 1a and 1b: Authors' reproduction of OBR figures using OBR data, 2020.

Figure 2. Projection of % GVA changes by local authority vs UK average – Q2 2020

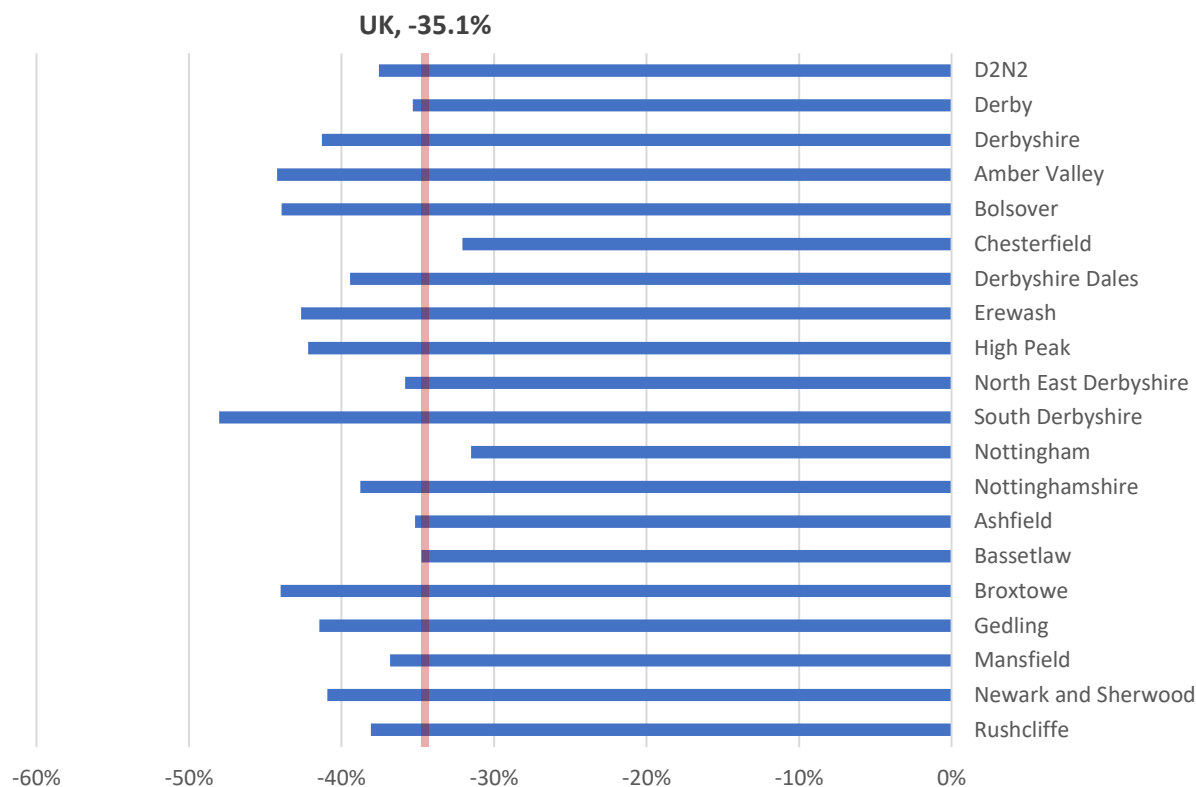


Figure 2. Authors' calculations using ONS data based on OBR and CPP methodology.

The majority of projected output losses across D2N2 are caused by only four sectors, as illustrated in table 3: manufacturing; wholesale and retail; education; and, construction. It is evident that the single most influential sector in these projections is the manufacturing sector.

Table 3. Projected GVA changes by local authority and sector – Q2 2020

Area	GVA % change	Primary sector	Primary sector – % contribution to GVA losses	Secondary sector	Secondary sector – % contribution to GVA losses
D2N2	-37.5%	Manufacturing	24.4%	Wholesale and retail trade	17.4%
Derby	-35.3%	Manufacturing	35.3%	Education	15.9%
Derbyshire	-41.3%	Manufacturing	27.8%	Wholesale and retail trade	17.3%
Amber Valley	-44.2%	Manufacturing	25.7%	Construction	23.1%
Bolsover	-43.9%	Wholesale and retail trade	17.6%	Manufacturing	15.4%
Chesterfield	-32.1%	Wholesale and retail trade	27.5%	Education	20.1%
Derbyshire Dales	-39.4%	Manufacturing	30.4%	Education	13.5%
Erewash	-42.6%	Education	22.6%	Manufacturing	20.9%
High Peak	-42.2%	Manufacturing	32.4%	Education	18.3%
North East Derbyshire	-35.8%	Manufacturing	29.5%	Construction	19.6%
South Derbyshire	-48.0%	Manufacturing	46.3%	Wholesale and retail trade	21.2%
Nottingham	-31.5%	Education	23.3%	Wholesale and retail trade	21.5%
Nottinghamshire	-38.7%	Manufacturing	25.0%	Wholesale and retail trade	17.2%
Ashfield	-35.2%	Construction	29.9%	Manufacturing	25.5%
Bassetlaw	-34.8%	Manufacturing	33.2%	Wholesale and retail trade	18.5%
Broxtowe	-44.0%	Manufacturing	35.7%	Construction	12.4%
Gedling	-41.5%	Manufacturing	37.3%	Wholesale and retail trade	14.8%
Mansfield	-36.8%	Education	21.3%	Wholesale and retail trade	21.1%
Newark and Sherwood	-40.9%	Manufacturing	17.4%	Wholesale and retail trade	16.5%
Rushcliffe	-38.1%	Wholesale and retail trade	21.4%	Education	21.1%

Table 3. Authors' calculations using ONS data based on OBR and CPP methodology.

Like many other sectors, manufacturing has suffered from a decline in orders resulting from an overall slowdown of economic activity. The sector has also suffered supply chain disruptions and, as an industry facing long-term investment decisions, it is prone to suffer disproportionately from the uncertainties of the future. These challenges are not exclusive to manufacturing but are certainly characteristic.

Unemployment

Changes in GVA are inversely related to unemployment and losses in the former translate to increases in the latter. The projected output losses, therefore, carry further significance regarding other elements of the D2N2 economy and its recovery from the crisis. The precise relationship between GVA and unemployment is subject to debate and is prone to change under different crisis scenarios. Nevertheless, a notable increase in unemployment is to be expected and is supported by early indicators as well as anecdotal evidence.

The OBR associates a 35% percent fall in output with a 6.2 percentage point increase in the unemployment rate, as illustrated in figures 1a and 1b. Whilst this relationship is unlikely to be linear, by translating the OBR’s projected relationship between GVA and unemployment to a local authority level, it is possible to assess the potential spatial disparities in unemployment.

Following the relationship outlined above, the rate of unemployment in D2N2 is likely to be slightly higher than the UK average – at 11%. Figure 3 uses the GVA projections for each local authority to estimate an approximate rate of unemployment for each local authority in D2N2.

Figure 3. Projected unemployment rate by local authority – Q2 2020

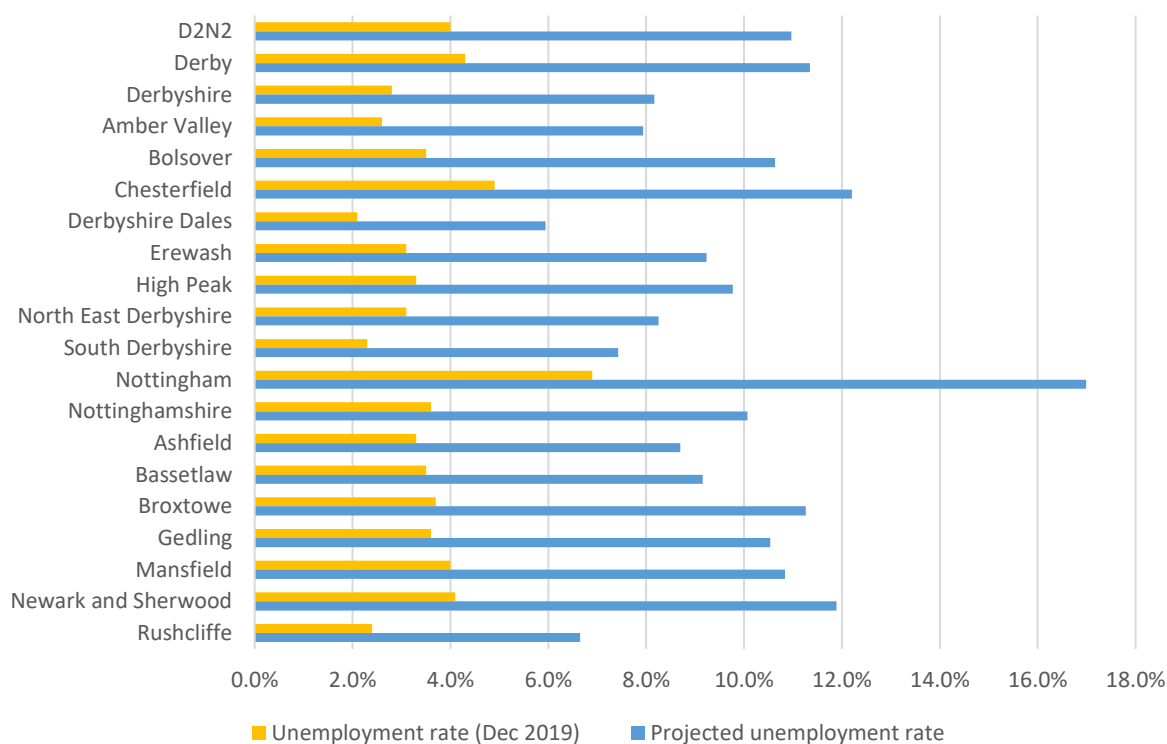


Figure 3. Authors’ calculations using ONS data based on OBR and CPP methodology.

Nottingham is the worst affected with a potential unemployment rate as high as 17%, followed by Chesterfield with 12.2% unemployment rate. Derbyshire Dales shows the lowest projected unemployment rate despite having the highest output contraction. The discrepancy between GVA losses and increases in unemployment across the D2N2 local authorities is largely to do with the existing unemployment rate. In turn, this reflects deeper structural characteristics of the local economy.

As with all economic projections, the OBR projections – and by extension, those in this report – describe a plausible scenario and not an absolute. The OBR uses a simple model that assumes output follows a smooth and steady path to recovery – this may or may not be the case. Conversely, the OBR’s unemployment projection follows a bumpy recovery and does not reach pre crisis levels within the scenario horizon.

Figure 4. Monthly % change in UK job vacancies (Jun 2001 - Mar 2020)

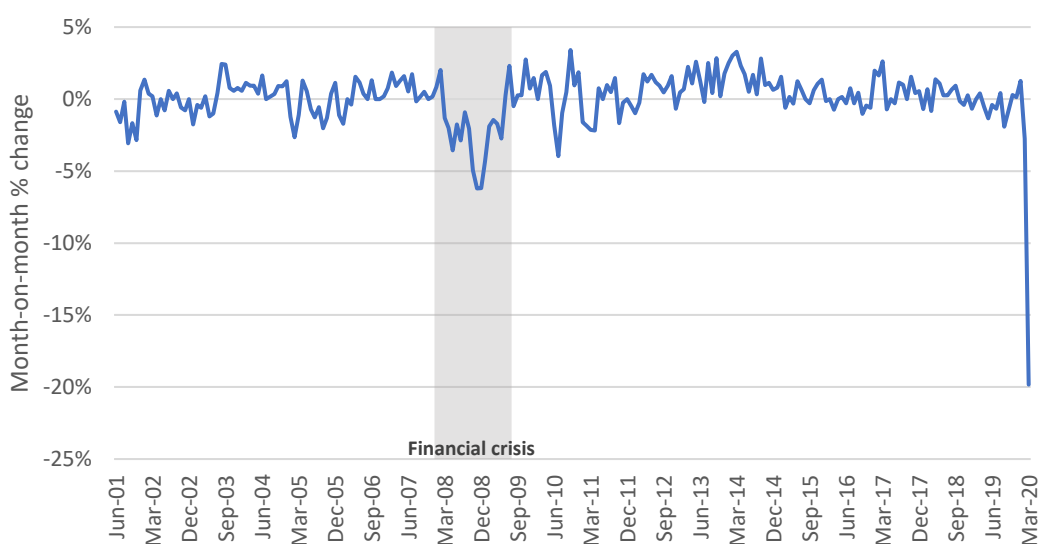


Figure 4. ONS (2020)

Regarding the projections within this analysis, unemployment projections in Figure 3 are inversely related to GVA projections by a fixed percent. That is, we assume that the relationship between GVA and unemployment at a national level remains constant across all local authorities and at all levels of output. These assumptions are unlikely to be true and therefore the findings should be interpreted with caution. It is possible that unemployment could be even higher in areas where GVA losses approach 50%.

Moreover, this projection does not provide any insight into the composition of unemployment. If young workers are disproportionately affected by the crisis, as the IFS analysis suggests, any projected or actual unemployment rate could mask a much higher rate of youth unemployment.

Increases in unemployment are associated with falls in aggregate demand, putting even more pressure on businesses and resulting in a circle of lower demand and lower supply. The risk of persistently high unemployment is compounded by the fall in job vacancies. Figure 4 shows that job

vacancies in the UK fell by 20% between February and March 2020 – the biggest monthly fall on record. The [ONS estimates](#) that job vacancies could have fallen by as much as 50% between January and May 2020.

The decline in job vacancies is of particular importance because, under normal conditions, in every period a share of the unemployed will find work whilst others are made redundant, creating a churn. ONS data suggests that this churn rate is considerably lower than normal. In these conditions, unemployment is more likely to persist and increase cumulatively. The main implication of a lower churn rate is a slower recovery from the crisis and the potential of a long-lasting effect on the economy.

DMP – Effects on employment, investment and sales revenue

The Decision Maker Panel (DMP) is a survey of Chief Financial Officers from small, medium and large UK businesses. It is used to monitor developments in the economy and to track businesses’ views. So far over 8,000 executives from small, medium and large UK companies and operating in a broad range of industries have agreed to participate. The panel is designed to be representative of the UK business population, excluding a small number of sectors. The project explores questions on current policy issues and provides valuable insights into companies’ perceptions of challenges and opportunities facing the UK economy.

In the May DMP survey, businesses expected their sales in 2020 Q2 to be 42% lower than they would otherwise have been, employment to be 6% lower and investment to be 43% lower. The Q2 sales and investment impacts were similar to the April survey, but the employment impact was materially smaller than the 18% expected in April, probably reflecting the extension of the furlough scheme. Business expectations for the next five quarters are presented in Figure 5.

Figure 5. Expected impact of COVID-19 on business sales, employment & investment

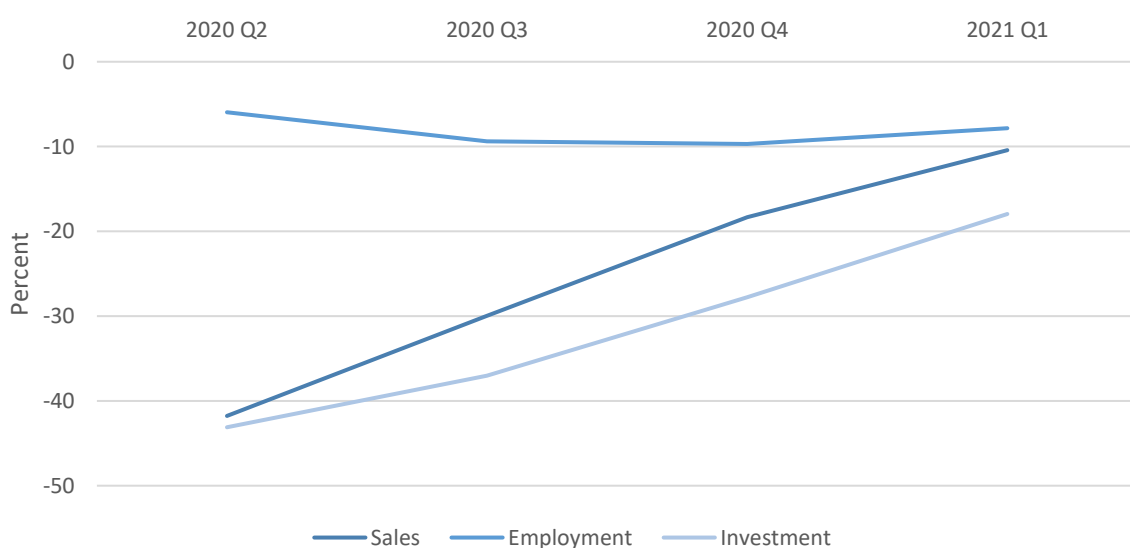


Figure 5. DMP, Bank of England (2020)

Businesses expect an immediate impact on sales and investment that gradually dissipates but both measures remain below what they would have otherwise been for the next year. There is a delayed impact on employment that reaches its lowest point in 2020 Q4 at -9.7%. Employment is a lagging indicator compared to other measures such as investment and sales. Firms may experience a decline in sales and reduce their investment in response to uncertainty about future demand, but may hesitate to lay off workers, which may incur redundancy costs and loss of skilled workers. These effects may have been further dampened by the CJRS furlough measures, which allow firms to claim 80% of labour costs from the government until August.

DMP survey responses are available at a sectoral level^{††} and thus provide further insights into the expected effects of the lockdown. Table 4 shows the survey responses for the next 5 quarters broken down by sector.

Table 4. Expected impact of Covid-19 on sales/investment, average percentage impacts (May 2020)

Sector	Sales				Investment			
	2020 Q2	2020 Q3	2020 Q4	2021 Q1	2020 Q2	2020 Q3	2020 Q4	2021 Q1
Manufacturing	-38.7	-25.2	-15.3	-8.7	-49.6	-41.2	-30.6	-15.5
Other Production	-25.0	-18.2	-12.7	-6.8	-40.7	-31.3	-25.1	-20.1
Construction	-50.7	-29.2	-15.1	-8.3	-44.6	-35.4	-20.0	-12.8
Wholesale & Retail	-47.2	-29.0	-18.2	-8.8	-40.2	-37.2	-26.2	-14.1
Transport & Storage	-42.5	-32.1	-21.2	-12.2	-38.5	-29.9	-18.9	-12.4
Accommodation & Food	-69.9	-56.0	-36.6	-26.6	-80.0	-74.0	-51.6	-44.4
Info & Comms	-19.7	-18.1	-10.7	-5.6	-9.2	-9.9	-11.5	-4.9
Finance & Insurance	-34.7	-28.7	-15.8	-7.2	-23.4	-14.7	-9.2	-5.3
Real Estate	-34.6	-23.7	-16.7	-11.1	-51.0	-41.1	-27.6	-13.6
Prof & Scientific	-29.8	-22.3	-12.3	-6.8	-42.2	-34.2	-29.7	-22.4
Admin & Support	-40.7	-30.0	-17.0	-8.9	-41.1	-34.1	-31.8	-17.9
Human Health	-25.4	-20.1	-12.3	-6.5	-29.5	-21.8	-16.0	-11.2
Other services	-46.0	-39.4	-24.9	-14.7	-50.1	-48.2	-38.8	-28.7

Table 4. DMP, Bank of England (2020)

The DMP survey responses by sector are used to estimate the potential impact of the lockdown on employment at a regional scale. This methodology does not use any regional data from the DMP and assumes that each business has the same expectations as the average business in that sector in the economy as a whole. Regional differences therefore reflect different local industrial compositions. At this stage, further data is required at the regional and sectoral level to support a regional analysis on sales and investment using DMP data – such an approach will be explored for future iterations of this analysis.

Figure 6 shows the expected impact of the lockdown on D2N2 employment by sector, following the responses in the DMP survey. D2N2 businesses could lose 77,000 employees by 2020 Q4 – the

^{††} The sectoral breakdown disaggregates all broad industrial groups with the exception Arts, Entertainment, Recreation & Other services (R,S,T and U), UK SIC (2007).

trough of the expected employment effect. The biggest impact in absolute terms is in wholesale & retail, followed by accommodation & food and manufacturing. Other sectors that have not been immediately impacted by the lockdown – such as the professional & scientific sector – are also likely to experience a notable decline in employment.

Table 5 provides a breakdown of the expected employment effects by local authority. In D2N2 there could be a reduction in employment of 9.6% by 2020 Q4. This reduction is expected to be greater in some parts of D2N2 with Derbyshire Dales showing the largest percent decline in employment of 11.3% by 2020 Q4.

It is important to note that the figures in this section of the analysis refer to declines in employment and do not reflect unemployment rates. Therefore, a 9.6% decline in employment does not imply an unemployment rate of 9.6% nor does it necessarily indicate an equal increase in the unemployment rate. This is one of the reasons that the unemployment rates in Figure 3 look considerably different to the employment effects illustrated in Table 5.

Figure 6. Expected impact on D2N2 employment by sector – 2020 Q4

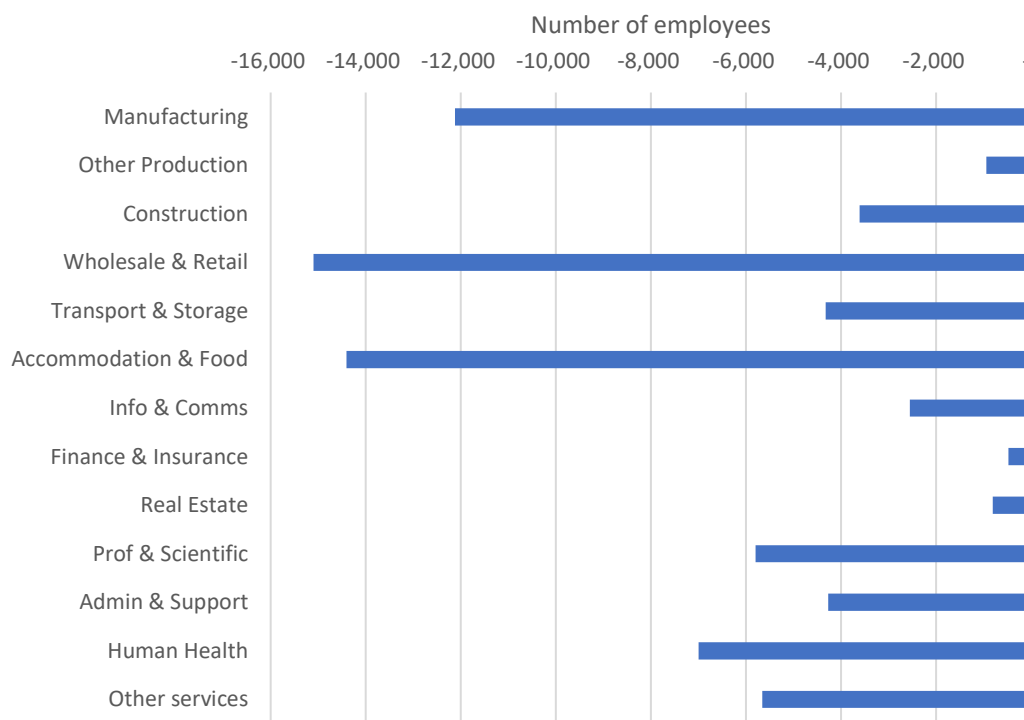


Figure 6. Authors' calculations using DMP survey data, Bank of England (2020)

Table 5. Expected employment impact by local authority^{}**

Area	No. employed (2018) ^{§§}	Estimated no. employed (2020 Q2)	% change by 2020 Q2	Estimated no. employed (2020 Q3)	% change by 2020 Q3	Estimated no. employed (2020 Q4)	% change by 2020 Q4	Estimated no. employed (2021 Q1)	% change by 2021 Q1
Great Britain	25,861,000	24,317,032	-6.0	23,454,943	-9.3	23,415,985	-9.5	23,878,423	-7.7
East Midlands	1,805,000	1,698,551	-5.9	1,636,687	-9.3	1,633,041	-9.5	1,664,925	-7.8
D2N2	805,500	757,475	-6.0	729,850	-9.4	728,433	-9.6	742,679	-7.8
Derby	120,545	113,429	-5.9	109,301	-9.3	109,159	-9.4	111,242	-7.7
Derbyshire	258,000	242,791	-5.9	233,268	-9.6	232,470	-9.9	236,970	-8.2
Amber Valley	42,250	39,794	-5.8	38,204	-9.6	38,053	-9.9	38,772	-8.2
Bolsover	25,350	23,885	-5.8	22,916	-9.6	22,831	-9.9	23,266	-8.2
Chesterfield	44,600	41,934	-6.0	40,578	-9.0	40,632	-8.9	41,343	-7.3
Derbyshire Dales	28,475	26,771	-6.0	25,487	-10.5	25,266	-11.3	25,830	-9.3
Erewash	33,875	31,861	-5.9	30,599	-9.7	30,484	-10.0	31,088	-8.2
High Peak	28,675	26,981	-5.9	25,905	-9.7	25,802	-10.0	26,304	-8.3
North East Derbyshire	24,950	23,462	-6.0	22,586	-9.5	22,529	-9.7	22,953	-8.0
South Derbyshire	28,050	26,432	-5.8	25,388	-9.5	25,285	-9.9	25,778	-8.1
Nottingham	163,000	153,037	-6.1	148,069	-9.2	148,105	-9.1	151,059	-7.3
Nottinghamshire	266,000	250,158	-6.0	241,025	-9.4	240,485	-9.6	245,244	-7.8
Ashfield	49,675	46,709	-6.0	45,214	-9.0	45,245	-8.9	46,050	-7.3
Bassetlaw	45,750	43,098	-5.8	41,500	-9.3	41,412	-9.5	42,140	-7.9
Broxtowe	32,625	30,680	-6.0	29,531	-9.5	29,436	-9.8	30,017	-8.0
Gedling	26,400	24,836	-5.9	23,933	-9.3	23,872	-9.6	24,356	-7.7
Mansfield	34,675	32,631	-5.9	31,533	-9.1	31,522	-9.1	32,182	-7.2
Newark and Sherwood	43,300	40,720	-6.0	39,005	-9.9	38,786	-10.4	39,602	-8.5
Rushcliffe	33,850	31,735	-6.2	30,601	-9.6	30,534	-9.8	31,208	-7.8

Table 5. Authors' calculations using DMP survey data, Bank of England (2020)

^{**} Only private sector employees are included in the DMP data. Public sector employees are not included in the analysis.

^{§§} Totals may differ due to rounding, safeguarded access and sectoral decomposition of employee figures. Due to the focus of DMP surveys on companies, figures represent number of employees and not total employment.

Conclusions and Policy Implications

Industrial sectors are not evenly distributed across space. The share of employment by sector therefore varies considerably across the UK and also across the D2N2 area. This paper has provided a summary of the implications of UK analysis by IFS, OBR and DMP for the local region. Variations in the sectoral composition of employment across this area are likely to be reflected in the level of exposure to employment risk across different localities within the D2N2 area.

Studies that focused on data early in the coronavirus pandemic such as the IFS analysis suggest that localities characterised by a high representation of employment in sectors thought likely to be affected by (near) total shutdown under lockdown carry higher risks of employment loss. This analysis also demonstrates that these sectors are most likely to employ the young, women and low-earners. Workers in these groups are likely to bear a greater risk of unemployment. This paper has identified the numbers of employees in 'shutdown' sectors across the D2N2 area and the proportions who are young, female/male and low-paid.

Other surveys using early pandemic data such as the OBR's Coronavirus Reference Scenario forecasts when translated into local projections show a likely contraction of GVA and rise in unemployment – assuming a similar relationship between GVA and unemployment at local level. Significant variations in the projected levels of these outcome measures are evident across localities within D2N2. The prime driver of this variation in the size of local output and employment share is the relative local reliance on the manufacturing industry. Those local authorities that rely heavily on manufacturing are likely to experience a greater contraction in output and, by extension, greater unemployment.

DMP data rely on information gathered later in the pandemic. The effects of expected reductions in sales, investment and employment show a sharp deterioration in business conditions. Employment data, which can most readily be translated into local projections, shows D2N2 businesses could lose 77,000 employees by 2020 Q4 or 9.6% decline in employment at the lowest point. The biggest impact in absolute terms is in wholesale & retail, followed by accommodation & food and manufacturing sectors.

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