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# Estimating the Economic Impact of Covid-19 on the Gloucestershire Economy

## Final Report

Prepared for GFirst LEP

July 2020

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# 1 Introduction

- 1.0.1 GFirst LEP is currently developing a recovery plan to guide its response to the socio-economic impacts of Covid-19 and the associated lockdown and recovery on the Gloucestershire economy. Each of the local authorities in Gloucestershire are also developing recovery plans.
- 1.0.2 To inform these plans GFirst LEP wants an estimate of the immediate, medium- and longer-term impacts of the pandemic on the economy of Gloucestershire, and on each local authority area in Gloucestershire i.e. Gloucestershire county and the six districts: Borough of Cheltenham; Cotswold District; Forest of Dean District; City of Gloucester; Stroud District; and the Borough of Tewkesbury.
- 1.0.3 This report examines the impact of the pandemic across three different scenarios which examine both different levels of initial decline, and different lengths of time to recover from this decline. For each of these scenarios we have estimated the impact on employment and Gross Value Added (GVA).

## 1.1 Scenarios

- 1.1.1 We have looked at three scenarios for the immediate impact and recovery from the economic impact of Coronavirus on Gloucestershire. These scenarios have been developed by examining a number of published forecasts. Further details are set out in Appendix One.

### **Scenario 1: Worst-case Scenario**

- 1.1.2 This scenario has been developed by Hardisty Jones Associates, based on an assessment of the possible impact within each of 17 sectors within the economy; and then adjusted to take account of other evidence and forecasts of impact.
- 1.1.3 This scenario shows a sharp decline in GVA in Q2 of 2020 before a slow quarter-on-quarter recovery through to Q3 2023 where it returns to pre-Covid levels. This scenario assumes that the Government's Coronavirus Jobs Retention Scheme (CJRS) delays redundancies, and so the largest decline in employment is not seen until Q1 2021.

### **Scenario 2: Middle Scenario**

- 1.1.4 This scenario is based on a forecast of decline and recovery produced by the OECD in June 2020<sup>1</sup>.
- 1.1.5 Under this scenario declines in both GVA and employment are not as severe at the peak of decline. Marked redundancies are not seen, as the CJRS scheme ends and people on this scheme return to work and the economy begins to recover. Steady growth from Q4 2020 onwards sees a return to pre-Covid levels of employment and GVA by Q3 2022.

### **Scenario 3: Best-case Scenario**

- 1.1.6 This scenario is based on a 'Virus Contained' scenario proposed by McKinsey<sup>2</sup>.
- 1.1.7 This scenario shows a decline in GVA in Q2 2020 with a quick recovery to pre-Covid levels achieved by the end of the year. Employment decline is small as the CJRS protects the majority of people across the duration of economic decline.

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<sup>1</sup> OECD Economic Outlook Volume 2020 Issue 1, 9 June 2020

<sup>2</sup> McKinsey & Company (March 2020) Safeguarding our lives and livelihoods: The imperative of our time

## 1.2 Sectors

1.2.1 The impacts across each of these scenarios has been modelled for 17 sectors<sup>3</sup> which sum to encompass the whole economy. We have aggregated these into five high-level sectors to allow for ease of data presentation. The relationship between these is shown in the table below.

**Figure 1.1: Definition of High-Level Sectors**

High-Level Sectors	ONS Sectors
Primary & Production	Agriculture, Mining, Electricity, Gas, Water & Waste
Manufacturing	Manufacturing
Construction, Retail & Transportation	Construction
	Wholesale & Retail trade; Repair of Motor Vehicles and Motorcycles
	Transportation & Storage
Private Services	Accommodation & Food Service Activities
	Information & Communication
	Financial & Insurance Activities
	Real Estate Activities
	Professional, Scientific & Technical Activities
	Administrative & Support Service Activities
	Arts, Entertainment & Recreation
	Other Service Activities
	Activities of Households
Public Services	Public Administration & Defence; Compulsory Social Security
	Education
	Human Health & Social Work Activities

## 1.3 Phases

1.3.1 During the course of this modelling we have given consideration to the following four phases:

- Lockdown
- Restart
- Recovery
- New normal/Future growth

### Lockdown

1.3.2 Some sectors of the economy are ‘closed’, with most others obligated to change the way they operate. During this phase we take account of Government intervention to support employment and business activity.

1.3.3 Further lockdowns may occur if there is a rise in cases of Covid-19. However, the model does not account for these at this point.

### Restart

1.3.4 A gradual release from lockdown in which parts of the economy remain ‘shut’ for different lengths of time, and many will be operating sub-optimally due to ongoing social distancing measures.

<sup>3</sup> Modelling has been undertaken for Industry Sections (SIC2007) A-T. Sections A, B, D and E have been added together due to a lack of baseline GVA data for the individual sections

1.3.5 There will also be gradual phasing-out of Government cash support for businesses.

**Recovery**

1.3.6 All parts of the economy are 'open' with some sectors working under latent public health measures.

**New normal/Future growth**

1.3.7 There will be a return to a fully functioning economy although this may be fundamentally different from the economy before the pandemic. The rate of recovery and future path of growth will depend on a number of factors including; global recovery and government policy interventions.

1.3.8 Initially we assumed each of these phases would last for a specific period of time however, it has become clear that movement between these phases will be different under different scenarios.

## 2 Gloucestershire

- 2.0.1 This chapter sets out our modelling of the impact on the county and LEP area of Gloucestershire.
- 2.0.2 Both GVA and employment are affected by the Coronavirus crisis, and variations across three scenarios are considered.

### **Overview of GVA impact**

- 2.0.3 Latest available data on GVA in Gloucestershire shows that before the crisis it was £16.5 billion per year, or £4.1 billion per quarter. Modelling the latest monthly GVA figures for the UK to the structure of the Gloucestershire economy shows this fell slightly in Q1 of 2020 (January to March), to 98% of the pre-crisis level as the initial impact of Coronavirus was felt, with the UK-wide lockdown starting in the last week of March. In Q2 of 2020 (April to June) GVA is forecast to fall to its lowest level, of between £2.9 billion and £3.7 billion across the three scenarios i.e. between 71% and 91% of the pre-crisis level. The rate of recovery from this trough varies across the three scenarios. In the best-case scenario GVA returns to the pre-crisis level in Q1 of 2021, and then continues to grow steadily thereafter. In the middle scenario the recovery to pre-crisis level happens in Q3 2022 (July to September); and in the worst-case scenario it does not recover until Q3 of 2023.

### **Overview of employment impact**

- 2.0.4 Whilst there is normally a strong correlation between GVA and employment, this is decoupled during Q1 to Q4 2020 (i.e. late March to October 2020), because Government is providing support to maintain employment and support the self-employed even though businesses are suffering from a loss of trade, so GVA is falling. Whilst redundancies and job losses are still happening, the scale of these is much less than would be the case without Government support. Whilst the modelling shows that GVA falls to between 71% and 91% of the pre-crisis level in Q2 2020, employment only falls to between 93% and 98% of pre-crisis levels (dependent on the scenario), with a loss of up to 23,000 jobs.
- 2.0.5 Employment initially falls fastest in the middle scenario, to 92% of the pre-crisis level in Q3 2020, a loss of 26,000 jobs, but it then starts to recover. It has recovered to the pre-crisis level in Q1 of 2021 and continues to grow thereafter. In the worst-case scenario employment falls more in Q4 2020 and Q1 2021, after Government support ceases, to 85% of the pre-crisis level, a loss of 49,000 jobs from the pre-crisis level of employment. Recovery is much slower, and only returns to the pre-crisis level in Q3 2023.

## 2.1 Total GVA

2.1.1 Figure 2.1 below shows the change in total GVA across the modelling period under each of the three scenarios. The latest data available (2018) shows that total GVA for Gloucestershire was approximately £4,134,000,000 per quarter.

Figure 2.1: Total GVA

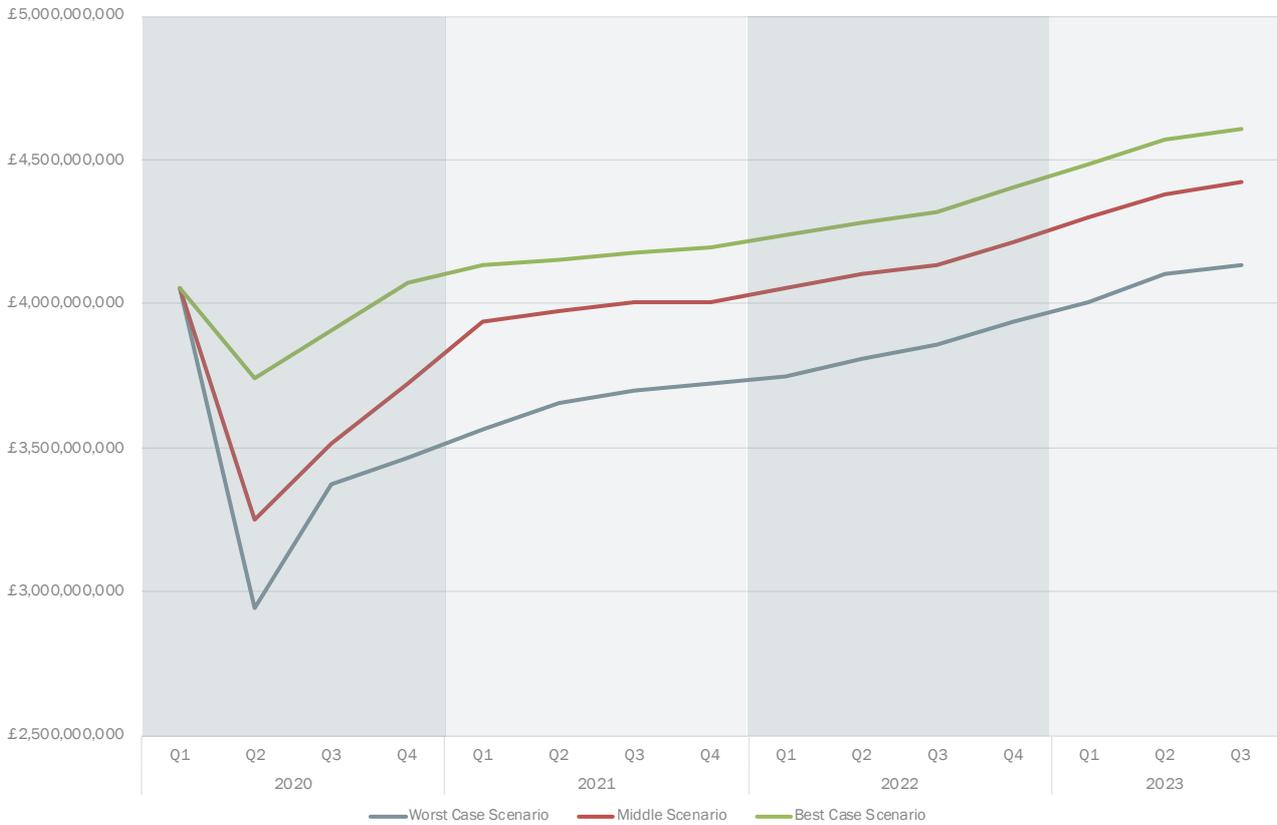


Figure 2.2: Total GVA Figures

Year	Quarter	Worst case scenario	Middle scenario	Best case Scenario
2020	Q1	£4,052,802,000	£4,052,802,000	£4,052,802,000
	Q2	£2,943,317,000	£3,248,676,000	£3,743,179,000
	Q3	£3,374,026,000	£3,514,703,000	£3,907,665,000
	Q4	£3,467,812,000	£3,722,601,000	£4,070,502,000
2021	Q1	£3,561,596,000	£3,939,332,000	£4,134,000,000
	Q2	£3,655,382,000	£3,971,775,000	£4,154,671,000
	Q3	£3,697,451,000	£4,004,219,000	£4,175,345,000
	Q4	£3,722,601,000	£4,004,219,000	£4,196,011,000
2022	Q1	£3,744,661,000	£4,052,887,000	£4,237,351,000
	Q2	£3,809,551,000	£4,101,554,000	£4,278,691,000
	Q3	£3,858,218,000	£4,134,000,000	£4,320,031,000
	Q4	£3,939,332,000	£4,216,680,000	£4,402,711,000
2023	Q1	£4,004,219,000	£4,299,360,000	£4,485,391,000
	Q2	£4,101,554,000	£4,382,040,000	£4,568,071,000
	Q3	£4,134,000,000	£4,423,385,000	£4,609,411,000

## 2.2 GVA by High-level Sector

2.2.1 The following tables show the GVA contribution for each of the five high-level sectors (as described in Section 1.2) under each of the three scenarios.

**Figure 2.3: GVA for the Primary & Production Sector**

The pre-Covid GVA value for this sector is approximately £163,000,000 per quarter.

Year	Quarter	Worst case scenario	Middle scenario	Best case Scenario
2020	Q1	£159,740,000	£159,740,000	£159,740,000
	Q2	£120,594,000	£133,738,000	£154,394,000
	Q3	£146,700,000	£151,590,000	£161,200,000
	Q4	£149,960,000	£158,925,000	£163,000,000
2021	Q1	£153,220,000	£161,370,000	£163,000,000
	Q2	£156,480,000	£161,642,000	£163,815,000
	Q3	£158,110,000	£161,913,000	£164,630,000
	Q4	£158,925,000	£161,913,000	£165,445,000
2022	Q1	£159,740,000	£162,321,000	£167,075,000
	Q2	£160,283,000	£162,728,000	£168,705,000
	Q3	£160,691,000	£163,000,000	£170,335,000
	Q4	£161,370,000	£166,260,000	£173,595,000
2023	Q1	£161,913,000	£169,520,000	£176,855,000
	Q2	£162,728,000	£172,780,000	£180,115,000
	Q3	£163,000,000	£174,410,000	£181,745,000

**Figure 2.4:GVA for the Manufacturing Sector**

The pre-Covid GVA value for this sector is approximately £580,250,000 per quarter.

Year	Quarter	Worst case scenario	Middle scenario	Best case Scenario
2020	Q1	£568,645,000	£568,645,000	£568,645,000
	Q2	£403,579,000	£447,568,000	£516,693,000
	Q3	£406,175,000	£423,583,000	£504,818,000
	Q4	£417,780,000	£449,694,000	£557,040,000
2021	Q1	£429,385,000	£516,423,000	£580,250,000
	Q2	£440,990,000	£527,060,000	£583,151,000
	Q3	£446,793,000	£537,698,000	£586,053,000
	Q4	£449,694,000	£537,698,000	£588,954,000
2022	Q1	£452,595,000	£553,655,000	£594,756,000
	Q2	£473,871,000	£569,612,000	£600,559,000
	Q3	£489,828,000	£580,250,000	£606,361,000
	Q4	£516,423,000	£591,855,000	£617,966,000
2023	Q1	£537,698,000	£603,460,000	£629,571,000
	Q2	£569,612,000	£615,065,000	£641,176,000
	Q3	£580,250,000	£620,868,000	£646,979,000

**Figure 2.5: GVA for the Construction, Retail & Transportation Sector**

The pre-Covid GVA value for this sector is approximately £879,750,000 per quarter.

Year	Quarter	Worst case scenario	Middle scenario	Best case Scenario
2020	Q1	£851,588,000	£851,588,000	£851,588,000
	Q2	£534,668,000	£592,944,000	£684,522,000
	Q3	£632,175,000	£674,216,000	£802,335,000
	Q4	£660,203,000	£735,931,000	£859,148,000
2021	Q1	£688,230,000	£812,018,000	£879,750,000
	Q2	£716,258,000	£823,306,000	£884,149,000
	Q3	£727,575,000	£834,595,000	£888,548,000
	Q4	£735,931,000	£834,595,000	£892,947,000
2022	Q1	£744,285,000	£851,528,000	£901,744,000
	Q2	£766,863,000	£868,461,000	£910,542,000
	Q3	£783,796,000	£879,750,000	£919,339,000
	Q4	£812,018,000	£897,345,000	£936,934,000
2023	Q1	£834,595,000	£914,940,000	£954,529,000
	Q2	£868,461,000	£932,535,000	£972,124,000
	Q3	£879,750,000	£941,333,000	£980,922,000

**Figure 2.6: GVA for the Private Services Sector**

The pre-Covid GVA value for this sector is approximately £1,792,750,000 per quarter.

Year	Quarter	Worst case scenario	Middle scenario	Best case Scenario
2020	Q1	£1,767,686,000	£1,767,686,000	£1,767,686,000
	Q2	£1,365,557,000	£1,514,397,000	£1,748,291,000
	Q3	£1,463,638,000	£1,542,103,000	£1,721,062,000
	Q4	£1,515,949,000	£1,659,801,000	£1,773,064,000
2021	Q1	£1,568,258,000	£1,731,271,000	£1,792,750,000
	Q2	£1,620,569,000	£1,741,517,000	£1,801,714,000
	Q3	£1,646,723,000	£1,751,763,000	£1,810,680,000
	Q4	£1,659,801,000	£1,751,763,000	£1,819,642,000
2022	Q1	£1,669,791,000	£1,767,133,000	£1,837,569,000
	Q2	£1,690,284,000	£1,782,503,000	£1,855,497,000
	Q3	£1,705,653,000	£1,792,750,000	£1,873,424,000
	Q4	£1,731,271,000	£1,828,605,000	£1,909,279,000
2023	Q1	£1,751,763,000	£1,864,460,000	£1,945,134,000
	Q2	£1,782,503,000	£1,900,315,000	£1,980,989,000
	Q3	£1,792,750,000	£1,918,245,000	£1,998,917,000

**Figure 2.7: GVA for the Public Services Sector**

The pre-Covid GVA value for this sector is approximately £718,250,000 per quarter.

Year	Quarter	Worst case scenario	Middle scenario	Best case Scenario
2020	Q1	£705,143,000	£705,143,000	£705,143,000
	Q2	£518,919,000	£560,029,000	£639,279,000
	Q3	£725,338,000	£723,211,000	£718,250,000
	Q4	£723,920,000	£718,250,000	£718,250,000
2021	Q1	£722,503,000	£718,250,000	£718,250,000
	Q2	£721,085,000	£718,250,000	£721,842,000
	Q3	£718,250,000	£718,250,000	£725,434,000
	Q4	£718,250,000	£718,250,000	£729,023,000
2022	Q1	£718,250,000	£718,250,000	£736,207,000

Year	Quarter	Worst case scenario	Middle scenario	Best case Scenario
	Q2	£718,250,000	£718,250,000	£743,388,000
	Q3	£718,250,000	£718,250,000	£750,572,000
	Q4	£718,250,000	£732,615,000	£764,937,000
2023	Q1	£718,250,000	£746,980,000	£779,302,000
	Q2	£718,250,000	£761,345,000	£793,667,000
	Q3	£718,250,000	£768,529,000	£800,848,000

## 2.3 Total Employment

2.3.1 Figure 2.8 below shows the change in total employment across the modelling period under each of the three scenarios. The latest data available (2018) shows that total employment for Gloucestershire was approximately 333,500.

Figure 2.8: Total Employment (incl. Government Supported)

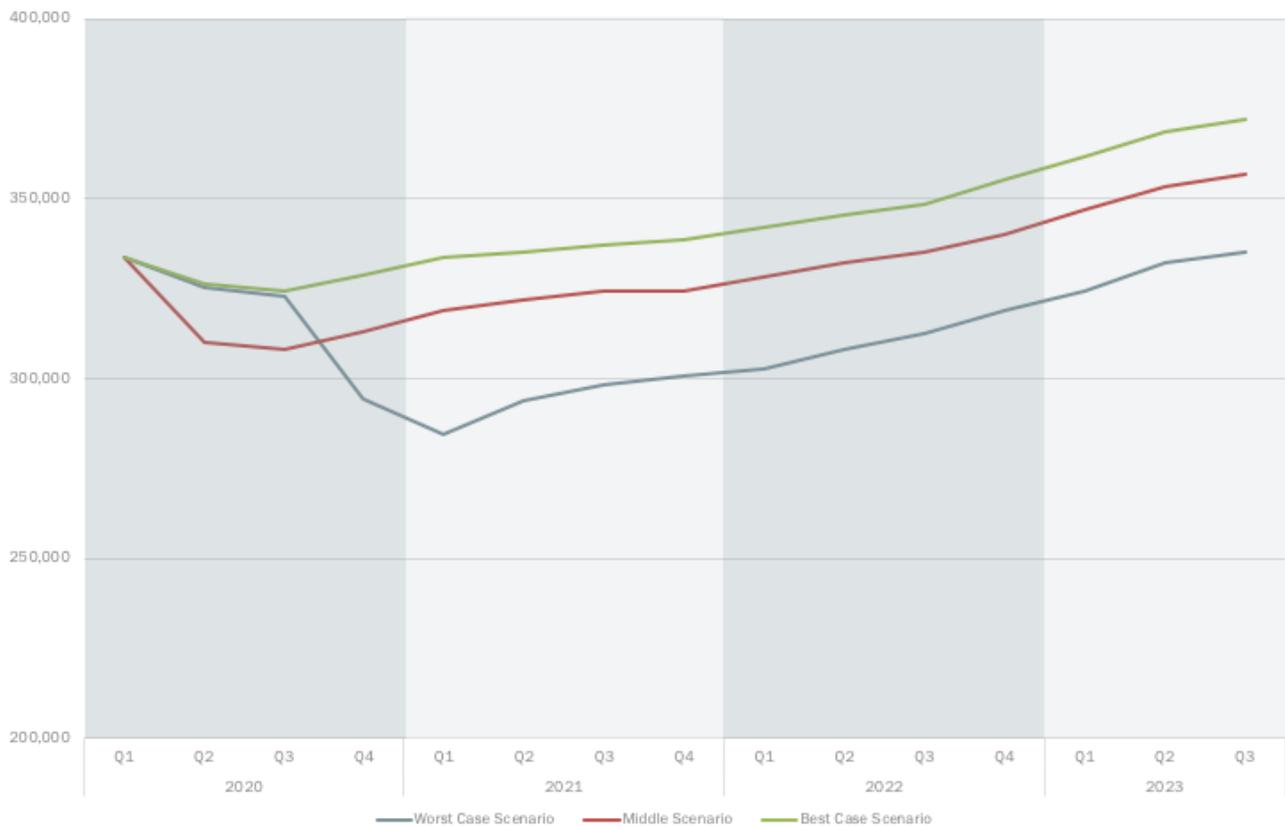


Figure 2.9: Total Employment (incl. Government Supported) and Redundancies

Year	Quarter	Worst case scenario		Middle scenario		Best case Scenario	
		Employed	Redundant	Employed	Redundant	Employed	Redundant
2020	Q1	333,400		333,400		333,400	
	Q2	325,400	8,100	310,100	23,300	326,700	7,000
	Q3	322,900	10,300	307,900	25,500	324,500	9,200
	Q4	294,600	39,100	313,100		328,800	
2021	Q1	284,400	49,000	319,200		333,400	
	Q2	291,100		321,800		335,200	
	Q3	294,100		324,300		336,800	
	Q4	295,800		324,300		338,600	
2022	Q1	297,700		328,200		342,000	

Year	Quarter	Worst case scenario		Middle scenario		Best case Scenario	
		Employed	Redundant	Employed	Redundant	Employed	Redundant
	Q2	302,300		332,400		345,000	
	Q3	306,100		335,000		348,500	
	Q4	312,300		340,100		355,400	
2023	Q1	316,900		346,900		362,100	
	Q2	324,200		353,400		368,600	
	Q3	326,600		356,800		371,800	

## 2.4 Employment by High-level Sector

2.4.1 The following tables show employment by each of the five high-level sectors (as described in Section 1.2) under each of the three scenarios.

**Figure 2.10: Employment in the Primary & Production Sector**

Pre-Covid employment in this sector was approximately 9,400

Year	Quarter	Worst case scenario		Middle scenario		Best case Scenario	
		Employed	Redundant	Employed	Redundant	Employed	Redundant
2020	Q1	9,400		9,400		9,400	
	Q2	9,300	100	9,100	300	9,300	90
	Q3	9,300	130	9,100	330	9,300	120
	Q4	8,900	500	9,100		9,300	
2021	Q1	8,800	600	9,300		9,400	
	Q2	9,000		9,300		9,400	
	Q3	9,100		9,300		9,500	
	Q4	9,200		9,300		9,500	
2022	Q1	9,200		9,300		9,600	
	Q2	9,200		9,400		9,700	
	Q3	9,300		9,400		9,800	
	Q4	9,300		9,600		10,000	
2023	Q1	9,300		9,800		10,200	
	Q2	9,400		9,900		10,400	
	Q3	9,400		10,000		10,500	

**Figure 2.11: Employment in the Manufacturing Sector**

Pre-Covid employment in this sector was approximately 38,000

Year	Quarter	Worst case scenario		Middle scenario		Best case Scenario	
		Employed	Redundant	Employed	Redundant	Employed	Redundant
2020	Q1	38,000		38,000		38,000	
	Q2	37,100	900	35,500	2,600	37,300	800
	Q3	36,900	1,100	35,200	2,800	37,000	1,000
	Q4	33,800	4,300	35,800		37,500	
2021	Q1	28,200	9,900	34,200		38,000	
	Q2	28,900		35,000		38,200	
	Q3	29,300		35,800		38,400	
	Q4	29,500		35,800		38,600	
2022	Q1	29,700		36,900		39,000	
	Q2	31,200		38,000		39,400	
	Q3	32,300		38,800		39,800	
	Q4	34,200		38,800		40,500	

Year	Quarter	Worst case scenario		Middle scenario		Best case Scenario	
		Employed	Redundant	Employed	Redundant	Employed	Redundant
2023	Q1	35,800		39,600		41,300	
	Q2	38,000		40,300		42,000	
	Q3	38,800		40,700		42,400	

**Figure 2.12: Employment in the Construction, Retail & Transport Sector**

Pre-Covid employment in this sector was approximately 80,400

Year	Quarter	Worst case scenario		Middle scenario		Best case Scenario	
		Employed	Redundant	Employed	Redundant	Employed	Redundant
2020	Q1	80,400		80,400		80,400	
	Q2	77,700	2,700	72,500	7,900	78,200	2,400
	Q3	76,900	3,500	71,700	8,700	77,400	3,100
	Q4	67,200	13,400	73,500		78,900	
2021	Q1	62,800	17,900	74,600		80,400	
	Q2	65,300		75,700		80,900	
	Q3	66,300		76,700		81,200	
	Q4	67,000		76,700		81,800	
2022	Q1	67,800		78,400		82,500	
	Q2	70,000		80,100		83,300	
	Q3	71,700		81,200		84,100	
	Q4	74,600		82,100		85,700	
2023	Q1	76,700		83,600		87,400	
	Q2	80,100		85,300		88,900	
	Q3	81,200		86,100		89,700	

**Figure 2.13: Employment in Private Services Sector**

Pre-Covid employment in this sector was approximately 124,000

Year	Quarter	Worst case scenario		Middle scenario		Best case Scenario	
		Employed	Redundant	Employed	Redundant	Employed	Redundant
2020	Q1	124,000		124,000		124,000	
	Q2	120,300	3,800	113,100	10,800	120,800	3,200
	Q3	119,000	4,800	112,200	11,900	119,800	4,300
	Q4	106,000	18,100	114,600		121,800	
2021	Q1	102,800	21,100	119,500		124,000	
	Q2	106,200		120,200		124,700	
	Q3	107,800		120,900		125,300	
	Q4	108,500		120,900		125,900	
2022	Q1	109,400		122,000		127,200	
	Q2	110,300		123,300		128,200	
	Q3	111,200		124,000		129,600	
	Q4	112,600		126,400		132,300	
2023	Q1	113,500		129,000		134,600	
	Q2	115,100		131,500		137,200	
	Q3	115,600		132,700		138,200	

**Figure 2.14: Employment in Public Services Sector**

Pre-Covid employment in this sector was approximately 81,600

Year	Quarter	Worst case scenario		Middle scenario		Best case Scenario	
		Employed	Redundant	Employed	Redundant	Employed	Redundant
2020	Q1	81,600		81,600		81,600	
	Q2	81,000	600	79,900	1,700	81,100	490
	Q3	80,800	760	79,700	1,800	81,000	670
	Q4	78,700	2,800	80,100		81,300	
2021	Q1	81,800		81,600		81,600	
	Q2	81,700		81,600		82,000	
	Q3	81,600		81,600		82,400	
	Q4	81,600		81,600		82,800	
2022	Q1	81,600		81,600		83,700	
	Q2	81,600		81,600		84,400	
	Q3	81,600		81,600		85,200	
	Q4	81,600		83,200		86,900	
2023	Q1	81,600		84,900		88,600	
	Q2	81,600		86,400		90,100	
	Q3	81,600		87,300		91,000	

## 3 Cheltenham

3.0.1 This chapter sets out our modelling for the Borough of Cheltenham.

3.0.2 Both GVA and employment are affected by the Coronavirus crisis, and variations across three scenarios are considered.

### Overview of GVA impact

3.0.3 Latest available data on GVA in Cheltenham shows that before the crisis it was £2.9 billion per year, or £0.7 billion per quarter. Modelling the latest monthly GVA figures for the UK to the Cheltenham economy shows that this fell slightly in Q1 of 2020 (January to March), to 98% of the pre-crisis level as the initial impact of Coronavirus was felt, with the UK-wide lockdown starting in the last week of March. In Q2 of 2020 (April to June) GVA is forecast to fall to its lowest level, of between £0.5 billion and £0.6 billion across the three scenarios i.e. between 69% and 88% of the pre-crisis level. The rate of recovery from this trough varies across the three scenarios. In the best-case scenario GVA returns to the pre-crisis level in Q1 of 2021, and then continues to grow steadily thereafter. In the middle scenario the recovery to pre-crisis level happens in Q3 of 2022 (July to September); and in the worst-case scenario it does not recover until Q3 of 2023.

### Overview of employment impact

3.0.4 Whilst there is normally a strong correlation between GVA and employment, this is decoupled during Q1 to Q4 2020 (i.e. late March to October 2020), because Government is providing support to maintain employment and support the self-employed even though businesses are suffering from a loss of trade, so GVA is falling. Whilst redundancies and job losses are still happening, the scale of these is much less than would be the case without Government support. Whilst GVA falls to between 69% and 88% of the pre-crisis level in Q2 2020, employment only falls to between 94% and 98% of pre-crisis levels (dependent on the scenario), with a loss of up to 10,000 jobs.

3.0.5 Employment initially falls fastest in the middle scenario, to 93% of the pre-crisis level in Q3 2020, a loss of 4,800 jobs, but it then starts to recover. It has recovered to the pre-crisis level in Q3 of 2022 and continues to grow thereafter. In the worst-case scenario employment falls more in Q4 2020 and Q1 2021, after Government support ceases, to 86% of the pre-crisis level, a loss of 10,000 jobs from the pre-crisis level of employment. Recovery is much slower, and only returns to the pre-crisis level in Q4 2023.

### 3.1 Total GVA

3.1.1 Figure 3.1 below shows the change in total GVA across the modelling period under each of the three scenarios. The latest data available (2018) shows that total GVA for Cheltenham was approximately £736,000,000 per quarter.

Figure 3.1: Total GVA

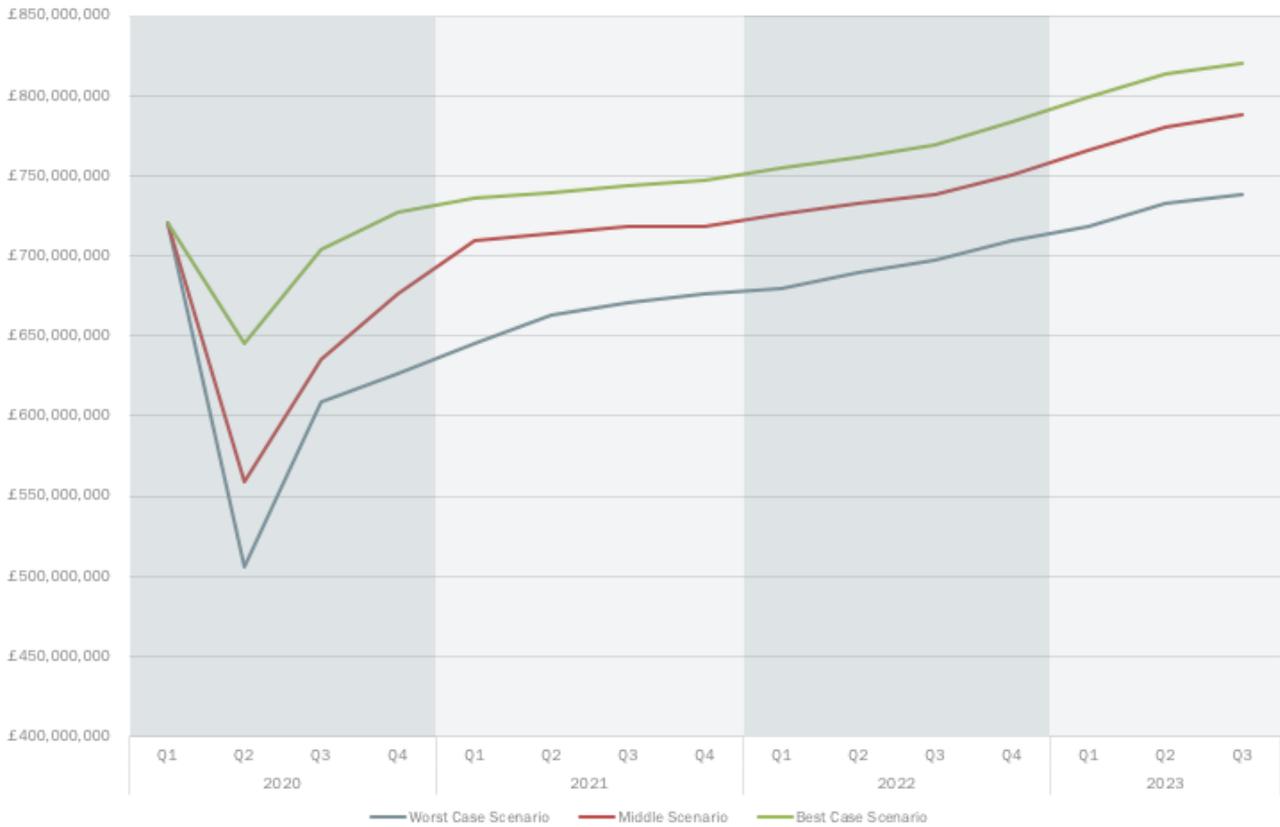


Figure 3.2: Total GVA Figures

Year	Quarter	Worst case scenario	Middle scenario	Best case Scenario
2020	Q1	£720,195,000	£720,195,000	£720,195,000
	Q2	£505,403,000	£559,345,000	£645,200,000
	Q3	£608,613,000	£635,670,500	£703,339,000
	Q4	£626,652,000	£675,909,750	£726,947,000
2021	Q1	£644,688,000	£708,907,500	£736,000,000
	Q2	£662,727,000	£713,752,000	£739,683,250
	Q3	£671,156,500	£718,604,000	£743,364,500
	Q4	£675,909,750	£718,604,000	£747,041,750
2022	Q1	£679,814,000	£725,876,000	£754,403,250
	Q2	£689,513,000	£733,148,000	£761,761,750
	Q3	£696,783,000	£737,998,000	£769,123,250
	Q4	£708,907,500	£750,720,000	£783,843,250
2023	Q1	£718,604,000	£765,440,000	£798,563,250
	Q2	£733,148,000	£780,160,000	£813,283,250
	Q3	£1,118,924,000	£1,192,789,500	£1,242,948,750

## 3.2 GVA by High-level Sector

3.2.1 The following tables show the GVA contribution for each of the five high-level sectors (as described in Section 1.2) under each of the three scenarios.

**Figure 3.3: GVA for the Primary & Production Sector**

The pre-Covid GVA value for this sector is approximately £2,250,000 per quarter.

Year	Quarter	Worst case scenario	Middle scenario	Best case Scenario
2020	Q1	£2,205,000	£2,205,000	£2,205,000
	Q2	£1,665,000	£1,846,000	£2,131,000
	Q3	£2,025,000	£2,092,500	£2,225,000
	Q4	£2,070,000	£2,193,750	£2,250,000
2021	Q1	£2,115,000	£2,227,500	£2,250,000
	Q2	£2,160,000	£2,231,000	£2,261,250
	Q3	£2,182,500	£2,235,000	£2,272,500
	Q4	£2,193,750	£2,235,000	£2,283,750
2022	Q1	£2,205,000	£2,241,000	£2,306,250
	Q2	£2,213,000	£2,246,000	£2,328,750
	Q3	£2,218,000	£2,250,000	£2,351,250
	Q4	£2,227,500	£2,295,000	£2,396,250
2023	Q1	£2,235,000	£2,340,000	£2,441,250
	Q2	£2,246,000	£2,385,000	£2,486,250
	Q3	£2,250,000	£2,407,500	£2,508,750

**Figure 3.4: GVA for the Manufacturing Sector**

The pre-Covid GVA value for this sector is approximately £45,500,000 per quarter.

Year	Quarter	Worst case scenario	Middle scenario	Best case Scenario
2020	Q1	£44,590,000	£44,590,000	£44,590,000
	Q2	£31,646,000	£35,096,000	£40,516,000
	Q3	£31,850,000	£33,215,000	£39,585,000
	Q4	£32,760,000	£35,263,000	£43,680,000
2021	Q1	£33,670,000	£40,950,000	£45,500,000
	Q2	£34,580,000	£41,860,000	£45,728,000
	Q3	£35,035,000	£42,770,000	£45,955,000
	Q4	£35,263,000	£42,770,000	£46,183,000
2022	Q1	£35,490,000	£44,135,000	£46,638,000
	Q2	£37,310,000	£45,500,000	£47,093,000
	Q3	£38,675,000	£46,410,000	£47,548,000
	Q4	£40,950,000	£46,410,000	£48,458,000
2023	Q1	£42,770,000	£47,320,000	£49,368,000
	Q2	£45,500,000	£48,230,000	£50,278,000
	Q3	£46,410,000	£48,685,000	£50,733,000

**Figure 3.5: GVA for the Construction, Retail & Transportation Sector**

The pre-Covid GVA value for this sector is approximately £137,500,000 per quarter.

Year	Quarter	Worst case scenario	Middle scenario	Best case Scenario
2020	Q1	£133,226,000	£133,226,000	£133,226,000
	Q2	£83,428,000	£92,521,000	£106,812,000
	Q3	£99,875,000	£106,606,000	£126,213,000
	Q4	£104,363,000	£116,489,000	£134,538,000
2021	Q1	£108,850,000	£128,207,000	£137,500,000
	Q2	£113,338,000	£129,936,000	£138,188,000
	Q3	£115,150,000	£131,667,000	£138,876,000
	Q4	£116,489,000	£131,667,000	£139,563,000
2022	Q1	£117,825,000	£134,261,000	£140,938,000
	Q2	£121,286,000	£136,857,000	£142,313,000
	Q3	£123,881,000	£138,588,000	£143,688,000
	Q4	£128,207,000	£140,250,000	£146,438,000
2023	Q1	£131,667,000	£143,000,000	£149,188,000
	Q2	£136,857,000	£145,750,000	£151,938,000
	Q3	£138,588,000	£147,126,000	£153,313,000

**Figure 3.6: GVA for the Private Services Sector**

The pre-Covid GVA value for this sector is approximately £369,500,000 per quarter.

Year	Quarter	Worst case scenario	Middle scenario	Best case Scenario
2020	Q1	£362,604,000	£362,604,000	£362,604,000
	Q2	£265,120,000	£294,016,000	£339,428,000
	Q3	£293,088,000	£312,139,000	£354,066,000
	Q4	£305,789,000	£340,714,000	£365,229,000
2021	Q1	£318,488,000	£356,273,000	£369,500,000
	Q2	£331,189,000	£358,475,000	£371,349,000
	Q3	£337,539,000	£360,682,000	£373,198,000
	Q4	£340,714,000	£360,682,000	£375,043,000
2022	Q1	£343,044,000	£363,989,000	£378,739,000
	Q2	£347,454,000	£367,295,000	£382,433,000
	Q3	£350,759,000	£369,500,000	£386,129,000
	Q4	£356,273,000	£376,890,000	£393,519,000
2023	Q1	£360,682,000	£384,280,000	£400,909,000
	Q2	£367,295,000	£391,670,000	£408,299,000
	Q3	£369,500,000	£395,368,000	£411,993,000

**Figure 3.7: GVA for the Public Services Sector**

The pre-Covid GVA value for this sector is approximately £181,250,000 per quarter.

Year	Quarter	Worst case scenario	Middle scenario	Best case Scenario
2020	Q1	£177,570,000	£177,570,000	£177,570,000
	Q2	£123,544,000	£135,866,000	£156,313,000
	Q3	£181,775,000	£181,618,000	£181,250,000
	Q4	£181,670,000	£181,250,000	£181,250,000
2021	Q1	£181,565,000	£181,250,000	£181,250,000
	Q2	£181,460,000	£181,250,000	£182,157,000
	Q3	£181,250,000	£181,250,000	£183,063,000
	Q4	£181,250,000	£181,250,000	£183,969,000
2022	Q1	£181,250,000	£181,250,000	£185,782,000

Year	Quarter	Worst case scenario	Middle scenario	Best case Scenario
	Q2	£181,250,000	£181,250,000	£187,594,000
	Q3	£181,250,000	£181,250,000	£189,407,000
	Q4	£181,250,000	£184,875,000	£193,032,000
2023	Q1	£181,250,000	£188,500,000	£196,657,000
	Q2	£181,250,000	£192,125,000	£200,282,000
	Q3	£181,250,000	£193,938,000	£202,094,000

### 3.3 Total Employment

3.3.1 Figure 2.8 below shows the change in total employment across the modelling period under each of the three scenarios. The latest data available (2018) shows that total employment for Cheltenham was approximately 70,000.

Figure 3.8: Total Employment (incl. Government Supported)

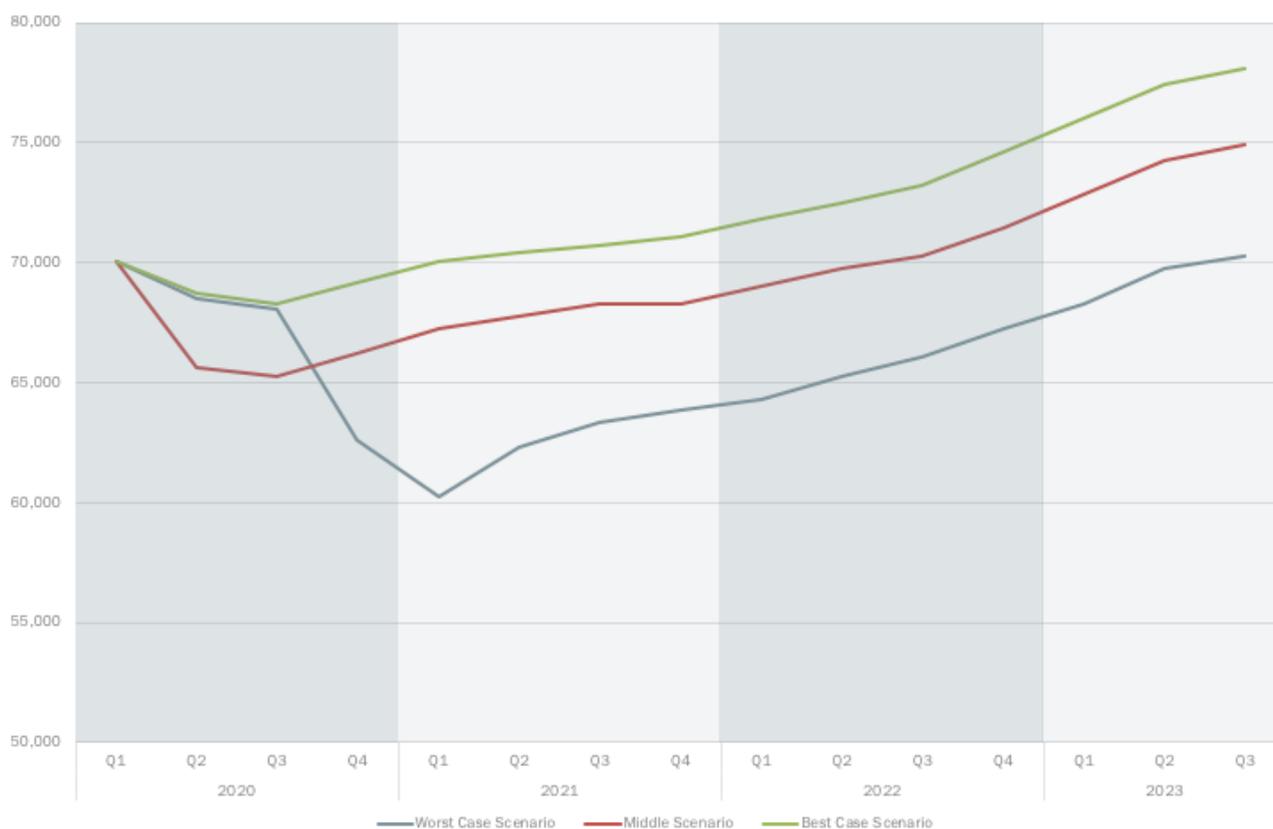


Figure 3.9: Total Employment (incl. Government Supported) and Redundancies

Year	Quarter	Worst case scenario		Middle scenario		Best case Scenario	
		Employed	Redundant	Employed	Redundant	Employed	Redundant
2020	Q1	70,100		70,100		70,100	
	Q2	68,600	1,500	65,600	4,300	68,600	1,300
	Q3	68,200	2,000	65,200	4,800	68,300	1,700
	Q4	62,400	7,400	66,300		69,000	
2021	Q1	60,100	9,800	67,200		70,100	
	Q2	61,500		67,800		70,500	
	Q3	62,200		68,200		70,900	
	Q4	62,500		68,200		71,200	
2022	Q1	62,600		69,000		71,900	

Year	Quarter	Worst case scenario		Middle scenario		Best case Scenario	
		Employed	Redundant	Employed	Redundant	Employed	Redundant
	Q2	64,000		69,700		72,500	
	Q3	64,300		70,300		73,200	
	Q4	65,500		71,700		74,600	
2023	Q1	66,400		72,800		76,000	
	Q2	67,700		74,300		77,500	
	Q3	68,200		74,800		78,100	

### 3.4 Employment by High-level Sector

3.4.1 The following tables show employment by each of the five high-level sectors (as described in Section 1.2) under each of the three scenarios.

**Figure 3.10: Employment in the Primary & Production Sector**

Pre-Covid employment in this sector was approximately 440

Year	Quarter	Worst case scenario		Middle scenario		Best case Scenario	
		Employed	Redundant	Employed	Redundant	Employed	Redundant
2020	Q1	440		440		440	
	Q2	420	20	380	60	420	20
	Q3	410	30	380	60	420	20
	Q4	340	90	390		430	
2021	Q1	410		430		440	
	Q2	420		430		440	
	Q3	420		430		440	
	Q4	430		430		440	
2022	Q1	430		440		450	
	Q2	430		440		450	
	Q3	430		440		460	
	Q4	430		450		470	
2023	Q1	430		460		470	
	Q2	440		460		480	
	Q3	440		470		490	

**Figure 3.11: Employment in the Manufacturing Sector**

Pre-Covid employment in this sector was approximately 4,300

Year	Quarter	Worst case scenario		Middle scenario		Best case Scenario	
		Employed	Redundant	Employed	Redundant	Employed	Redundant
2020	Q1	4,300		4,300		4,300	
	Q2	4,200	170	3,900	480	4,200	140
	Q3	4,100	220	3,800	530	4,100	190
	Q4	3,500	810	3,900		4,200	
2021	Q1	3,200		3,900		4,300	
	Q2	3,300		4,000		4,400	
	Q3	3,300		4,100		4,400	
	Q4	3,400		4,100		4,400	
2022	Q1	3,400		4,200		4,400	
	Q2	3,600		4,300		4,500	
	Q3	3,700		4,400		4,500	
	Q4	3,900		4,400		4,600	

Year	Quarter	Worst case scenario		Middle scenario		Best case Scenario	
		Employed	Redundant	Employed	Redundant	Employed	Redundant
2023	Q1	4,100		4,500		4,700	
	Q2	4,300		4,600		4,800	
	Q3	4,400		4,600		4,800	

**Figure 3.12: Employment in the Construction, Retail & Transport Sector**

Pre-Covid employment in this sector was approximately 15,800

Year	Quarter	Worst case scenario		Middle scenario		Best case Scenario	
		Employed	Redundant	Employed	Redundant	Employed	Redundant
2020	Q1	15,800		15,800		15,800	
	Q2	15,300	530	14,300	1,500	15,300	440
	Q3	15,100	680	14,200	1,600	15,100	590
	Q4	13,200	2,600	14,400	1,	15,400	
2021	Q1	12,300	3,500	14,600		15,800	
	Q2	12,800		14,700		15,800	
	Q3	13,000		15,000		15,900	
	Q4	13,100		15,000		15,900	
2022	Q1	13,200		15,400		16,200	
	Q2	13,800		15,700		16,300	
	Q3	14,000		15,900		16,500	
	Q4	14,600		16,100		16,700	
2023	Q1	15,000		16,300		17,100	
	Q2	15,700		16,600		17,400	
	Q3	15,900		16,800		17,500	

**Figure 3.13: Employment in Private Services Sector**

Pre-Covid employment in this sector was approximately 31,100

Year	Quarter	Worst case scenario		Middle scenario		Best case Scenario	
		Employed	Redundant	Employed	Redundant	Employed	Redundant
2020	Q1	31,100		31,100		31,100	
	Q2	30,400	700	29,000	2,000	30,400	600
	Q3	30,300	910	28,800	2,200	30,400	800
	Q4	27,500	3,400	29,400		30,700	
2021	Q1	25,800	5,300	29,900		31,100	
	Q2	26,600		30,300		31,300	
	Q3	27,100		30,300		31,500	
	Q4	27,200		30,300		31,700	
2022	Q1	27,200		30,500		32,000	
	Q2	27,800		30,800		32,200	
	Q3	27,800		31,100		32,500	
	Q4	28,200		31,900		33,200	
2023	Q1	28,500		32,400		33,800	
	Q2	28,800		33,100		34,400	
	Q3	29,000		33,300		34,800	

**Figure 3.14: Employment in Public Services Sector**

Pre-Covid employment in this sector was approximately 18,400

Year	Quarter	Worst case scenario		Middle scenario		Best case Scenario	
		Employed	Redundant	Employed	Redundant	Employed	Redundant
2020	Q1	18,400		18,400		18,400	
	Q2	18,300	110	18,000	310	18,300	100
	Q3	18,300	150	18,000	340	18,300	130
	Q4	17,800	500	18,200		18,300	
2021	Q1	18,400		18,400		18,400	
	Q2	18,400		18,400		18,500	
	Q3	18,400		18,400		18,600	
	Q4	18,400		18,400		18,700	
2022	Q1	18,400		18,400		18,800	
	Q2	18,400		18,400		19,000	
	Q3	18,400		18,400		19,200	
	Q4	18,400		18,800		19,700	
2023	Q1	18,400		19,100		20,000	
	Q2	18,400		19,600		20,400	
	Q3	18,400		19,700		20,500	

## 4 Cotswold

- 4.0.1 This chapter sets out our modelling for Cotswold District.
- 4.0.2 Both GVA and employment are affected by the Coronavirus crisis, and variations across three scenarios are considered.

### Overview of GVA impact

- 4.0.3 Latest available data on GVA in Cotswold shows that before the crisis it was £3.6 billion per year, or £0.9 billion per quarter. Modelling the latest monthly GVA figures for the UK to the Cotswold economy shows that this fell slightly in Q1 of 2020 (January to March), to 98% of the pre-crisis level as the initial impact of Coronavirus was felt, with the UK-wide lockdown starting in the last week of March. In Q2 of 2020 (April to June) GVA is forecast to fall to its lowest level, of between £0.7 billion and £0.9 billion across the three scenarios i.e. between 75% and 96% of the pre-crisis level. The rate of recovery from this trough varies across the three scenarios. In the best-case scenario GVA returns to the pre-crisis level in Q1 of 2021, and then continues to grow steadily thereafter. In the middle scenario the recovery to pre-crisis level happens in Q3 2022 (July to September); and in the worst-case scenario it does not recover until Q3 of 2023.

### Overview of employment impact

- 4.0.4 Whilst there is normally a strong correlation between GVA and employment, this is decoupled during Q1 to Q4 2020 (i.e. late March to October 2020), because Government is providing support to maintain employment and support the self-employed even though businesses are suffering from a loss of trade, so GVA is falling. Whilst redundancies and job losses are still happening, the scale of these is much less than would be the case without Government support. Whilst GVA falls to between 75% and 96% of the pre-crisis level in Q2 2020, employment only falls to between 94% and 98% of pre-crisis levels (dependent on the scenario), with a loss of up to 8,300 jobs.
- 4.0.5 Employment initially falls fastest in the middle scenario, to 93% of the pre-crisis level in Q3 2020, a loss of 3,600 jobs, but it then starts to recover. It has recovered to the pre-crisis level in Q3 of 2022 and continues to grow thereafter. In the worst-case scenario employment falls more in Q4 2020 and Q1 2021, after Government support ceases, to 84% of the pre-crisis level, a loss of 8,300 jobs from the pre-crisis level of employment. Recovery is much slower, and only returns to the pre-crisis level in Q4 2023.

## 4.1 Total GVA

4.1.1 Figure 4.1 below shows the change in total GVA across the modelling period under each of the three scenarios. The latest data available (2018) shows that total GVA for Cotswold was approximately £891,000,000 per quarter.

Figure 4.1: Total GVA

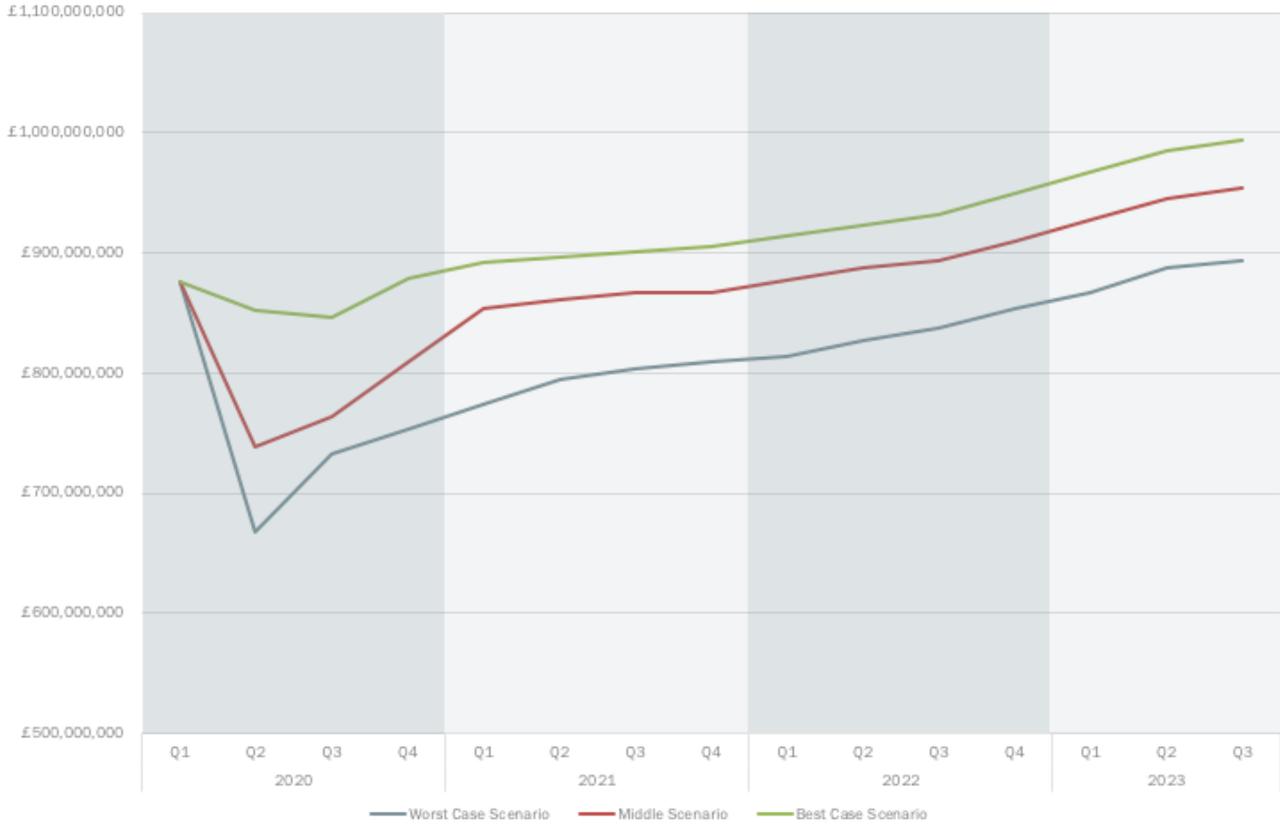


Figure 4.2: Total GVA Figures

Year	Quarter	Worst case scenario	Middle scenario	Best case Scenario
2020	Q1	£876,367,000	£876,367,000	£876,367,000
	Q2	£666,927,000	£738,693,000	£852,344,000
	Q3	£733,088,000	£763,715,500	£846,654,000
	Q4	£753,507,000	£809,208,250	£878,677,000
2021	Q1	£773,923,000	£853,866,500	£891,250,000
	Q2	£794,342,000	£860,518,000	£895,708,750
	Q3	£803,742,500	£867,172,000	£900,167,500
	Q4	£809,208,250	£867,172,000	£904,620,250
2022	Q1	£813,944,000	£877,152,000	£913,533,750
	Q2	£827,253,000	£887,131,000	£922,445,250
	Q3	£837,231,000	£893,785,000	£931,358,750
	Q4	£853,866,500	£909,075,000	£949,183,750
2023	Q1	£867,172,000	£926,900,000	£967,008,750
	Q2	£887,131,000	£944,725,000	£984,833,750
	Q3	£893,785,000	£953,642,500	£993,745,250

## 4.2 GVA by High-level Sector

4.2.1 The following tables show the GVA contribution for each of the five high-level sectors (as described in Section 1.2) under each of the three scenarios.

**Figure 4.3: GVA for the Primary & Production Sector**

The pre-Covid GVA value for this sector is approximately £27,750,000 per quarter.

Year	Quarter	Worst case scenario	Middle scenario	Best case Scenario
2020	Q1	£27,195,000	£27,195,000	£27,195,000
	Q2	£20,531,000	£22,768,000	£26,285,000
	Q3	£24,975,000	£25,807,500	£27,444,000
	Q4	£25,530,000	£27,056,250	£27,750,000
2021	Q1	£26,085,000	£27,472,500	£27,750,000
	Q2	£26,640,000	£27,519,000	£27,888,750
	Q3	£26,917,500	£27,565,000	£28,027,500
	Q4	£27,056,250	£27,565,000	£28,166,250
2022	Q1	£27,195,000	£27,634,000	£28,443,750
	Q2	£27,288,000	£27,704,000	£28,721,250
	Q3	£27,357,000	£27,750,000	£28,998,750
	Q4	£27,472,500	£28,305,000	£29,553,750
2023	Q1	£27,565,000	£28,860,000	£30,108,750
	Q2	£27,704,000	£29,415,000	£30,663,750
	Q3	£27,750,000	£29,692,500	£30,941,250

**Figure 4.4:GVA for the Manufacturing Sector**

The pre-Covid GVA value for this sector is approximately £43,750,000 per quarter.

Year	Quarter	Worst case scenario	Middle scenario	Best case Scenario
2020	Q1	£42,875,000	£42,875,000	£42,875,000
	Q2	£30,429,000	£33,746,000	£38,958,000
	Q3	£30,625,000	£31,938,000	£38,063,000
	Q4	£31,500,000	£33,906,000	£42,000,000
2021	Q1	£32,375,000	£39,375,000	£43,750,000
	Q2	£33,250,000	£40,250,000	£43,969,000
	Q3	£33,688,000	£41,125,000	£44,188,000
	Q4	£33,906,000	£41,125,000	£44,406,000
2022	Q1	£34,125,000	£42,438,000	£44,844,000
	Q2	£35,875,000	£43,750,000	£45,281,000
	Q3	£37,188,000	£44,625,000	£45,719,000
	Q4	£39,375,000	£44,625,000	£46,594,000
2023	Q1	£41,125,000	£45,500,000	£47,469,000
	Q2	£43,750,000	£46,375,000	£48,344,000
	Q3	£44,625,000	£46,813,000	£48,781,000

**Figure 4.5: GVA for the Construction, Retail & Transportation Sector**

The pre-Covid GVA value for this sector is approximately £177,500,000 per quarter.

Year	Quarter	Worst case scenario	Middle scenario	Best case Scenario
2020	Q1	£171,975,000	£171,975,000	£171,975,000
	Q2	£110,098,000	£122,097,000	£140,954,000
	Q3	£126,400,000	£134,710,000	£161,155,000
	Q4	£131,940,000	£146,835,000	£172,920,000
2021	Q1	£137,480,000	£163,860,000	£177,500,000
	Q2	£143,020,000	£166,410,000	£178,388,000
	Q3	£145,110,000	£168,960,000	£179,275,000
	Q4	£146,835,000	£168,960,000	£180,163,000
2022	Q1	£148,560,000	£172,786,000	£181,938,000
	Q2	£153,660,000	£176,610,000	£183,713,000
	Q3	£157,486,000	£179,160,000	£185,488,000
	Q4	£163,860,000	£181,050,000	£189,038,000
2023	Q1	£168,960,000	£184,600,000	£192,588,000
	Q2	£176,610,000	£188,150,000	£196,138,000
	Q3	£179,160,000	£189,925,000	£197,913,000

**Figure 4.6: GVA for the Private Services Sector**

The pre-Covid GVA value for this sector is approximately £566,750,000 per quarter.

Year	Quarter	Worst case scenario	Middle scenario	Best case Scenario
2020	Q1	£560,549,000	£560,549,000	£560,549,000
	Q2	£454,881,000	£504,462,000	£582,373,000
	Q3	£475,163,000	£495,462,000	£544,492,000
	Q4	£488,697,000	£525,911,000	£560,507,000
2021	Q1	£502,228,000	£547,659,000	£566,750,000
	Q2	£515,762,000	£550,839,000	£569,585,000
	Q3	£522,527,000	£554,022,000	£572,421,000
	Q4	£525,911,000	£554,022,000	£575,252,000
2022	Q1	£528,564,000	£558,794,000	£580,920,000
	Q2	£534,930,000	£563,567,000	£586,587,000
	Q3	£539,700,000	£566,750,000	£592,255,000
	Q4	£547,659,000	£578,085,000	£603,590,000
2023	Q1	£554,022,000	£589,420,000	£614,925,000
	Q2	£563,567,000	£600,755,000	£626,260,000
	Q3	£566,750,000	£606,426,000	£631,927,000

**Figure 4.7: GVA for the Public Services Sector**

The pre-Covid GVA value for this sector is approximately £75,500,000 per quarter.

Year	Quarter	Worst case scenario	Middle scenario	Best case Scenario
2020	Q1	£73,773,000	£73,773,000	£73,773,000
	Q2	£50,988,000	£55,620,000	£63,774,000
	Q3	£75,925,000	£75,798,000	£75,500,000
	Q4	£75,840,000	£75,500,000	£75,500,000
2021	Q1	£75,755,000	£75,500,000	£75,500,000
	Q2	£75,670,000	£75,500,000	£75,878,000
	Q3	£75,500,000	£75,500,000	£76,256,000
	Q4	£75,500,000	£75,500,000	£76,633,000
2022	Q1	£75,500,000	£75,500,000	£77,388,000

Year	Quarter	Worst case scenario	Middle scenario	Best case Scenario
	Q2	£75,500,000	£75,500,000	£78,143,000
	Q3	£75,500,000	£75,500,000	£78,898,000
	Q4	£75,500,000	£77,010,000	£80,408,000
2023	Q1	£75,500,000	£78,520,000	£81,918,000
	Q2	£75,500,000	£80,030,000	£83,428,000
	Q3	£75,500,000	£80,786,000	£84,183,000

### 4.3 Total Employment

4.3.1 Figure 4.8 below shows the change in total employment across the modelling period under each of the three scenarios. The latest data available (2018) shows that total employment for Cotswold was approximately 51,700.

Figure 4.8: Total Employment (incl. Government Supported)



Figure 4.9: Total Employment (incl. Government Supported) and Redundancies

Year	Quarter	Worst case scenario		Middle scenario		Best case Scenario	
		Employed	Redundant	Employed	Redundant	Employed	Redundant
2020	Q1	51,700		51,700		51,700	
	Q2	50,600	1,100	48,500	3,200	50,800	1,000
	Q3	50,200	1,500	48,200	3,600	50,400	1,300
	Q4	46,000	5,700	48,800		51,100	
2021	Q1	43,400	8,300	49,500		51,700	
	Q2	44,600		49,800		52,000	
	Q3	45,100		50,300		52,100	
	Q4	45,300		50,300		52,500	
2022	Q1	45,700		51,000		53,100	

Year	Quarter	Worst case scenario		Middle scenario		Best case Scenario	
		Employed	Redundant	Employed	Redundant	Employed	Redundant
	Q2	46,500		51,600		53,500	
	Q3	46,800		51,900		53,900	
	Q4	47,700		52,900		55,000	
2023	Q1	48,300		53,600		56,200	
	Q2	49,400		54,800		57,300	
	Q3	49,700		55,400		57,600	

## 4.4 Employment by High-level Sector

4.4.1 The following tables show employment by each of the five high-level sectors (as described in Section 1.2) under each of the three scenarios.

**Figure 4.10: Employment in the Primary & Production Sector**

Pre-Covid employment in this sector was approximately 2,400

Year	Quarter	Worst case scenario		Middle scenario		Best case Scenario	
		Employed	Redundant	Employed	Redundant	Employed	Redundant
2020	Q1	2,400		2,400		2,400	
	Q2	2,390	10	2,360	40	2,390	10
	Q3	2,390	20	2,360	50	2,390	20
	Q4	2,330	70	2,370		2,400	
2021	Q1	2,260	140	2,380		2,400	
	Q2	2,310		2,380		2,420	
	Q3	2,330		2,390		2,430	
	Q4	2,340		2,390		2,440	
2022	Q1	2,360		2,390		2,460	
	Q2	2,360		2,400		2,490	
	Q3	2,370		2,400		2,510	
	Q4	2,380		2,450		2,560	
2023	Q1	2,390		2,500		2,610	
	Q2	2,400		2,550		2,660	
	Q3	2,400		2,570		2,680	

**Figure 4.11: Employment in the Manufacturing Sector**

Pre-Covid employment in this sector was approximately 3,400

Year	Quarter	Worst case scenario		Middle scenario		Best case Scenario	
		Employed	Redundant	Employed	Redundant	Employed	Redundant
2020	Q1	3,400		3,400		3,400	
	Q2	3,300	120	3,100	350	3,300	100
	Q3	3,300	160	3,000	390	3,300	140
	Q4	2,800	620	3,100		3,400	
2021	Q1	2,500	900	3,100		3,400	
	Q2	2,600		3,200		3,400	
	Q3	2,600		3,200		3,500	
	Q4	2,700		3,200		3,500	
2022	Q1	2,700		3,300		3,500	
	Q2	2,800		3,400		3,500	
	Q3	2,900		3,500		3,600	
	Q4	3,100		3,500		3,700	

Year	Quarter	Worst case scenario		Middle scenario		Best case Scenario	
		Employed	Redundant	Employed	Redundant	Employed	Redundant
2023	Q1	3,200		3,600		3,700	
	Q2	3,400		3,600		3,800	
	Q3	3,500		3,700		3,800	

**Figure 4.12: Employment in the Construction, Retail & Transport Sector**

Pre-Covid employment in this sector was approximately 12,700

Year	Quarter	Worst case scenario		Middle scenario		Best case Scenario	
		Employed	Redundant	Employed	Redundant	Employed	Redundant
2020	Q1	12,700		12,700		12,700	
	Q2	12,300	390	11,500	1,100	12,300	330
	Q3	12,100	500	11,500	1,200	12,200	440
	Q4	10,730	1,900	11,600		12,400	
2021	Q1	9,840	2,900	11,800		12,700	
	Q2	10,370		11,900		12,800	
	Q3	10,580		12,100		12,800	
	Q4	10,580		12,100		12,800	
2022	Q1	10,690		12,300		13,000	
	Q2	11,160		12,700		13,100	
	Q3	11,310		12,800		13,200	
	Q4	11,790		13,000		13,400	
2023	Q1	12,060		13,100		13,800	
	Q2	12,660		13,400		14,000	
	Q3	12,800		13,500		14,100	

**Figure 4.13: Employment in Private Services Sector**

Pre-Covid employment in this sector was approximately 24,900

Year	Quarter	Worst case scenario		Middle scenario		Best case Scenario	
		Employed	Redundant	Employed	Redundant	Employed	Redundant
2020	Q1	24,900		24,900		24,900	
	Q2	24,300	530	23,500	1,500	24,500	440
	Q3	24,200	670	23,300	1,700	24,300	600
	Q4	22,300	2,700	23,700		24,600	
2021	Q1	20,400	4,500	23,900		24,800	
	Q2	20,900		24,000		25,000	
	Q3	21,200		24,200		25,000	
	Q4	21,300		24,200		25,400	
2022	Q1	21,600		24,600		25,600	
	Q2	21,800		24,700		25,800	
	Q3	21,900		24,800		25,900	
	Q4	22,100		25,500		26,500	
2023	Q1	22,300		25,800		27,100	
	Q2	22,600		26,500		27,600	
	Q3	22,600		26,700		27,800	

**Figure 4.14: Employment in Public Services Sector**

Pre-Covid employment in this sector was approximately 8,300

Year	Quarter	Worst case scenario		Middle scenario		Best case Scenario	
		Employed	Redundant	Employed	Redundant	Employed	Redundant
2020	Q1	8,300		8,300		8,300	
	Q2	8,300	80	8,100	230	8,300	70
	Q3	8,200	100	8,100	260	8,200	100
	Q4	7,900	400	8,100		8,300	
2021	Q1	8,400		8,400		8,400	
	Q2	8,400		8,400		8,400	
	Q3	8,400		8,400		8,400	
	Q4	8,400		8,400		8,400	
2022	Q1	8,400		8,400		8,600	
	Q2	8,400		8,400		8,600	
	Q3	8,400		8,400		8,700	
	Q4	8,400		8,500		8,800	
2023	Q1	8,400		8,600		9,000	
	Q2	8,400		8,800		9,200	
	Q3	8,400		8,900		9,200	

## 5 Forest of Dean

5.0.1 This chapter sets out our modelling for Forest of Dean District.

5.0.2 Both GVA and employment are affected by the Coronavirus crisis, and variations across three scenarios are considered.

### Overview of GVA impact

5.0.3 Latest available data on GVA in the Forest of Dean shows that before the crisis it was £1.5 billion per year, or £0.4 billion per quarter. Modelling the latest monthly GVA figures for the UK to the Forest of Dean economy shows that this fell slightly in Q1 of 2020 (January to March), to 98% of the pre-crisis level as the initial impact of Coronavirus was felt, with the UK-wide lockdown starting in the last week of March. In Q2 of 2020 (April to June) GVA is forecast to fall to its lowest level, of between £0.26 billion and £0.34 billion across the three scenarios i.e. between 70% and 89% of the pre-crisis level. The rate of recovery from this trough varies across the three scenarios. In the best-case scenario GVA returns to the pre-crisis level in Q1 of 2021, and then continues to grow steadily thereafter. In the middle scenario the recovery to pre-crisis level happens in Q3 2022 (July to September); and in the worst-case scenario it does not recover until Q3 of 2023.

### Overview of employment impact

5.0.4 Whilst there is normally a strong correlation between GVA and employment, this is decoupled during Q1 to Q4 2020 (i.e. late March to October 2020), because Government is providing support to maintain employment and support the self-employed even though businesses are suffering from a loss of trade, so GVA is falling. Whilst redundancies and job losses are still happening, the scale of these is much less than would be the case without Government support. Whilst GVA falls to between 70% and 89% of the pre-crisis level in Q2 2020, employment only falls to between 82% and 96% of pre-crisis levels (dependent on the scenario), with a loss of up to 5,200 jobs.

5.0.5 Employment initially falls fastest in the middle scenario, to 88% of the pre-crisis level in Q3 2020, a loss of 3,500 jobs, but it then starts to recover. It has recovered to the pre-crisis level in Q3 of 2022 and continues to grow thereafter. In the worst-case scenario employment falls more in Q4 2020 and Q1 2021, after Government support ceases, to 82% of the pre-crisis level, a loss of 5,200 jobs from the pre-crisis level of employment. Recovery is much slower, and only returns to the pre-crisis level in Q3 2023.

## 5.1 Total GVA

5.1.1 Figure 5.1 below shows the change in total GVA across the modelling period under each of the three scenarios. The latest data available (2018) shows that total GVA for the Forest of Dean was approximately £375,500,000 per quarter.

Figure 5.1: Total GVA

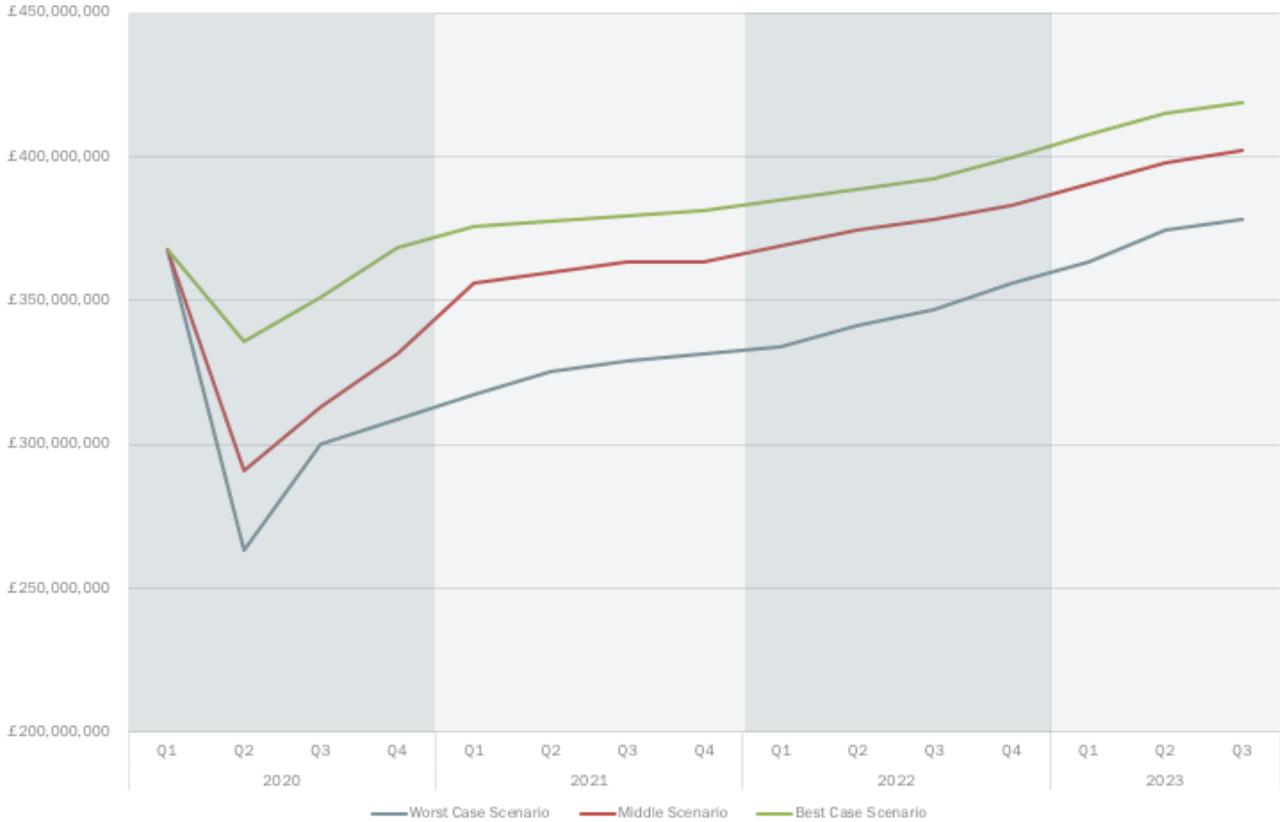


Figure 5.2: Total GVA Figures

Year	Quarter	Worst case scenario	Middle scenario	Best case Scenario
2020	Q1	£367,877,000	£367,877,000	£367,877,000
	Q2	£263,276,000	£290,989,000	£335,474,000
	Q3	£300,088,000	£312,736,000	£351,299,000
	Q4	£308,522,000	£331,371,500	£368,567,000
2021	Q1	£316,953,000	£355,722,000	£375,500,000
	Q2	£325,387,000	£359,415,000	£377,380,500
	Q3	£329,010,000	£363,110,000	£379,259,000
	Q4	£331,371,500	£363,110,000	£381,133,500
2022	Q1	£333,546,000	£368,655,000	£384,890,500
	Q2	£340,938,000	£374,198,000	£388,643,500
	Q3	£346,480,000	£377,893,000	£392,400,500
	Q4	£355,722,000	£383,010,000	£399,910,500
2023	Q1	£363,110,000	£390,520,000	£407,420,500
	Q2	£374,198,000	£398,030,000	£414,930,500
	Q3	£377,893,000	£401,789,000	£418,683,500

## 5.2 GVA by High-level Sector

5.2.1 The following tables show the GVA contribution for each of the five high-level sectors (as described in Section 1.2) under each of the three scenarios.

**Figure 5.3: GVA for the Primary & Production Sector**

The pre-Covid GVA value for this sector is approximately £13,500,000 per quarter.

Year	Quarter	Worst case scenario	Middle scenario	Best case Scenario
2020	Q1	£13,230,000	£13,230,000	£13,230,000
	Q2	£9,988,000	£11,076,000	£12,787,000
	Q3	£12,150,000	£12,555,000	£13,351,000
	Q4	£12,420,000	£13,162,500	£13,500,000
2021	Q1	£12,690,000	£13,365,000	£13,500,000
	Q2	£12,960,000	£13,388,000	£13,567,500
	Q3	£13,095,000	£13,410,000	£13,635,000
	Q4	£13,162,500	£13,410,000	£13,702,500
2022	Q1	£13,230,000	£13,444,000	£13,837,500
	Q2	£13,275,000	£13,478,000	£13,972,500
	Q3	£13,309,000	£13,500,000	£14,107,500
	Q4	£13,365,000	£13,770,000	£14,377,500
2023	Q1	£13,410,000	£14,040,000	£14,647,500
	Q2	£13,478,000	£14,310,000	£14,917,500
	Q3	£13,500,000	£14,445,000	£15,052,500

**Figure 5.4:GVA for the Manufacturing Sector**

The pre-Covid GVA value for this sector is approximately £62,000,000 per quarter.

Year	Quarter	Worst case scenario	Middle scenario	Best case Scenario
2020	Q1	£60,760,000	£60,760,000	£60,760,000
	Q2	£43,123,000	£47,823,000	£55,209,000
	Q3	£43,400,000	£45,260,000	£53,940,000
	Q4	£44,640,000	£48,050,000	£59,520,000
2021	Q1	£45,880,000	£55,800,000	£62,000,000
	Q2	£47,120,000	£57,040,000	£62,310,000
	Q3	£47,740,000	£58,280,000	£62,620,000
	Q4	£48,050,000	£58,280,000	£62,930,000
2022	Q1	£48,360,000	£60,140,000	£63,550,000
	Q2	£50,840,000	£62,000,000	£64,170,000
	Q3	£52,700,000	£63,240,000	£64,790,000
	Q4	£55,800,000	£63,240,000	£66,030,000
2023	Q1	£58,280,000	£64,480,000	£67,270,000
	Q2	£62,000,000	£65,720,000	£68,510,000
	Q3	£63,240,000	£66,340,000	£69,130,000

**Figure 5.5: GVA for the Construction, Retail & Transportation Sector**

The pre-Covid GVA value for this sector is approximately £120,000,000 per quarter.

Year	Quarter	Worst case scenario	Middle scenario	Best case Scenario
2020	Q1	£116,241,000	£116,241,000	£116,241,000
	Q2	£74,429,000	£82,542,000	£95,290,000
	Q3	£85,275,000	£90,866,000	£108,813,000
	Q4	£89,003,000	£99,026,000	£116,863,000
2021	Q1	£92,730,000	£110,669,000	£120,000,000
	Q2	£96,458,000	£112,416,000	£120,600,000
	Q3	£97,865,000	£114,163,000	£121,201,000
	Q4	£99,026,000	£114,163,000	£121,800,000
2022	Q1	£100,185,000	£116,785,000	£123,000,000
	Q2	£103,680,000	£119,406,000	£124,200,000
	Q3	£106,301,000	£121,153,000	£125,400,000
	Q4	£110,669,000	£122,400,000	£127,800,000
2023	Q1	£114,163,000	£124,800,000	£130,200,000
	Q2	£119,406,000	£127,200,000	£132,600,000
	Q3	£121,153,000	£128,401,000	£133,800,000

**Figure 5.6: GVA for the Private Services Sector**

The pre-Covid GVA value for this sector is approximately £124,000,000 per quarter.

Year	Quarter	Worst case scenario	Middle scenario	Best case Scenario
2020	Q1	£122,963,000	£122,963,000	£122,963,000
	Q2	£97,628,000	£108,267,000	£124,991,000
	Q3	£102,813,000	£107,740,000	£119,195,000
	Q4	£106,099,000	£115,133,000	£122,684,000
2021	Q1	£109,383,000	£119,888,000	£124,000,000
	Q2	£112,669,000	£120,571,000	£124,623,000
	Q3	£114,310,000	£121,257,000	£125,242,000
	Q4	£115,133,000	£121,257,000	£125,861,000
2022	Q1	£115,771,000	£122,286,000	£127,103,000
	Q2	£117,143,000	£123,314,000	£128,341,000
	Q3	£118,170,000	£124,000,000	£129,583,000
	Q4	£119,888,000	£126,480,000	£132,063,000
2023	Q1	£121,257,000	£128,960,000	£134,543,000
	Q2	£123,314,000	£131,440,000	£137,023,000
	Q3	£124,000,000	£132,682,000	£138,261,000

**Figure 5.7: GVA for the Public Services Sector**

The pre-Covid GVA value for this sector is approximately £56,000,000 per quarter.

Year	Quarter	Worst case scenario	Middle scenario	Best case Scenario
2020	Q1	£54,683,000	£54,683,000	£54,683,000
	Q2	£38,108,000	£41,281,000	£47,197,000
	Q3	£56,450,000	£56,315,000	£56,000,000
	Q4	£56,360,000	£56,000,000	£56,000,000
2021	Q1	£56,270,000	£56,000,000	£56,000,000
	Q2	£56,180,000	£56,000,000	£56,280,000
	Q3	£56,000,000	£56,000,000	£56,561,000
	Q4	£56,000,000	£56,000,000	£56,840,000
2022	Q1	£56,000,000	£56,000,000	£57,400,000

Year	Quarter	Worst case scenario	Middle scenario	Best case Scenario
	Q2	£56,000,000	£56,000,000	£57,960,000
	Q3	£56,000,000	£56,000,000	£58,520,000
	Q4	£56,000,000	£57,120,000	£59,640,000
2023	Q1	£56,000,000	£58,240,000	£60,760,000
	Q2	£56,000,000	£59,360,000	£61,880,000
	Q3	£56,000,000	£59,921,000	£62,440,000

## 5.3 Total Employment

5.3.1 Figure 5.8 below shows the change in total employment across the modelling period under each of the three scenarios. The latest data available (2018) shows that total employment for the Forest of Dean was approximately 28,100.

Figure 5.8: Total Employment (incl. Government Supported)



Figure 5.9: Total Employment (incl. Government Supported) and Redundancies

Year	Quarter	Worst case scenario		Middle scenario		Best case Scenario	
		Employed	Redundant	Employed	Redundant	Employed	Redundant
2020	Q1	28,100		28,100		28,100	
	Q2	26,900	1,100	25,100	3,200	27,000	900
	Q3	26,600	1,400	24,800	3,500	26,800	1,300
	Q4	22,900	5,200	25,400		27,600	
2021	Q1	24,000		27,000		28,200	
	Q2	24,600		27,100		28,500	
	Q3	24,800		27,500		28,500	
	Q4	24,800		27,500		28,500	
2022	Q1	25,200		27,700		28,700	

Year	Quarter	Worst case scenario		Middle scenario		Best case Scenario	
		Employed	Redundant	Employed	Redundant	Employed	Redundant
	Q2	25,500		28,100		29,000	
	Q3	25,800		28,300		29,400	
	Q4	26,500		28,500		29,900	
2023	Q1	27,000		29,200		30,500	
	Q2	27,500		29,700		31,200	
	Q3	27,800		30,200		31,500	

## 5.4 Employment by High-level Sector

5.4.1 The following tables show employment by each of the five high-level sectors (as described in Section 1.2) under each of the three scenarios.

**Figure 5.10: Employment in the Primary & Production Sector**

Pre-Covid employment in this sector was approximately 1,500

Year	Quarter	Worst case scenario		Middle scenario		Best case Scenario	
		Employed	Redundant	Employed	Redundant	Employed	Redundant
2020	Q1	1,500		1,500		1,500	
	Q2	1,500	10	1,500	40	1,500	10
	Q3	1,500	20	1,500	40	1,500	20
	Q4	1,500	70	1,500		1,500	
2021	Q1	1,400	100	1,500		1,500	
	Q2	1,500		1,500		1,500	
	Q3	1,500		1,500		1,500	
	Q4	1,500		1,500		1,600	
2022	Q1	1,500		1,500		1,600	
	Q2	1,500		1,500		1,600	
	Q3	1,500		1,500		1,600	
	Q4	1,500		1,600		1,600	
2023	Q1	1,500		1,600		1,700	
	Q2	1,500		1,600		1,700	
	Q3	1,500		1,600		1,700	

**Figure 5.11: Employment in the Manufacturing Sector**

Pre-Covid employment in this sector was approximately 4,500

Year	Quarter	Worst case scenario		Middle scenario		Best case Scenario	
		Employed	Redundant	Employed	Redundant	Employed	Redundant
2020	Q1	4,500		4,500		4,500	
	Q2	4,300	120	4,100	350	4,300	100
	Q3	4,300	160	4,100	380	4,300	140
	Q4	3,900	570	4,100		4,400	
2021	Q1	3,300	1,200	4,000		4,500	
	Q2	3,400		4,100		4,500	
	Q3	3,400		4,200		4,500	
	Q4	3,400		4,200		4,500	
2022	Q1	3,500		4,300		4,600	
	Q2	3,600		4,500		4,600	
	Q3	3,800		4,500		4,700	
	Q4	4,000		4,500		4,700	

Year	Quarter	Worst case scenario		Middle scenario		Best case Scenario	
		Employed	Redundant	Employed	Redundant	Employed	Redundant
2023	Q1	4,200		4,600		4,800	
	Q2	4,500		4,700		4,900	
	Q3	4,500		4,800		5,000	

**Figure 5.12: Employment in the Construction, Retail & Transport Sector**

Pre-Covid employment in this sector was approximately 7,000

Year	Quarter	Worst case scenario		Middle scenario		Best case Scenario	
		Employed	Redundant	Employed	Redundant	Employed	Redundant
2020	Q1	7,000		7,000		7,000	
	Q2	6,600	390	6,000	1,100	6,600	320
	Q3	6,400	490	5,700	1,200	6,500	420
	Q4	5,180	1,800	6,000		6,800	
2021	Q1	5,420		6,500		7,000	
	Q2	5,650		6,500		7,100	
	Q3	5,660		6,700		7,100	
	Q4	5,670		6,700		7,100	
2022	Q1	5,880		6,700		7,100	
	Q2	6,070		6,900		7,100	
	Q3	6,140		7,100		7,300	
	Q4	6,460		7,100		7,400	
2023	Q1	6,650		7,300		7,500	
	Q2	6,890		7,400		7,800	
	Q3	7,140		7,500		7,800	

**Figure 5.13: Employment in Private Services Sector**

Pre-Covid employment in this sector was approximately 7,900

Year	Quarter	Worst case scenario		Middle scenario		Best case Scenario	
		Employed	Redundant	Employed	Redundant	Employed	Redundant
2020	Q1	7,900		7,900		7,900	
	Q2	7,400	520	6,500	1,500	7,500	440
	Q3	7,300	650	6,500	1,600	7,400	580
	Q4	5,500	2,400	6,800		7,700	
2021	Q1	6,500		7,700		7,900	
	Q2	6,800		7,700		8,000	
	Q3	6,900		7,800		8,000	
	Q4	6,900		7,800		8,000	
2022	Q1	7,000		7,900		8,000	
	Q2	7,000		7,900		8,200	
	Q3	7,000		7,900		8,300	
	Q4	7,200		8,000		8,400	
2023	Q1	7,300		8,200		8,700	
	Q2	7,300		8,300		8,700	
	Q3	7,300		8,500		8,900	

**Figure 5.14: Employment in Public Services Sector**

Pre-Covid employment in this sector was approximately 7,200

Year	Quarter	Worst case scenario		Middle scenario		Best case Scenario	
		Employed	Redundant	Employed	Redundant	Employed	Redundant
2020	Q1	7,200		7,200		7,00	
	Q2	7,100	80	7,000	230	7,100	70
	Q3	7,100	100	7,000	250	7,100	90
	Q4	6,800	400	7,000		7,200	
2021	Q1	7,300		7,300		7,300	
	Q2	7,300		7,300		7,300	
	Q3	7,300		7,300		7,300	
	Q4	7,300		7,300		7,300	
2022	Q1	7,300		7,300		7,400	
	Q2	7,300		7,300		7,500	
	Q3	7,300		7,300		7,500	
	Q4	7,300		7,300		7,700	
2023	Q1	7,300		7,500		7,900	
	Q2	7,300		7,600		8,100	
	Q3	7,300		7,800		8,100	

## 6 Gloucester

6.0.1 This chapter sets out our modelling for the City of Gloucester.

6.0.2 Both GVA and employment are affected by the Coronavirus crisis, and variations across three scenarios are considered.

### Overview of GVA impact

6.0.3 Latest available data on GVA in Gloucester shows that before the crisis it was £3.2 billion per year, or £0.8 billion per quarter. Modelling the latest monthly GVA figures for the UK to the Gloucester economy shows that this fell slightly in Q1 of 2020 (January to March), to 98% of the pre-crisis level as the initial impact of Coronavirus was felt, with the UK-wide lockdown starting in the last week of March. In Q2 of 2020 (April to June) GVA is forecast to fall to its lowest level, of between £0.6 billion and £0.7 billion across the three scenarios i.e. between 73% and 92% of the pre-crisis level. The rate of recovery from this trough varies across the three scenarios. In the best-case scenario GVA returns to the pre-crisis level in Q1 of 2021, and then continues to grow steadily thereafter. In the middle scenario the recovery to pre-crisis level happens in Q3 2022 (July to September); and in the worst-case scenario it does not recover until Q3 of 2023.

### Overview of employment impact

6.0.4 Whilst there is normally a strong correlation between GVA and employment, this is decoupled during Q1 to Q4 2020 (i.e. late March to October 2020), because Government is providing support to maintain employment and support the self-employed even though businesses are suffering from a loss of trade, so GVA is falling. Whilst redundancies and job losses are still happening, the scale of these is much less than would be the case without Government support. Whilst GVA falls to between 73% and 92% of the pre-crisis level in Q2 2020, employment only falls to between 92% and 98% of pre-crisis levels (dependent on the scenario), with a loss of up to 9,000 jobs.

6.0.5 Employment initially falls fastest in the middle scenario, to 92% of the pre-crisis level in Q3 2020, a loss of 6,000 jobs, but it then starts to recover. It has recovered to the pre-crisis level in Q3 of 2022 and continues to grow thereafter. In the worst-case scenario employment falls more in Q4 2020 and Q1 2021, after Government support ceases, to 92% of the pre-crisis level, a loss of 9,000 jobs from the pre-crisis level of employment. Recovery is much slower, and only returns to the pre-crisis level in Q3 2023.

## 6.1 Total GVA

6.1.1 Figure 6.1 below shows the change in total GVA across the modelling period under each of the three scenarios. The latest data available (2018) shows that total GVA for Gloucester was approximately £806,750,000 per quarter.

Figure 6.1: Total GVA

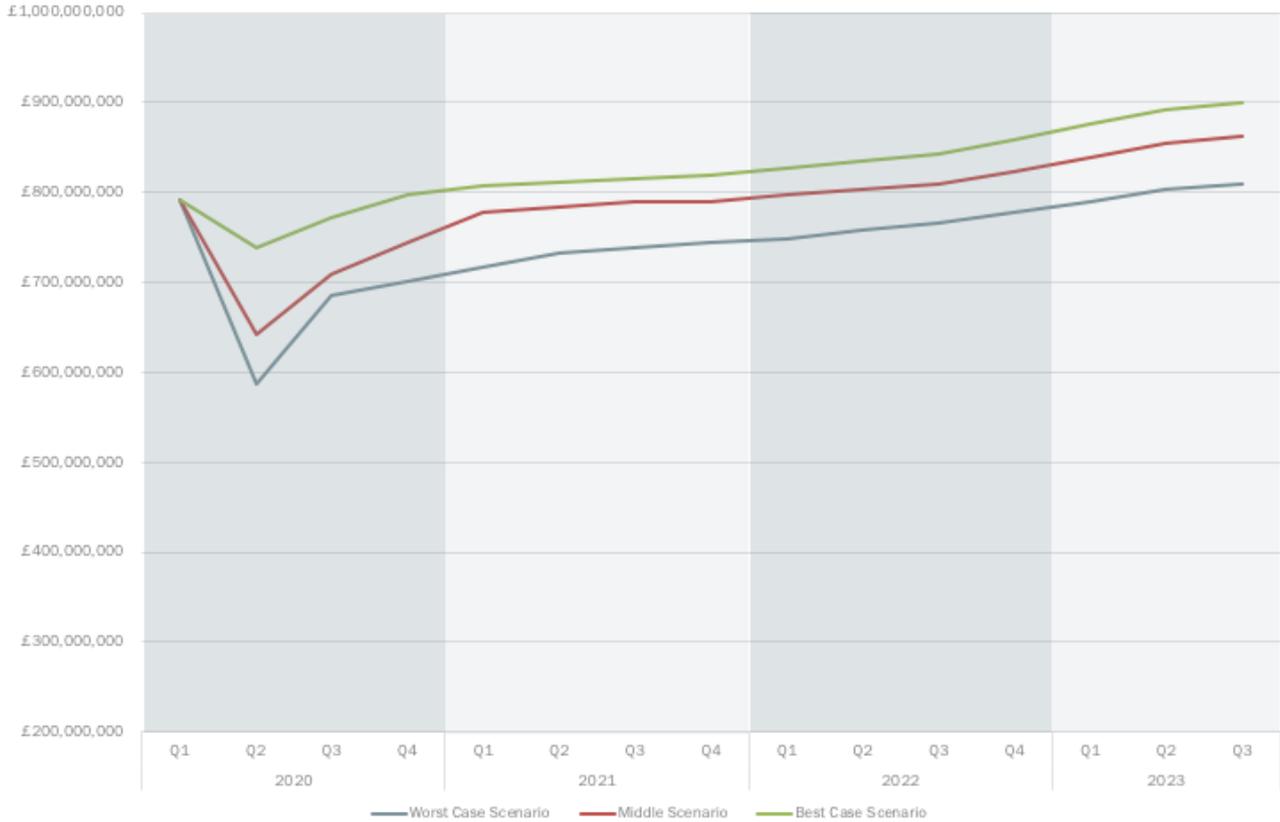


Figure 6.2: Total GVA Figures

Year	Quarter	Worst case scenario	Middle scenario	Best case Scenario
2020	Q1	£791,227,000	£791,227,000	£791,227,000
2020	Q2	£587,183,000	£642,820,000	£738,177,000
2020	Q3	£684,763,000	£708,736,000	£772,419,000
2020	Q4	£700,743,000	£743,477,500	£797,581,000
2021	Q1	£716,723,000	£778,425,000	£806,750,000
2021	Q2	£732,703,000	£783,591,000	£810,786,500
2021	Q3	£739,041,000	£788,756,000	£814,821,000
2021	Q4	£743,477,500	£788,756,000	£818,853,500
2022	Q1	£747,436,000	£796,502,000	£826,921,500
2022	Q2	£757,764,000	£804,253,000	£834,988,500
2022	Q3	£765,514,000	£809,416,000	£843,056,500
2022	Q4	£778,425,000	£822,885,000	£859,191,500
2023	Q1	£788,756,000	£839,020,000	£875,326,500
2023	Q2	£804,253,000	£855,155,000	£891,461,500
2023	Q3	£809,416,000	£863,226,000	£899,528,500

## 6.2 GVA by High-level Sector

6.2.1 The following tables show the GVA contribution for each of the five high-level sectors (as described in Section 1.2) under each of the three scenarios.

**Figure 6.3: GVA for the Primary & Production Sector**

The pre-Covid GVA value for this sector is approximately £80,500,000 per quarter.

Year	Quarter	Worst case scenario	Middle scenario	Best case Scenario
2020	Q1	£78,890,000	£78,890,000	£78,890,000
	Q2	£59,557,000	£66,049,000	£76,250,000
	Q3	£72,450,000	£74,865,000	£79,611,000
	Q4	£74,060,000	£78,487,500	£80,500,000
2021	Q1	£75,670,000	£79,695,000	£80,500,000
	Q2	£77,280,000	£79,829,000	£80,902,500
	Q3	£78,085,000	£79,963,000	£81,305,000
	Q4	£78,487,500	£79,963,000	£81,707,500
2022	Q1	£78,890,000	£80,165,000	£82,512,500
	Q2	£79,158,000	£80,366,000	£83,317,500
	Q3	£79,360,000	£80,500,000	£84,122,500
	Q4	£79,695,000	£82,110,000	£85,732,500
2023	Q1	£79,963,000	£83,720,000	£87,342,500
	Q2	£80,366,000	£85,330,000	£88,952,500
	Q3	£80,500,000	£86,135,000	£89,757,500

**Figure 6.4:GVA for the Manufacturing Sector**

The pre-Covid GVA value for this sector is approximately £51,750,000 per quarter.

Year	Quarter	Worst case scenario	Middle scenario	Best case Scenario
2020	Q1	£50,715,000	£50,715,000	£50,715,000
	Q2	£35,994,000	£39,917,000	£46,082,000
	Q3	£36,225,000	£37,778,000	£45,023,000
	Q4	£37,260,000	£40,106,000	£49,680,000
2021	Q1	£38,295,000	£46,575,000	£51,750,000
	Q2	£39,330,000	£47,610,000	£52,009,000
	Q3	£39,848,000	£48,645,000	£52,268,000
	Q4	£40,106,000	£48,645,000	£52,526,000
2022	Q1	£40,365,000	£50,198,000	£53,044,000
	Q2	£42,435,000	£51,750,000	£53,561,000
	Q3	£43,988,000	£52,785,000	£54,079,000
	Q4	£46,575,000	£52,785,000	£55,114,000
2023	Q1	£48,645,000	£53,820,000	£56,149,000
	Q2	£51,750,000	£54,855,000	£57,184,000
	Q3	£52,785,000	£55,373,000	£57,701,000

**Figure 6.5: GVA for the Construction, Retail & Transportation Sector**

The pre-Covid GVA value for this sector is approximately £173,750,000 per quarter.

Year	Quarter	Worst case scenario	Middle scenario	Best case Scenario
2020	Q1	£168,124,000	£168,124,000	£168,124,000
	Q2	£105,209,000	£116,678,000	£134,698,000
	Q3	£124,775,000	£133,067,000	£158,373,000
	Q4	£130,303,000	£145,252,000	£169,691,000
2021	Q1	£135,830,000	£161,132,000	£173,750,000

Year	Quarter	Worst case scenario	Middle scenario	Best case Scenario
	Q2	£141,358,000	£163,506,000	£174,619,000
	Q3	£143,618,000	£165,882,000	£175,489,000
	Q4	£145,252,000	£165,882,000	£176,356,000
2022	Q1	£146,885,000	£169,443,000	£178,094,000
	Q2	£151,633,000	£173,005,000	£179,831,000
	Q3	£155,196,000	£175,381,000	£181,569,000
	Q4	£161,132,000	£177,225,000	£185,044,000
2023	Q1	£165,882,000	£180,700,000	£188,519,000
	Q2	£173,005,000	£184,175,000	£191,994,000
	Q3	£175,381,000	£185,914,000	£193,731,000

**Figure 6.6: GVA for the Private Services Sector**

The pre-Covid GVA value for this sector is approximately £281,000,000 per quarter.

Year	Quarter	Worst case scenario	Middle scenario	Best case Scenario
2020	Q1	£276,558,000	£276,558,000	£276,558,000
	Q2	£213,207,000	£236,447,000	£272,964,000
	Q3	£227,725,000	£240,590,000	£269,662,000
	Q4	£236,300,000	£259,882,000	£277,960,000
2021	Q1	£244,875,000	£271,273,000	£281,000,000
	Q2	£253,450,000	£272,896,000	£282,407,000
	Q3	£257,740,000	£274,516,000	£283,811,000
	Q4	£259,882,000	£274,516,000	£285,218,000
2022	Q1	£261,546,000	£276,946,000	£288,027,000
	Q2	£264,788,000	£279,382,000	£290,838,000
	Q3	£267,220,000	£281,000,000	£293,647,000
	Q4	£271,273,000	£286,620,000	£299,267,000
2023	Q1	£274,516,000	£292,240,000	£304,887,000
	Q2	£279,382,000	£297,860,000	£310,507,000
	Q3	£281,000,000	£300,671,000	£313,318,000

**Figure 6.7: GVA for the Public Services Sector**

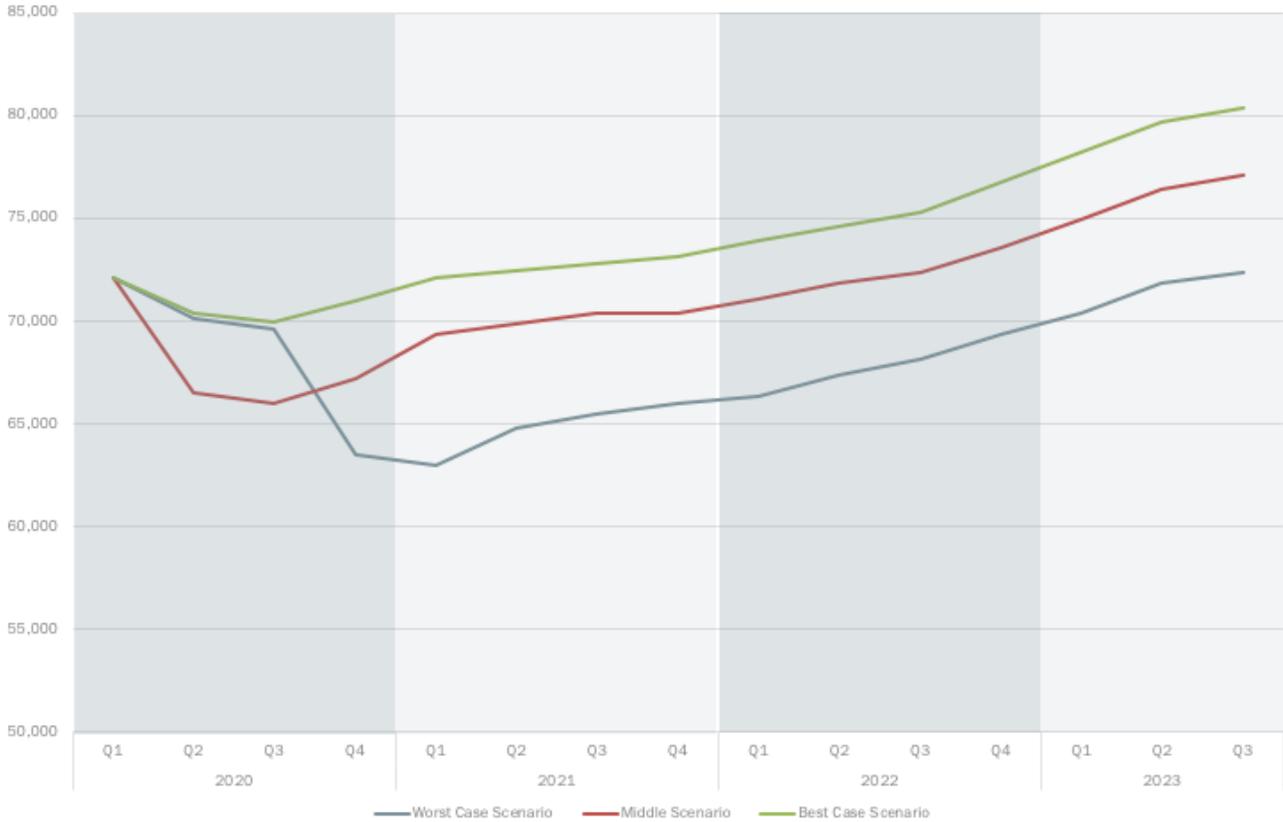
The pre-Covid GVA value for this sector is approximately £219,750,000 per quarter.

Year	Quarter	Worst case scenario	Middle scenario	Best case Scenario
2020	Q1	£216,940,000	£216,940,000	£216,940,000
	Q2	£173,216,000	£183,729,000	£208,183,000
	Q3	£223,588,000	£222,436,000	£219,750,000
	Q4	£222,820,000	£219,750,000	£219,750,000
2021	Q1	£222,053,000	£219,750,000	£219,750,000
	Q2	£221,285,000	£219,750,000	£220,849,000
	Q3	£219,750,000	£219,750,000	£221,948,000
	Q4	£219,750,000	£219,750,000	£223,046,000
2022	Q1	£219,750,000	£219,750,000	£225,244,000
	Q2	£219,750,000	£219,750,000	£227,441,000
	Q3	£219,750,000	£219,750,000	£229,639,000
	Q4	£219,750,000	£224,145,000	£234,034,000
2023	Q1	£219,750,000	£228,540,000	£238,429,000
	Q2	£219,750,000	£232,935,000	£242,824,000
	Q3	£219,750,000	£235,133,000	£245,021,000

## 6.3 Total Employment

6.3.1 Figure 6.8 below shows the change in total employment across the modelling period under each of the three scenarios. The latest data available (2018) shows that total employment for Gloucester was approximately 72,100.

**Figure 6.8: Total Employment (incl. Government Supported)**



**Figure 6.9: Total Employment (incl. Government Supported) and Redundancies**

Year	Quarter	Worst case scenario		Middle scenario		Best case Scenario	
		Employed	Redundant	Employed	Redundant	Employed	Redundant
2020	Q1	72,100		72,100		72,100	
	Q2	70,300	2,000	66,400	5,600	70,400	1,700
	Q3	69,800	2,500	66,000	6,100	70,200	2,100
	Q4	63,600	8,600	67,400		71,100	
2021	Q1	62,800	9,000	69,400		72,100	
	Q2	64,400		70,100		72,600	
	Q3	64,900		70,500		72,900	
	Q4	65,100		70,500		73,300	
2022	Q1	65,400		71,200		73,900	
	Q2	66,400		71,800		74,500	
	Q3	67,100		72,300		75,400	
	Q4	68,400		73,600		76,700	
2023	Q1	69,400		74,900		78,300	
	Q2	70,600		76,500		79,600	
	Q3	71,000		77,200		80,300	

## 6.4 Employment by High-level Sector

6.4.1 The following tables show employment by each of the five high-level sectors (as described in Section 1.2) under each of the three scenarios.

**Figure 6.10: Employment in the Primary & Production Sector**

Pre-Covid employment in this sector was approximately 1,800

Year	Quarter	Worst case scenario		Middle scenario		Best case Scenario	
		Employed	Redundant	Employed	Redundant	Employed	Redundant
2020	Q1	1,800		1,800		1,800	
	Q2	1,800	30	1,700	70	1,800	20
	Q3	1,800	30	1,700	80	1,800	30
	Q4	1,700	110	1,800		1,800	
2021	Q1	1,700		1,800		1,800	
	Q2	1,700		1,800		1,800	
	Q3	1,800		1,800		1,800	
	Q4	1,800		1,800		1,800	
2022	Q1	1,800		1,800		1,900	
	Q2	1,800		1,800		1,900	
	Q3	1,800		1,800		1,900	
	Q4	1,800		1,900		1,900	
2023	Q1	1,800		1,900		2,000	
	Q2	1,800		1,900		2,000	
	Q3	1,800		1,900		2,000	

**Figure 6.11: Employment in the Manufacturing Sector**

Pre-Covid employment in this sector was approximately 4,500

Year	Quarter	Worst case scenario		Middle scenario		Best case Scenario	
		Employed	Redundant	Employed	Redundant	Employed	Redundant
2020	Q1	4,500		4,500		4,500	
	Q2	4,300	220	3,900	610	4,300	180
	Q3	4,200	270	3,800	670	4,300	230
	Q4	3,600	940	4,000		4,400	
2021	Q1	3,300	1,200	4,100		4,500	
	Q2	3,400		4,200		4,500	
	Q3	3,500		4,200		4,600	
	Q4	3,500		4,200		4,600	
2022	Q1	3,500		4,400		4,600	
	Q2	3,700		4,500		4,700	
	Q3	3,800		4,600		4,700	
	Q4	4,100		4,600		4,800	
2023	Q1	4,200		4,700		4,900	
	Q2	4,500		4,800		5,000	
	Q3	4,600		4,800		5,000	

**Figure 6.12: Employment in the Construction, Retail & Transport Sector**

Pre-Covid employment in this sector was approximately 17,300

Year	Quarter	Worst case scenario		Middle scenario		Best case Scenario	
		Employed	Redundant	Employed	Redundant	Employed	Redundant
2020	Q1	17,300		17,300		17,300	
	Q2	16,700	680	15,400	1,900	16,700	570
	Q3	16,600	840	15,200	2,100	16,600	730
	Q4	14,410	2,900	15,700		17,000	
2021	Q1	13,340	4,000	15,900		17,400	
	Q2	13,890		16,200		17,500	
	Q3	14,110		16,500		17,500	
	Q4	14,220		16,500		17,600	
2022	Q1	14,330		16,800		17,800	
	Q2	14,960		17,300		17,900	
	Q3	15,260		17,500		18,100	
	Q4	15,930		17,600		18,400	
2023	Q1	16,460		18,000		18,800	
	Q2	17,250		18,400		19,100	
	Q3	17,520		18,500		19,300	

**Figure 6.13: Employment in Private Services Sector**

Pre-Covid employment in this sector was approximately 24,300

Year	Quarter	Worst case scenario		Middle scenario		Best case Scenario	
		Employed	Redundant	Employed	Redundant	Employed	Redundant
2020	Q1	24,300		24,300		24,300	
	Q2	23,600	910	21,800	2,600	23,700	780
	Q3	23,300	1,140	21,700	2,800	23,600	1,000
	Q4	20,400	4,000	22,100		23,900	
2021	Q1	20,200	4,000	23,500		24,300	
	Q2	21,200		23,800		24,600	
	Q3	21,400		23,900		24,700	
	Q4	21,500		23,900		24,800	
2022	Q1	21,700		24,100		25,000	
	Q2	21,900		24,100		25,100	
	Q3	22,200		24,300		25,600	
	Q4	22,500		25,000		26,000	
2023	Q1	22,800		25,200		26,500	
	Q2	22,900		25,800		26,900	
	Q3	23,000		26,200		27,100	

**Figure 6.14: Employment in Public Services Sector**

Pre-Covid employment in this sector was approximately 24,100

Year	Quarter	Worst case scenario		Middle scenario		Best case Scenario	
		Employed	Redundant	Employed	Redundant	Employed	Redundant
2020	Q1	24,100		24,100		24,100	
	Q2	23,900	150	23,600	400	23,900	120
	Q3	23,900	180	23,600	440	23,900	150
	Q4	23,500	600	23,800		24,000	
2021	Q1	24,200		24,100		24,100	
	Q2	24,200		24,100		24,200	

Year	Quarter	Worst case scenario		Middle scenario		Best case Scenario	
		Employed	Redundant	Employed	Redundant	Employed	Redundant
	Q3	24,100		24,100		24,200	
	Q4	24,100		24,100		24,500	
2022	Q1	24,100		24,100		24,600	
	Q2	24,100		24,100		25,000	
	Q3	24,100		24,100		25,100	
	Q4	24,100		24,600		25,600	
2023	Q1	24,100		25,100		26,100	
	Q2	24,100		25,600		26,600	
	Q3	24,100		25,700		26,800	

## 7 Stroud

7.0.1 This chapter sets out our modelling for the District of Stroud.

7.0.2 Both GVA and employment are affected by the Coronavirus crisis, and variations across three scenarios are considered.

### Overview of GVA impact

7.0.3 Latest available data on GVA in Stroud shows that before the crisis it was £2.6 billion per year, or £0.7 billion per quarter. Modelling the latest monthly GVA figures for the UK to the Stroud economy shows that this fell slightly in Q1 of 2020 (January to March), to 98% of the pre-crisis level as the initial impact of Coronavirus was felt, with the UK-wide lockdown starting in the last week of March. In Q2 of 2020 (April to June) GVA is forecast to fall to its lowest level, of between £0.4 billion and £0.6 billion across the three scenarios i.e. between 69% and 88% of the pre-crisis level. The rate of recovery from this trough varies across the three scenarios. In the best-case scenario GVA returns to the pre-crisis level in Q1 of 2021, and then continues to grow steadily thereafter. In the middle scenario the recovery to pre-crisis level happens in Q3 2022 (July to September); and in the worst-case scenario it does not recover until Q3 of 2023.

### Overview of employment impact

7.0.4 Whilst there is normally a strong correlation between GVA and employment, this is decoupled during Q1 to Q4 2020 (i.e. late March to October 2020), because Government is providing support to maintain employment and support the self-employed even though businesses are suffering from a loss of trade, so GVA is falling. Whilst redundancies and job losses are still happening, the scale of these is much less than would be the case without Government support. Whilst GVA falls to between 69% and 88% of the pre-crisis level in Q2 2020, employment only falls to between 84% and 97% of pre-crisis levels (dependent on the scenario), with a loss of up to 9,200 jobs.

7.0.5 Employment initially falls fastest in the middle scenario, to 93% of the pre-crisis level in Q3 2020, a loss of 4,100 jobs, but it then starts to recover. It has recovered to the pre-crisis level in Q3 of 2022 and continues to grow thereafter. In the worst-case scenario employment falls more in Q4 2020 and Q1 2021, after Government support ceases, to 84% of the pre-crisis level, a loss of 9,200 jobs from the pre-crisis level of employment. Recovery is much slower, and only returns to the pre-crisis level in Q3 2023.

## 7.1 Total GVA

7.1.1 Figure 7.1 below shows the change in total GVA across the modelling period under each of the three scenarios. The latest data available (2018) shows that total GVA for Stroud was approximately £660,500,000 per quarter.

Figure 7.1: Total GVA

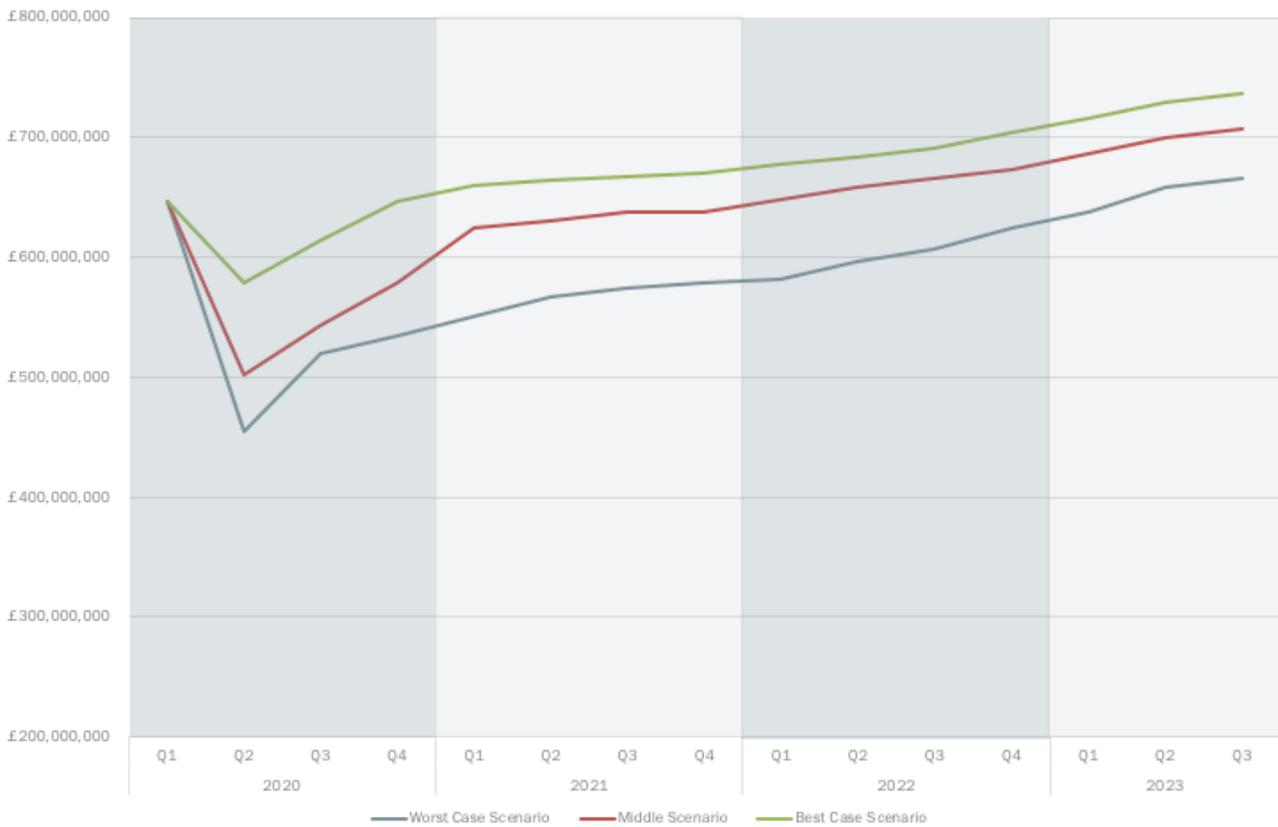


Figure 7.2: Total GVA Figures

Year	Quarter	Worst case scenario	Middle scenario	Best case Scenario
2020	Q1	£646,401,000	£646,401,000	£646,401,000
	Q2	£454,510,000	£502,170,000	£578,846,000
	Q3	£519,238,000	£543,144,500	£614,581,000
	Q4	£535,176,000	£578,640,750	£647,276,000
2021	Q1	£551,113,000	£623,971,500	£660,500,000
	Q2	£567,051,000	£630,916,000	£663,805,250
	Q3	£574,460,500	£637,865,000	£667,108,500
	Q4	£578,640,750	£637,865,000	£670,409,750
2022	Q1	£582,283,000	£648,286,000	£677,015,250
	Q2	£596,180,000	£658,708,000	£683,619,750
	Q3	£606,599,000	£665,655,000	£690,225,250
	Q4	£623,971,500	£673,710,000	£703,435,250
2023	Q1	£637,865,000	£686,920,000	£716,645,250
	Q2	£658,708,000	£700,130,000	£729,855,250
	Q3	£665,655,000	£706,738,500	£736,459,750

## 7.2 GVA by High-level Sector

7.2.1 The following tables show the GVA contribution for each of the five high-level sectors (as described in Section 1.2) under each of the three scenarios.

**Figure 7.3: GVA for the Primary & Production Sector**

The pre-Covid GVA value for this sector is approximately £21,250,000 per quarter.

Year	Quarter	Worst case scenario	Middle scenario	Best case Scenario
2020	Q1	£20,825,000	£20,825,000	£20,825,000
	Q2	£15,722,000	£17,435,000	£20,128,000
	Q3	£19,125,000	£19,762,500	£21,015,000
	Q4	£19,550,000	£20,718,750	£21,250,000
2021	Q1	£19,975,000	£21,037,500	£21,250,000
	Q2	£20,400,000	£21,073,000	£21,356,250
	Q3	£20,612,500	£21,108,000	£21,462,500
	Q4	£20,718,750	£21,108,000	£21,568,750
2022	Q1	£20,825,000	£21,161,000	£21,781,250
	Q2	£20,896,000	£21,215,000	£21,993,750
	Q3	£20,949,000	£21,250,000	£22,206,250
	Q4	£21,037,500	£21,675,000	£22,631,250
2023	Q1	£21,108,000	£22,100,000	£23,056,250
	Q2	£21,215,000	£22,525,000	£23,481,250
	Q3	£21,250,000	£22,737,500	£23,693,750

**Figure 7.4:GVA for the Manufacturing Sector**

The pre-Covid GVA value for this sector is approximately £204,500,000 per quarter.

Year	Quarter	Worst case scenario	Middle scenario	Best case Scenario
2020	Q1	£200,410,000	£200,410,000	£200,410,000
	Q2	£142,235,000	£157,738,000	£182,100,000
	Q3	£143,150,000	£149,285,000	£177,915,000
	Q4	£147,240,000	£158,488,000	£196,320,000
2021	Q1	£151,330,000	£184,050,000	£204,500,000
	Q2	£155,420,000	£188,140,000	£205,523,000
	Q3	£157,465,000	£192,230,000	£206,545,000
	Q4	£158,488,000	£192,230,000	£207,568,000
2022	Q1	£159,510,000	£198,365,000	£209,613,000
	Q2	£167,690,000	£204,500,000	£211,658,000
	Q3	£173,825,000	£208,590,000	£213,703,000
	Q4	£184,050,000	£208,590,000	£217,793,000
2023	Q1	£192,230,000	£212,680,000	£221,883,000
	Q2	£204,500,000	£216,770,000	£225,973,000
	Q3	£208,590,000	£218,815,000	£228,018,000

**Figure 7.5: GVA for the Construction, Retail & Transportation Sector**

The pre-Covid GVA value for this sector is approximately £125,250,000 per quarter.

Year	Quarter	Worst case scenario	Middle scenario	Best case Scenario
2020	Q1	£121,183,000	£121,183,000	£121,183,000
	Q2	£74,650,000	£82,787,000	£95,572,000
	Q3	£91,100,000	£97,250,000	£114,968,000
	Q4	£95,200,000	£106,326,000	£122,675,000
2021	Q1	£99,300,000	£116,908,000	£125,250,000
	Q2	£103,400,000	£118,476,000	£125,877,000
	Q3	£105,150,000	£120,044,000	£126,503,000
	Q4	£106,326,000	£120,044,000	£127,129,000
2022	Q1	£107,500,000	£122,395,000	£128,382,000
	Q2	£110,636,000	£124,747,000	£129,634,000
	Q3	£112,987,000	£126,315,000	£130,887,000
	Q4	£116,908,000	£127,755,000	£133,392,000
2023	Q1	£120,044,000	£130,260,000	£135,897,000
	Q2	£124,747,000	£132,765,000	£138,402,000
	Q3	£126,315,000	£134,018,000	£139,654,000

**Figure 7.6: GVA for the Private Services Sector**

The pre-Covid GVA value for this sector is approximately £208,500,000 per quarter.

Year	Quarter	Worst case scenario	Middle scenario	Best case Scenario
2020	Q1	£205,148,000	£205,148,000	£205,148,000
	Q2	£151,580,000	£168,102,000	£194,064,000
	Q3	£164,000,000	£175,243,000	£199,683,000
	Q4	£171,496,000	£192,108,000	£206,031,000
2021	Q1	£178,990,000	£200,976,000	£208,500,000
	Q2	£186,486,000	£202,227,000	£209,544,000
	Q3	£190,233,000	£203,483,000	£210,587,000
	Q4	£192,108,000	£203,483,000	£211,628,000
2022	Q1	£193,448,000	£205,365,000	£213,714,000
	Q2	£195,958,000	£207,246,000	£215,798,000
	Q3	£197,838,000	£208,500,000	£217,884,000
	Q4	£200,976,000	£212,670,000	£222,054,000
2023	Q1	£203,483,000	£216,840,000	£226,224,000
	Q2	£207,246,000	£221,010,000	£230,394,000
	Q3	£208,500,000	£223,097,000	£232,478,000

**Figure 7.7: GVA for the Public Services Sector**

The pre-Covid GVA value for this sector is approximately £101,000,000 per quarter.

Year	Quarter	Worst case scenario	Middle scenario	Best case Scenario
2020	Q1	£98,835,000	£98,835,000	£98,835,000
	Q2	£70,323,000	£76,108,000	£86,982,000
	Q3	£101,863,000	£101,604,000	£101,000,000
	Q4	£101,690,000	£101,000,000	£101,000,000
2021	Q1	£101,518,000	£101,000,000	£101,000,000
	Q2	£101,345,000	£101,000,000	£101,505,000
	Q3	£101,000,000	£101,000,000	£102,011,000
	Q4	£101,000,000	£101,000,000	£102,516,000
2022	Q1	£101,000,000	£101,000,000	£103,525,000

Year	Quarter	Worst case scenario	Middle scenario	Best case Scenario
	Q2	£101,000,000	£101,000,000	£104,536,000
	Q3	£101,000,000	£101,000,000	£105,545,000
	Q4	£101,000,000	£103,020,000	£107,565,000
2023	Q1	£101,000,000	£105,040,000	£109,585,000
	Q2	£101,000,000	£107,060,000	£111,605,000
	Q3	£101,000,000	£108,071,000	£112,616,000

## 7.3 Total Employment

7.3.1 Figure 7.8 below shows the change in total employment across the modelling period under each of the three scenarios. The latest data available (2018) shows that total employment for Stroud was approximately 57,100.

Figure 7.8: Total Employment (incl. Government Supported)



Figure 7.9: Total Employment (incl. Government Supported) and Redundancies

Year	Quarter	Worst case scenario		Middle scenario		Best case Scenario	
		Employed	Redundant	Employed	Redundant	Employed	Redundant
2020	Q1	57,100		57,100		57,100	
	Q2	55,800	1,300	53,300	3,700	56,000	1,100
	Q3	55,300	1,800	53,000	4,100	55,500	1,500
	Q4	50,200	6,900	53,700		56,500	
2021	Q1	47,900	9,200	54,200		57,000	
	Q2	48,900		54,800		57,200	
	Q3	49,600		55,300		57,500	
	Q4	50,000		55,300		58,000	
2022	Q1	50,200		56,300		58,600	

Year	Quarter	Worst case scenario		Middle scenario		Best case Scenario	
		Employed	Redundant	Employed	Redundant	Employed	Redundant
	Q2	51,100		56,900		59,200	
	Q3	52,000		57,300		59,700	
	Q4	53,000		58,200		60,800	
2023	Q1	54,000		59,400		61,800	
	Q2	55,500		60,600		63,100	
	Q3	55,800		61,100		63,700	

## 7.4 Employment by High-level Sector

7.4.1 The following tables show employment by each of the five high-level sectors (as described in Section 1.2) under each of the three scenarios.

**Figure 7.10: Employment in the Primary & Production Sector**

Pre-Covid employment in this sector was approximately 2,300

Year	Quarter	Worst case scenario		Middle scenario		Best case Scenario	
		Employed	Redundant	Employed	Redundant	Employed	Redundant
2020	Q1	2,300		2,300		2,300	
	Q2	2,300	20	2,300	50	2,300	10
	Q3	2,300	20	2,300	50	2,300	20
	Q4	2,200	90	2,300		2,300	
2021	Q1	2,200	50	2,300		2,300	
	Q2	2,200		2,300		2,300	
	Q3	2,300		2,300		2,400	
	Q4	2,300		2,300		2,400	
2022	Q1	2,300		2,300		2,400	
	Q2	2,300		2,300		2,400	
	Q3	2,300		2,300		2,400	
	Q4	2,300		2,400		2,500	
2023	Q1	2,300		2,400		2,500	
	Q2	2,300		2,500		2,600	
	Q3	2,300		2,500		2,600	

**Figure 7.11: Employment in the Manufacturing Sector**

Pre-Covid employment in this sector was approximately 10,900

Year	Quarter	Worst case scenario		Middle scenario		Best case Scenario	
		Employed	Redundant	Employed	Redundant	Employed	Redundant
2020	Q1	10,900		10,900		10,900	
	Q2	10,800	140	10,500	400	10,800	120
	Q3	10,700	190	10,500	450	10,700	160
	Q4	10,200	740	10,500		10,800	
2021	Q1	8,100	2,800	9,800		10,900	
	Q2	8,300		10,000		11,000	
	Q3	8,400		10,200		11,000	
	Q4	8,400		10,200		11,100	
2022	Q1	8,500		10,600		11,200	
	Q2	8,900		10,900		11,300	
	Q3	9,300		11,100		11,400	
	Q4	9,800		11,100		11,600	

Year	Quarter	Worst case scenario		Middle scenario		Best case Scenario	
		Employed	Redundant	Employed	Redundant	Employed	Redundant
2023	Q1	10,200		11,300		11,800	
	Q2	10,900		11,600		12,000	
	Q3	11,100		11,700		12,200	

**Figure 7.12: Employment in the Construction, Retail & Transport Sector**

Pre-Covid employment in this sector was approximately 14,200

Year	Quarter	Worst case scenario		Middle scenario		Best case Scenario	
		Employed	Redundant	Employed	Redundant	Employed	Redundant
2020	Q1	14,200		14,200		14,200	
	Q2	13,700	440	12,900	1,300	13,800	370
	Q3	13,600	580	12,800	1,400	13,700	510
	Q4	11,920	2,300	13,100		14,000	
2021	Q1	11,150	3,000	13,200		14,200	
	Q2	11,580		13,400		14,300	
	Q3	11,800		13,600		14,400	
	Q4	12,010		13,600		14,400	
2022	Q1	12,020		13,900		14,600	
	Q2	12,520		14,200		14,800	
	Q3	12,800		14,300		14,900	
	Q4	13,230		14,400		15,200	
2023	Q1	13,630		14,800		15,300	
	Q2	14,190		15,000		15,700	
	Q3	14,340		15,200		15,900	

**Figure 7.13: Employment in Private Services Sector**

Pre-Covid employment in this sector was approximately 16,900

Year	Quarter	Worst case scenario		Middle scenario		Best case Scenario	
		Employed	Redundant	Employed	Redundant	Employed	Redundant
2020	Q1	16,900		16,900		16,900	
	Q2	16,400	600	15,200	1,700	16,500	500
	Q3	16,200	780	15,000	1,900	16,200	700
	Q4	13,700	3,200	15,400		16,700	
2021	Q1	13,600	3,300	16,200		16,900	
	Q2	14,100		16,400		16,900	
	Q3	14,400		16,500		16,900	
	Q4	14,600		16,500		17,200	
2022	Q1	14,700		16,800		17,400	
	Q2	14,700		16,800		17,500	
	Q3	14,900		16,900		17,700	
	Q4	15,000		17,400		18,000	
2023	Q1	15,200		17,600		18,400	
	Q2	15,400		18,000		18,800	
	Q3	15,400		18,100		18,800	

**Figure 7.14: Employment in Public Services Sector**

Pre-Covid employment in this sector was approximately 12,700

Year	Quarter	Worst case scenario		Middle scenario		Best case Scenario	
		Employed	Redundant	Employed	Redundant	Employed	Redundant
2020	Q1	12,700		12,700		12,700	
	Q2	12,600	100	12,400	260	12,600	80
	Q3	12,500	120	12,400	290	12,600	110
	Q4	12,200	490	12,400		12,700	
2021	Q1	12,800		12,700		12,700	
	Q2	12,700		12,700		12,700	
	Q3	12,700		12,700		12,800	
	Q4	12,700		12,700		12,900	
2022	Q1	12,700		12,700		13,000	
	Q2	12,700		12,700		13,200	
	Q3	12,700		12,700		13,300	
	Q4	12,700		12,900		13,500	
2023	Q1	12,700		13,300		13,800	
	Q2	12,700		13,500		14,000	
	Q3	12,700		13,600		14,200	

## 8 Tewkesbury

8.0.1 This chapter sets out our modelling for the Borough of Tewkesbury.

8.0.2 Both GVA and employment are affected by the Coronavirus crisis, and variations across three scenarios are considered.

### Overview of GVA impact

8.0.3 Latest available data on GVA in Tewkesbury shows that before the crisis it was £2.7 billion per year, or £0.7 billion per quarter. Modelling the latest monthly GVA figures for the UK to the Tewkesbury economy shows that this fell slightly in Q1 of 2020 (January to March), to 98% of the pre-crisis level as the initial impact of Coronavirus was felt, with the UK-wide lockdown starting in the last week of March. In Q2 of 2020 (April to June) GVA is forecast to fall to its lowest level, of between £0.4 billion and £0.6 billion across the three scenarios i.e. between 70% and 89% of the pre-crisis level. The rate of recovery from this trough varies across the three scenarios. In the best-case scenario GVA returns to the pre-crisis level in Q1 of 2021, and then continues to grow steadily thereafter. In the middle scenario the recovery to pre-crisis level happens in Q3 2022 (July to September); and in the worst-case scenario it does not recover until Q3 of 2023.

### Overview of employment impact

8.0.4 Whilst there is normally a strong correlation between GVA and employment, this is decoupled during Q1 to Q4 2020 (i.e. late March to October 2020), because Government is providing support to maintain employment and support the self-employed even though businesses are suffering from a loss of trade, so GVA is falling. Whilst redundancies and job losses are still happening, the scale of these is much less than would be the case without Government support. Whilst GVA falls to between 70% and 89% of the pre-crisis level in Q2 2020, employment only falls to between 94% and 98% of pre-crisis levels (dependent on the scenario), with a loss of up to 8,600 jobs.

8.0.5 Employment initially falls fastest in the middle scenario, to 93% of the pre-crisis level in Q3 2020, a loss of 3,600 jobs, but it then starts to recover. It has recovered to the pre-crisis level in Q3 of 2022 and continues to grow thereafter. In the worst-case scenario employment falls more in Q4 2020 and Q1 2021, after Government support ceases, to 86% of the pre-crisis level, a loss of 8,600 jobs from the pre-crisis level of employment. Recovery is much slower, and only returns to the pre-crisis level in Q4 2023.

## 8.1 Total GVA

8.1.1 Figure 8.1 below shows the change in total GVA across the modelling period under each of the three scenarios. The latest data available (2018) shows that total GVA for Tewkesbury was approximately £664,250,000 per quarter.

Figure 8.1: Total GVA

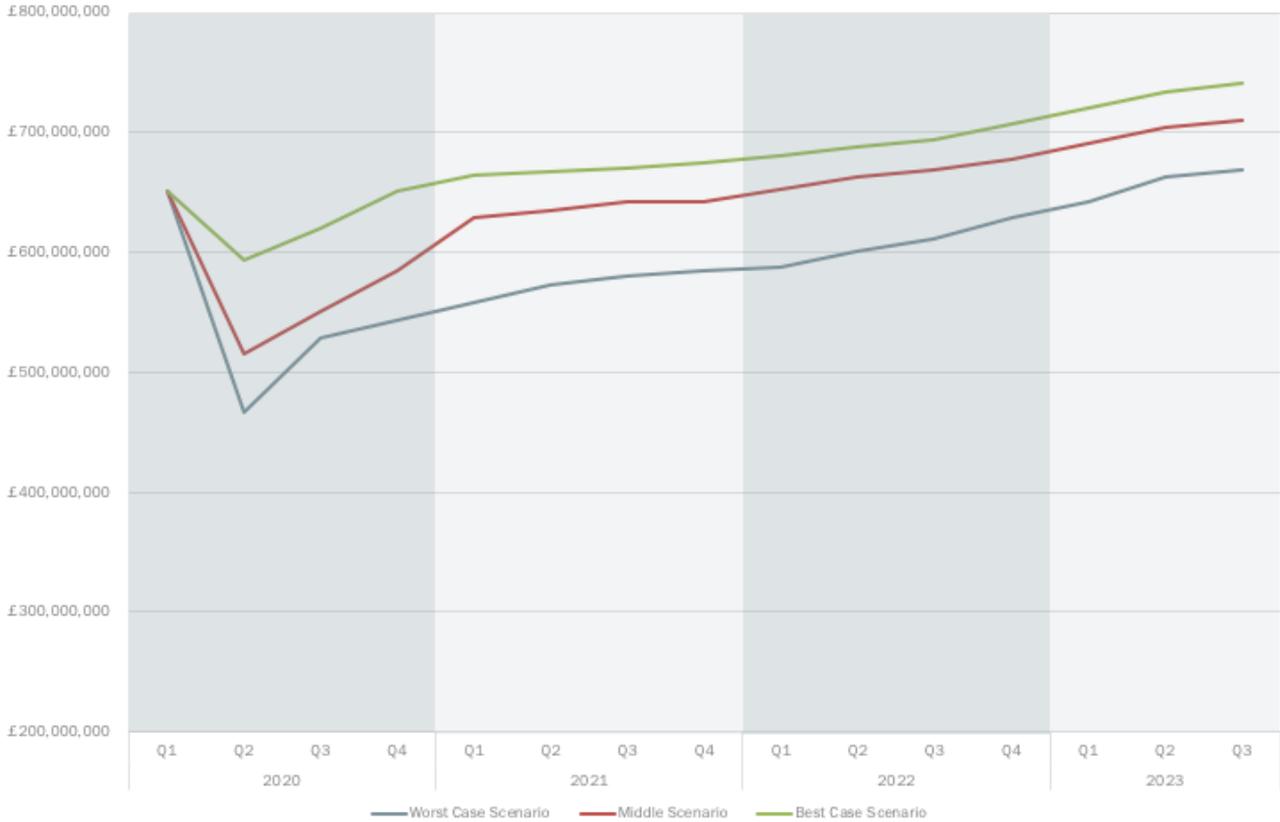


Figure 8.2: Total GVA Figures

Year	Quarter	Worst case scenario	Middle scenario	Best case Scenario
2020	Q1	£651,000,000	£651,000,000	£651,000,000
	Q2	£466,256,000	£514,925,000	£593,442,000
	Q3	£528,538,000	£551,012,500	£619,665,000
	Q4	£543,522,000	£584,314,250	£651,725,000
2021	Q1	£558,503,000	£628,553,500	£664,250,000
	Q2	£573,487,000	£635,317,000	£667,573,750
	Q3	£580,357,500	£642,087,000	£670,897,500
	Q4	£584,314,250	£642,087,000	£674,214,250
2022	Q1	£587,953,000	£652,233,000	£680,858,750
	Q2	£601,486,000	£662,383,000	£687,499,250
	Q3	£611,635,000	£669,151,000	£694,143,750
	Q4	£628,553,500	£677,535,000	£707,428,750
2023	Q1	£642,087,000	£690,820,000	£720,713,750
	Q2	£662,383,000	£704,105,000	£733,998,750
	Q3	£669,151,000	£710,752,500	£740,639,250

## 8.2 GVA by High-level Sector

8.2.1 The following tables show the GVA contribution for each of the five high-level sectors (as described in Section 1.2) under each of the three scenarios.

**Figure 8.3: GVA for the Primary & Production Sector**

The pre-Covid GVA value for this sector is approximately £17,750,000 per quarter.

Year	Quarter	Worst case scenario	Middle scenario	Best case Scenario
2020	Q1	£17,395,000	£17,395,000	£17,395,000
	Q2	£13,132,000	£14,564,000	£16,813,000
	Q3	£15,975,000	£16,507,500	£17,554,000
	Q4	£16,330,000	£17,306,250	£17,750,000
2021	Q1	£16,685,000	£17,572,500	£17,750,000
	Q2	£17,040,000	£17,602,000	£17,838,750
	Q3	£17,217,500	£17,632,000	£17,927,500
	Q4	£17,306,250	£17,632,000	£18,016,250
2022	Q1	£17,395,000	£17,676,000	£18,193,750
	Q2	£17,454,000	£17,720,000	£18,371,250
	Q3	£17,499,000	£17,750,000	£18,548,750
	Q4	£17,572,500	£18,105,000	£18,903,750
2023	Q1	£17,632,000	£18,460,000	£19,258,750
	Q2	£17,720,000	£18,815,000	£19,613,750
	Q3	£17,750,000	£18,992,500	£19,791,250

**Figure 8.4:GVA for the Manufacturing Sector**

The pre-Covid GVA value for this sector is approximately £172,500,000 per quarter.

Year	Quarter	Worst case scenario	Middle scenario	Best case Scenario
2020	Q1	£169,050,000	£169,050,000	£169,050,000
	Q2	£119,978,000	£133,056,000	£153,606,000
	Q3	£120,750,000	£125,925,000	£150,075,000
	Q4	£124,200,000	£133,688,000	£165,600,000
2021	Q1	£127,650,000	£155,250,000	£172,500,000
	Q2	£131,100,000	£158,700,000	£173,363,000
	Q3	£132,825,000	£162,150,000	£174,225,000
	Q4	£133,688,000	£162,150,000	£175,088,000
2022	Q1	£134,550,000	£167,325,000	£176,813,000
	Q2	£141,450,000	£172,500,000	£178,538,000
	Q3	£146,625,000	£175,950,000	£180,263,000
	Q4	£155,250,000	£175,950,000	£183,713,000
2023	Q1	£162,150,000	£179,400,000	£187,163,000
	Q2	£172,500,000	£182,850,000	£190,613,000
	Q3	£175,950,000	£184,575,000	£192,338,000

**Figure 8.5: GVA for the Construction, Retail & Transportation Sector**

The pre-Covid GVA value for this sector is approximately £145,500,000 per quarter.

Year	Quarter	Worst case scenario	Middle scenario	Best case Scenario
2020	Q1	£140,601,000	£140,601,000	£140,601,000
	Q2	£86,693,000	£96,143,000	£110,991,000
	Q3	£104,575,000	£111,532,000	£132,590,000
	Q4	£109,213,000	£121,804,000	£142,221,000
2021	Q1	£113,850,000	£135,037,000	£145,500,000
	Q2	£118,488,000	£137,022,000	£146,228,000
	Q3	£120,483,000	£139,009,000	£146,956,000
	Q4	£121,804,000	£139,009,000	£147,682,000
2022	Q1	£123,125,000	£141,986,000	£149,138,000
	Q2	£127,095,000	£144,964,000	£150,592,000
	Q3	£130,074,000	£146,951,000	£152,048,000
	Q4	£135,037,000	£148,410,000	£154,958,000
2023	Q1	£139,009,000	£151,320,000	£157,868,000
	Q2	£144,964,000	£154,230,000	£160,778,000
	Q3	£146,951,000	£155,686,000	£162,232,000

**Figure 8.6: GVA for the Private Services Sector**

The pre-Covid GVA value for this sector is approximately £243,750,000 per quarter.

Year	Quarter	Worst case scenario	Middle scenario	Best case Scenario
2020	Q1	£240,611,000	£240,611,000	£240,611,000
	Q2	£183,713,000	£203,737,000	£235,203,000
	Q3	£201,500,000	£211,607,000	£234,696,000
	Q4	£208,239,000	£226,766,000	£241,404,000
2021	Q1	£214,975,000	£235,944,000	£243,750,000
	Q2	£221,714,000	£237,243,000	£244,970,000
	Q3	£225,082,000	£238,546,000	£246,190,000
	Q4	£226,766,000	£238,546,000	£247,407,000
2022	Q1	£228,133,000	£240,496,000	£249,845,000
	Q2	£230,737,000	£242,449,000	£252,282,000
	Q3	£232,687,000	£243,750,000	£254,720,000
	Q4	£235,944,000	£248,625,000	£259,595,000
2023	Q1	£238,546,000	£253,500,000	£264,470,000
	Q2	£242,449,000	£258,375,000	£269,345,000
	Q3	£243,750,000	£260,815,000	£271,782,000

**Figure 8.7: GVA for the Public Services Sector**

The pre-Covid GVA value for this sector is approximately £84,750,000 per quarter.

Year	Quarter	Worst case scenario	Middle scenario	Best case Scenario
2020	Q1	£83,343,000	£83,343,000	£83,343,000
	Q2	£62,740,000	£67,425,000	£76,829,000
	Q3	£85,738,000	£85,441,000	£84,750,000
	Q4	£85,540,000	£84,750,000	£84,750,000
2021	Q1	£85,343,000	£84,750,000	£84,750,000
	Q2	£85,145,000	£84,750,000	£85,174,000
	Q3	£84,750,000	£84,750,000	£85,599,000
	Q4	£84,750,000	£84,750,000	£86,021,000
2022	Q1	£84,750,000	£84,750,000	£86,869,000

Year	Quarter	Worst case scenario	Middle scenario	Best case Scenario
	Q2	£84,750,000	£84,750,000	£87,716,000
	Q3	£84,750,000	£84,750,000	£88,564,000
	Q4	£84,750,000	£86,445,000	£90,259,000
2023	Q1	£84,750,000	£88,140,000	£91,954,000
	Q2	£84,750,000	£89,835,000	£93,649,000
	Q3	£84,750,000	£90,684,000	£94,496,000

### 8.3 Total Employment

8.3.1 Figure 8.8 below shows the change in total employment across the modelling period under each of the three scenarios. The latest data available (2018) shows that total employment for Tewkesbury was approximately 53,500.

Figure 8.8: Total Employment (incl. Government Supported)



Figure 8.9: Total Employment (incl. Government Supported) and Redundancies

Year	Quarter	Worst case scenario		Middle scenario		Best case Scenario	
		Employed	Redundant	Employed	Redundant	Employed	Redundant
2020	Q1	53,500		53,500		53,500	
	Q2	52,300	1,100	50,000	3,200	52,600	1,000
	Q3	52,200	1,500	49,900	3,600	52,200	1,300
	Q4	47,900	5,600	50,600		52,800	
2021	Q1	44,900	8,600	50,700		53,500	
	Q2	45,700		51,100		53,800	
	Q3	46,400		51,700		53,900	
	Q4	46,700		51,700		54,100	
2022	Q1	46,900		52,600		54,800	

Year	Quarter	Worst case scenario		Middle scenario		Best case Scenario	
	Q2	48,100		53,200		55,400	
	Q3	48,700		53,800		56,000	
	Q4	49,900		54,600		57,000	
2023	Q1	50,900		55,600		57,900	
	Q2	52,300		56,600		59,000	
	Q3	52,900		57,300		59,600	

## 8.4 Employment by High-level Sector

8.4.1 The following tables show employment by each of the five high-level sectors (as described in Section 1.2) under each of the three scenarios.

**Figure 8.10: Employment in the Primary & Production Sector**

Pre-Covid employment in this sector was approximately 1,200

Year	Quarter	Worst case scenario		Middle scenario		Best case Scenario	
		Employed	Redundant	Employed	Redundant	Employed	Redundant
2020	Q1	1,200		1,200		1,200	
	Q2	1,200	10	1,100	40	1,200	10
	Q3	1,200	20	1,100	50	1,200	20
	Q4	1,100	70	1,100		1,200	
2021	Q1	1,100		1,200		1,200	
	Q2	1,100		1,200		1,200	
	Q3	1,100		1,200		1,200	
	Q4	1,100		1,200		1,200	
2022	Q1	1,100		1,200		1,200	
	Q2	1,200		1,200		1,200	
	Q3	1,200		1,200		1,200	
	Q4	1,200		1,200		1,200	
2023	Q1	1,200		1,200		1,300	
	Q2	1,200		1,200		1,300	
	Q3	1,200		1,300		1,300	

**Figure 8.11: Employment in the Manufacturing Sector**

Pre-Covid employment in this sector was approximately 11,200

Year	Quarter	Worst case scenario		Middle scenario		Best case Scenario	
		Employed	Redundant	Employed	Redundant	Employed	Redundant
2020	Q1	11,200		11,200		11,200	
	Q2	11,100	130	10,800	360	11,100	110
	Q3	11,000	160	10,800	390	11,000	140
	Q4	10,600	600	10,900		11,100	
2021	Q1	8,300	2,900	10,100		11,200	
	Q2	8,500		10,300		11,200	
	Q3	8,600		10,500		11,300	
	Q4	8,700		10,500		11,300	
2022	Q1	8,700		10,800		11,500	
	Q2	9,200		11,200		11,600	
	Q3	9,500		11,400		11,700	
	Q4	10,100		11,400		11,900	
2023	Q1	10,500		11,600		12,100	

Year	Quarter	Worst case scenario		Middle scenario		Best case Scenario	
	Q2	11,200		11,800		12,300	
	Q3	11,400		12,000		12,500	

**Figure 8.12: Employment in the Construction, Retail & Transport Sector**

Pre-Covid employment in this sector was approximately 13,700

Year	Quarter	Worst case scenario		Middle scenario		Best case Scenario	
		Employed	Redundant	Employed	Redundant	Employed	Redundant
2020	Q1	13,700		13,700		13,700	
	Q2	13,300	390	12,600	1,100	13,400	330
	Q3	13,300	500	12,500	1,200	13,300	430
	Q4	11,800	1,900	12,800		13,500	
2021	Q1	10,690	1,110	12,700		13,700	
	Q2	11,130		12,900		13,800	
	Q3	11,350		13,100		13,800	
	Q4	11,470		13,100		14,000	
2022	Q1	11,580		13,400		14,100	
	Q2	12,010		13,600		14,200	
	Q3	12,320		13,800		14,400	
	Q4	12,680		14,000		14,700	
2023	Q1	13,120		14,200		14,800	
	Q2	13,620		14,600		15,100	
	Q3	13,790		14,700		15,300	

**Figure 8.13: Employment in Private Services Sector**

Pre-Covid employment in this sector was approximately 17,900

Year	Quarter	Worst case scenario		Middle scenario		Best case Scenario	
		Employed	Redundant	Employed	Redundant	Employed	Redundant
2020	Q1	17,900		17,900		17,900	
	Q2	17,300	530	16,200	1,500	17,500	450
	Q3	17,300	670	16,200	1,700	17,300	600
	Q4	15,300	2,600	16,500		17,500	
2021	Q1	15,200	2,700	17,200		17,900	
	Q2	15,500		17,200		18,000	
	Q3	15,800		17,400		18,000	
	Q4	15,900		17,400		18,000	
2022	Q1	16,000		17,700		18,300	
	Q2	16,200		17,700		18,500	
	Q3	16,200		17,900		18,700	
	Q4	16,400		18,300		19,000	
2023	Q1	16,600		18,600		19,400	
	Q2	16,800		18,900		19,800	
	Q3	17,000		19,100		19,900	

**Figure 8.14: Employment in Public Services Sector**

Pre-Covid employment in this sector was approximately 9,500

Year	Quarter	Worst case scenario		Middle scenario		Best case Scenario	
		Employed	Redundant	Employed	Redundant	Employed	Redundant
2020	Q1	9,500		9,500		9,500	
	Q2	9,400	80	9,300	230	9,400	70
	Q3	9,400	100	9,300	260	9,400	100
	Q4	9,100	390	9,300		9,500	0
2021	Q1	9,600		9,500		9,500	
	Q2	9,500		9,500		9,600	
	Q3	9,500		9,500		9,600	
	Q4	9,500		9,500		9,600	
2022	Q1	9,500		9,500		9,700	
	Q2	9,500		9,500		9,900	
	Q3	9,500		9,500		10,000	
	Q4	9,500		9,700		10,200	
2023	Q1	9,500		10,000		10,300	
	Q2	9,500		10,100		10,500	
	Q3	9,500		10,200		10,600	

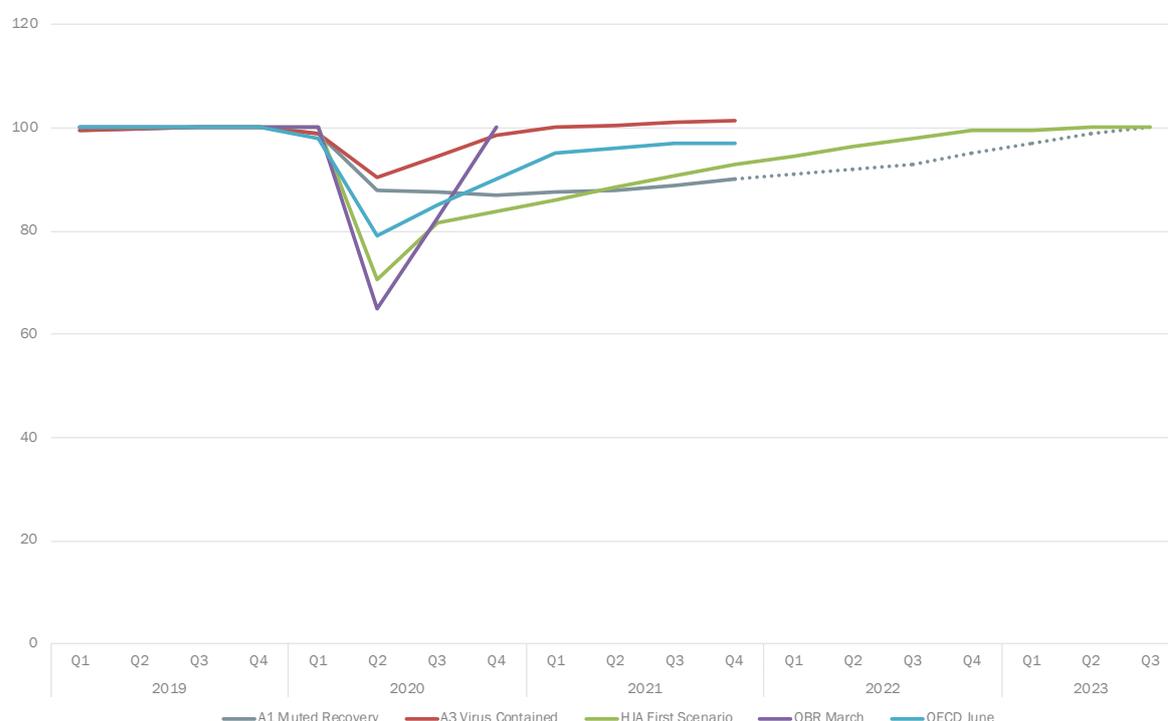
## Appendix One

This Appendix sets out the approach used to define the scenarios that have been modelled in this paper.

### Summary of Available Forecasts

The chart below shows several approaches to forecasting the changes to output as a result of the Coronavirus pandemic and associated lockdown measures. All scenarios agree that no significant changes happen until Q2 of 2020 (April-June), as the UK lockdown was imposed in the last week of Q1. The chart shows two scenarios produced by McKinsey<sup>4</sup>, one by the UK Government's Office of Budgetary Responsibility<sup>5</sup>, one by the OECD<sup>6</sup>, and HJA's initial forecast scenario. The figure below shows an overview of these scenarios.

**Figure 15: Projected changes to GVA/Output**



#### McKinsey-A1 Muted Recovery

This scenario is for the Eurozone as a whole and shows a decline of approximately 12% of GVA in Q2 of 2020 before reaching a nadir in Q4 2020. There is a slow recovery in GVA with marginal increases each quarter through 2021. A return to pre-Covid levels is not expected until Q3 (July-September) of 2023. We have projected out (dotted line) an estimate of the path between Q4 2021 and Q3 2023.

<sup>4</sup> Smit et al. (March 2020) Safeguarding Our Lives and Our Livelihoods: The Imperative of Our Time. Available at: <https://www.mckinsey.com/business-functions/strategy-and-corporate-finance/our-insights/safeguarding-our-lives-and-our-livelihoods-the-imperative-of-our-time#>

<sup>5</sup> Office for budget Responsibility (April 2020) Coronavirus Reference Scenario. Available at: <https://obr.uk/coronavirus-analysis/>

<sup>6</sup> OECD (2020) Employment Outlook

### McKinsey-A3 Virus Contained

This scenario is for the Eurozone as a whole and shows a decline of approximately 10% GVA in Q2 of 2020. This is projected to be the lowest point in the curve with a rapid recovery to pre-Covid levels seen by Q1 (January-March) 2021.

### OBR March

In March the Office for Budget Responsibility (OBR) published a baseline scenario for the UK which saw a 35% decline in output during Q2 2020 with a return to pre-Covid levels by Q4.

### OECD June

The Organisation for Economic Co-operation and Development (OECD) published a scenario for the UK which shows a maximum 20% decline in GVA in Q2 2020. This shows a reasonably rapid recovery over the following three quarters which then tapers off in the latter half of 2021. The scenario does not show when pre-Covid levels of output will be achieved.

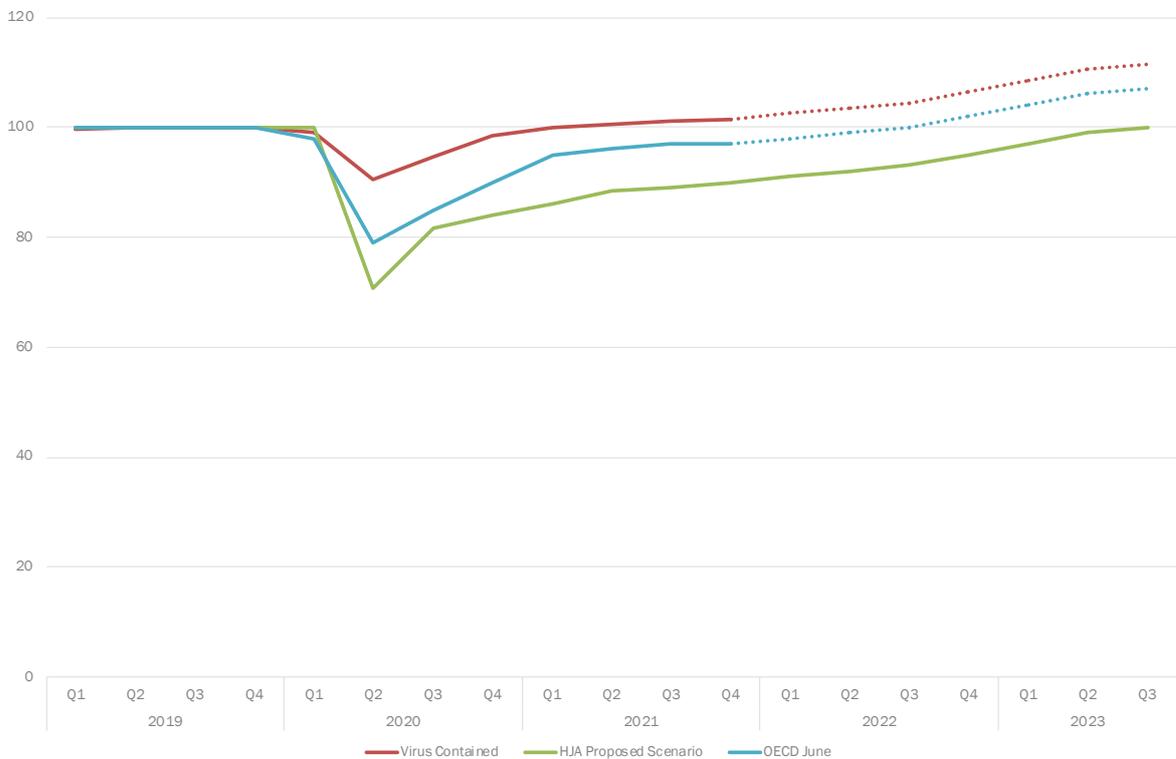
### HJA First Scenario

Our initial modelling shows a significant decline in Q2 beyond that seen in any model except the OBR. We then show a gradual growth in GVA until it reaches pre-Covid levels in Q2 2023.

## Agreed GVA Scenarios

The chart below shows three forecast scenarios for the path of GVA change up until Q3 2023. The choice of scenarios was agreed with GFirst LEP. All scenarios show no significant change until Q2 2020.

Figure 16: Proposed Scenarios for GVA/Output



### Scenario 1 – HJA Proposed (Worst Case Scenario)

This scenario builds on the first HJA forecast. This sees the largest decline in GVA as a result of the lockdown. The recovery has been adjusted from the original scenario to mirror the slightly more pessimistic recovery set out in the McKinsey ‘muted recovery’ scenario.

### Scenario 2 – OECD June (Middle Scenario)

This scenario is based on the latest available forecasting by the OECD, and so has been included due to the strength of its prediction. The scenario has been extended to Q3 2023 (shown by the dotted line) to increase in parallel with Scenario 1.

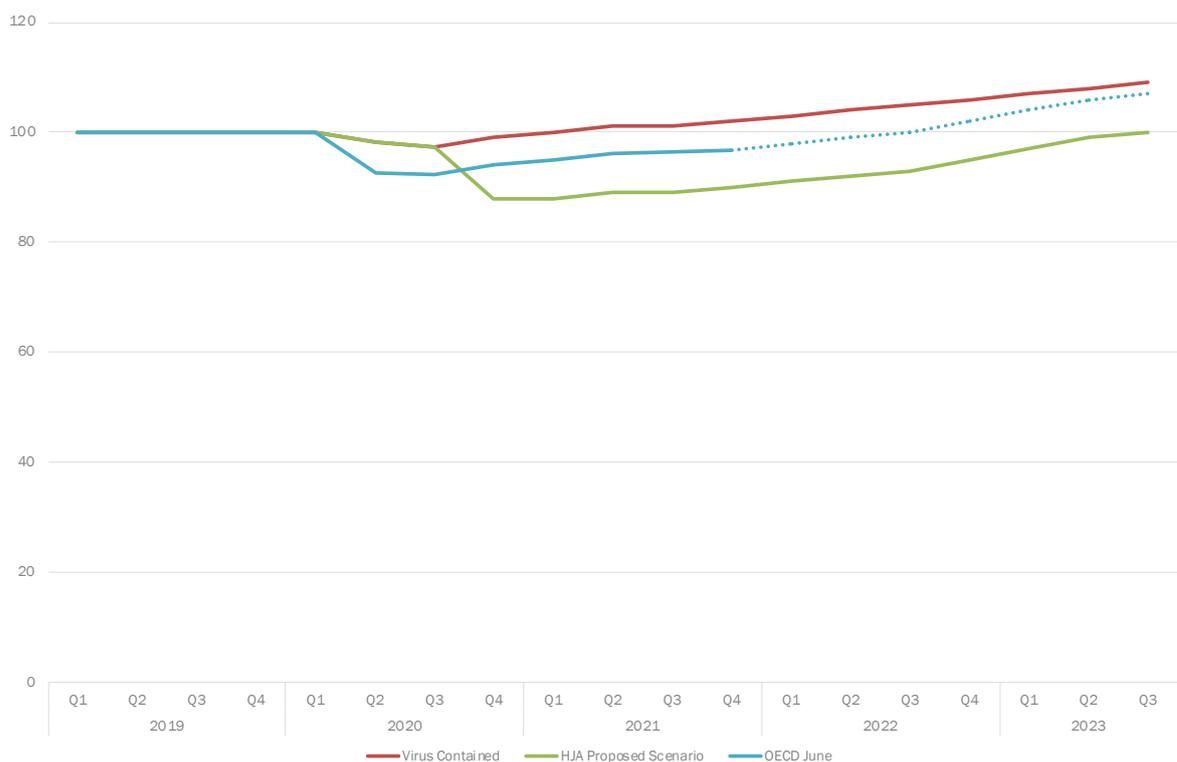
### Scenario 3- Virus Contained (Best Case Scenario)

This scenario follows the path proposed by McKinsey for a 10% decline in GVA in Q2 and a return to pre-Covid levels in Q1 2021. This scenario has been projected out in parallel with Scenario 1.

## Proposed Employment Scenarios

The chart below shows the path of employment for the same three scenarios detailed above. All changes in employment levels link to changes in GVA in each scenario to ensure GVA/worker figures are coherent at every stage.

Figure 17: Proposed Scenarios for Employment



### Scenario 1 – HJA Proposed (Worst Case Scenario)

This scenario shows a maximum decline of 12% in employment in Q4 2020 when the furlough scheme ends. There are some initial inefficiencies as social distancing measures impact productivity until Q3 2021. From here employment slowly increases in-line with GVA before returning to pre-Covid level in Q3 2023.

**Scenario 2 – OECD June (Middle Scenario)**

This scenario is based on OECD modelling of unemployment up until Q4 2021. After this point employment increases in-line with the GVA under this scenario (shown by the dotted line).

**Scenario 3- Virus Contained (Best Case Scenario)**

This scenario sees a small drop in employment before a return to pre-Covid employment in Q1 2021. Employment rises in-line with GVA until Q4 2022 where employment rises slower than GVA to reflect increases in productivity.