THE ECONOMIC IMPACT OF THE BEER AND BREWERY SECTOR IN THE UK

A REPORT FOR THE BRITISH BEER AND PUB ASSOCIATION (BBPA)

DECEMBER 2020

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EXECUTIVE SUMMARY

Oxford Economics were commissioned by the British Beer and Pub Association (BBPA) to estimate the economic impact of the beer and brewery sector in the UK. This executive summary sets out our key findings at a UK and regional level.

557,000 jobs

Jobs sustained through the activity of the beer and brewery sector in the UK.

The brewing of beer and the sale of beer through both the on- and off-trade channels provides significant economic benefits to the economy. Figure 1 shows the estimates of the direct, indirect and induced impacts associated with the beer and brewery sector across the UK. In total, beer and brewery activity sustained 556,700 jobs, £9.1 billion in wages and £19 billion of GVA across the UK economy.[1]

Fig. 1. Estimated benefits of the UK beer and brewery sector, 2018

UK	GVA (£m)	Employment	Wages (£m)
Direct	£8,701	372,900	£4,927
Indirect	£4,964	96,600	£2,271
Induced	£5,357	87,200	£1,929
UK	**£19,022**	**556,700**	**£9,127**

Source: ONS, BBPA, Oxford Economics

Note: May not add due to rounding

£19bn

GVA sustained

Total economic benefits were estimated to be largest in London, the South East and the North West.

THE BENEFITS ARE SHARED ACROSS THE UK'S REGIONS

In terms of GVA, employment and wages, the beer and brewery sector makes a significant contribution in every region of the UK. The sector's overall impacts are largest in London, the South East and the North West (Fig 2). In most cases the regional impacts area broadly comparable with population shares—although differentials in regional productivity and wages do result in differences across the country.

[1] Within this report the beer and brewery sector is defined as the manufacture of beer (breweries) and sale of beer within the on-trade and off-trade channels.

Fig. 2. Estimated benefits of the UK beer and brewery sector, 2018

	GVA (£m)	Employment	Wages (£m)
South East	£2,654	76,100	£1,335
London	£3,785	71,100	£1,631
East	£1,689	54,500	£832
South West	£1,515	54,000	£741
West Midlands	£1,823	49,000	£856
East Midlands	£1,184	41,400	£595
Yorkshire & The Humber	£1,398	52,000	£697
North West	£2,037	60,300	£999
North East	£580	19,400	£304
Wales	£721	27,800	£334
Scotland	£1,343	40,800	£657
Northern Ireland	£293	10,300	£146
UK	**£19,022**	**556,700**	**£9,127**

Source: ONS, BBPA, Oxford Economics

Note: May not add due to rounding

EACH SUB-COMPONENT MAKES AN IMPORTANT CONTRIBUTION

Our underlying analysis focused on estimating the direct, indirect and induced impacts at a regional level across the three core components of the beer and brewery sector:

- The brewing of beer;
- The proportion of activity in the on-trade that is attributable to the sale of beer; and
- The share of the off-trade that is dependent on beer sales.

Our analysis produces the following headline findings across the UK (which again includes the combined direct, indirect and induced impacts).[2]

- Activity in the **brewery** sub-sector has been estimated to sustain 98,200 jobs, £2.4 billion of wages and £5.6 billion of GVA;
- Activity associated with the **sale of beer in the on-trade** has been estimated to sustain 492,200 jobs, £7.5 billion of wages and £15.3 billion of GVA; and

[2] Summing the benefits of all three sub-components (breweries, on-trade, off-trade) will overestimate the indirect, induced and as a result, overall impacts. This is because the supply chains of the on- and off-trade sub-sectors contain a proportion of the brewery sub-sector and its supply chain. To arrive at the direct totals (for employment, GVA and wages), we sum those of the three sub-sectors. However, for the indirect and induced totals, we sum the on- and off-trade, and 12.8% of the breweries (accounting for exports share of total production). The remainder of the brewery's indirect and induced impacts will already be accounted for in the indirect and induced impacts from the other two sub-sectors.

- Beer **sales in the off-trade** sub-sector have been estimated to sustain 34,600 jobs, £727 million of wages and £1.7 billion of GVA.

BENEFITS ARE FELT ACROSS THE ECONOMY

Beer and brewery sector activity is estimated to have **directly** supported 372,900 jobs throughout the UK economy. Close to 80 percent of this direct employment (308,900 jobs) took place within the accommodation & food sector. Accommodation & food related employment was boosted by a further 22,700 jobs after considering the sector's wider supply chain (indirect) and consumer spending (induced) impacts. This sector was therefore beer and brewery's largest sectoral beneficiary—with 331,600 jobs and £6 billion in GVA supported in 2018 (Fig 3).[3]

The beer and brewery sector's also has significant impacts on the wholesale & retail and manufacturing sectors. Collectively, beer and brewery activity supported close to 100,000 jobs and £5.2 billion of GVA in these industries. Furthermore, most other areas of the economy enjoy some degree of uplift as a result of the beer and brewery sector's procurement and the consumer spending of those either directly or indirectly employed. These include 7,000 jobs in agriculture and over 54,000 jobs in sectors which commonly host a range of creative industries.[4] Business demographics and employment data suggest that small and medium sized businesses (SMEs) are relatively more likely to be supported by beer and brewery activity due to the characteristics of the sector, alongside the distribution of its economic benefits.

[3] GVA is a measure of the contribution an individual producer, industry, or sector makes to national GDP (which is equal to GVA plus taxes, minus subsides).
[4] Information & communication, professional services and the arts & entertainment sectors.

Fig. 3. Sectoral benefits of the UK beer and brewery sector, 2018

	GVA (£m)	Employment	Wages (£m)
Agriculture	£212	7,000	£146
Mining & quarrying	£36	500	£18
Manufacturing	£2,842	40,500	£1,169
Electricity, gas, steam	£303	1,700	£64
Water supply	£176	1,600	£51
Construction	£214	4,000	£121
Wholesale & retail	£2,326	58,500	£1,093
Transportation & storage	£532	12,000	£332
Accommodation & food	£5,968	331,600	£3,547
Information & comms	£472	5,500	£203
Financial & insurance	£637	5,500	£199
Real estate	£2,035	4,600	£115
Professional services	£836	17,500	£553
Administrative & support	£721	21,700	£437
Public admin	£73	1,200	£36
Education	£152	4,100	£96
Human health	£122	3,700	£80
Arts & entertainment	£1,198	31,300	£788
Other service activities	£167	4,200	£79
Total	**£19,022**	**556,700**	**£9,127**

Source: ONS, BBPA, Oxford Economics

Note: May not add due to rounding

BEER AND BREWERY ACTIVITY DRIVES SIGNIFICANT LEVELS OF INVESTMENT AND GOVERNMENT REVENUES…

The collective beer and brewery sector is estimated to have directly invested £1.5 billion in net capital expenditure (CapEx) across the UK. Investment levels are estimated to have been highest in London and the South East regions at £247 million and £229 million respectively. This is the result of both a comparatively large hospitality presence and relatively high CapEx/ GVA ratios in both regions.

Fig. 4. Net capital expenditure (CAPEX), UK regions, 2018

Source: ONS, Oxford Economics

Activity in the beer and brewery sector generates significant revenues towards the public purse. All three of its sub-components generate corporation tax, income tax and national insurance contributions (NIC). However, while the brewery component alone generates excise duty, it is the remaining elements (on-trade and off-trade) that generate value-added tax (VAT) and are liable for business rates (pubs specifically).

The sector is estimated to have generated £10.4 billion in total tax towards the Exchequer (from direct, indirect and induced activity streams)—Fig 5. This is made up of:

- £1 billion in corporation tax;
- £1.6 billion in income tax/ NIC;
- £3.6 billion in excise duty;
- £3.9 billion in VAT; and
- £306 million in business rates.

London and the North West are estimated to have generated the greatest shares of the sector's total tax bill—predominantly as a consequence of income tax/ NIC and excise duty contributions respectively.

Fig. 5. Total tax generated, Beer & brewery sector, UK regions, 2018

Beer & brewery sector	Total tax estimates (£m)					
	Corporation tax	Income tax/NIC	Excise duty	Value added tax (VAT)	Business rates	Total
South East	134	252	193	533	39	1,151
London	236	408	225	621	24	1,514
East	84	135	146	319	25	708
South West	81	93	70	332	31	608
West Midlands	84	147	618	315	27	1,191
East Midlands	59	88	379	247	25	797
Yorkshire & The Humber	66	97	599	304	29	1,095
North West	109	176	678	445	36	1,444
North East	29	47	5	130	13	224
Wales	37	40	500	205	20	801
Scotland	69	96	167	310	29	671
Northern Ireland	17	20	43	92	8	180
UK	**1,006**	**1,597**	**3,623**	**3,853**	**306**	**10,385**

Source: ONS, HMRC, BBPA, Oxford Economics

Note: Summing the benefits associated with breweries, on-trade sales and off-trade sales will overestimate the indirect and induced impacts and as a result, overall impacts.

1. INTRODUCTION

1.1 ABOUT THIS STUDY

Oxford Economics were commissioned in October 2020 by the British Beer and Pub Association (BBPA) to estimate the economic impact of the beer and brewery sector in the UK. This study considers the impact of UK breweries and the sale of beer throughout the on-trade (pubs, hotels, restaurants, sports/ social clubs) and off-trade channels. Our estimates of the impacts associated with the beer and brewery have been developed at the national, regional and sectoral levels.

The study estimates the impact of the beer and brewery sector using the latest available published data at the time of writing—supplemented with 2018 brewery and industry data provided by BBPA (see Annex for further details). This report sets out the key findings at the national and regional level.

1.2 REPORT STRUCTURE

This report takes the following structure:

- **Section 2: Impact of breweries:** presentation of the UK and regional estimates of the impacts associated with the manufacture of beer;
- **Section 3: Impact of beer sales in the on-trade:** lays out the UK and regional estimates of the beer related on-trade element;
- **Section 4: Impact of beer sales in the off-trade:** Presentation of the UK and regional estimates of the impacts of the beer related off-trade element;
- **Section 5: Impact of the overall beer and brewery sector:** Presentation of the UK and regional estimates of the total impacts associated with production and selling of beer;
- **Conclusion:** provides a summary of findings; and
- **Annex A – Modelling approach:** Setting out the methodology used to produce the economic impact assessment.

2. IMPACT OF BREWERIES

2.1 UK WIDE IMPACTS

Breweries in the UK directly provided 19,900 jobs with wages of £628 million and a gross valued added contribution to GDP (GVA) of £1.5 billion (Fig. 6). Using the latest UK input-output tables, we estimate that activity in the breweries sector supported indirect or supply chain GVA of £2.5 billion. After applying sectoral output and productivity data, we calculate that this level of activity equates to approximately 52,300 indirect jobs and £1.2 billion of wages.

Furthermore, we estimate that an additional 26,000 jobs are induced through the spending patterns of those directly and indirectly employed by beer breweries throughout the UK, with associated wages and GVA of £575 million and £1.6 billion respectively.

In total, we estimate that the 98,200 jobs, £2.4 billion of earnings and £5.6 billion of GVA are sustained in the UK economy from the direct, indirect and induced effects of beer breweries.

Fig. 6. Estimated benefits of breweries, UK, 2018

UK	GVA (£m)	Employment	Wages (£m)
Direct	1,495	19,900	628
Indirect	2,467	52,300	1,238
Induced	1,596	26,000	575
UK	**5,558**	**98,200**	**2,441**

Source: ONS, BBPA, Oxford Economics

Note: May not add due to rounding

2.2 SECTORAL IMPACTS

The economic benefits associated with breweries are concentrated within manufacturing sector due to direct activity belonging to this industry. In total, breweries support close to 30,900 manufacturing jobs across the UK, with an associated £917 million in wages and £2.2 billion in GVA. However, the wider benefits are spread across most areas of the UK economy.

Wholesale & retail and the agriculture sector are the largest beneficiaries of brewery activity outside of manufacturing. Breweries support close to 28,500 jobs across both sectors and they collectively account for 30 percent of the total employment benefit. This is a consequence of breweries' procurement spending and the subsequent indirect impacts that result across the UK.

Fig. 7. Sectoral benefits of breweries, UK, 2018

	GVA (£m)	Employment	Wages (£m)
Agriculture	347	11,400	238
Mining & quarrying	13	200	7
Manufacturing	2,207	30,900	917
Electricity, gas, steam	96	500	20
Water supply	58	500	17
Construction	64	1,200	36
Wholesale & retail	684	17,100	322
Transportation & storage	265	6,000	166
Accommodation & food	142	6,100	77
Information & comms	142	1,700	61
Financial & insurance	248	2,100	78
Real estate	531	1,200	30
Professional services	338	7,100	224
Administrative & support	228	6,900	138
Public admin	27	400	13
Education	50	1,400	32
Human health	37	1,100	24
Arts & entertainment	37	1,200	20
Other service activities	46	1,100	22
Total	**5,558**	**98,200**	**2,441**

Source: ONS, BBPA, Oxford Economics

Note: May not add due to rounding

2.3 REGIONAL IMPACTS

At a regional level, the West Midlands and Scotland enjoy a significant proportion of the direct GVA benefits, given the scale of brewery activity in these regions. Collectively these two regions are estimated to account for £390 million of direct GVA and £1.1 billion of total GVA. However, overall GVA benefits are higher in both London and the South East at £798 million and £667 million respectively.

The ratio of indirect benefits to direct benefits differs across the regions. This arises from the purchasing patterns of the sector and the location of the supply chain (i.e. the sectoral composition of employment across local economies influences the scale of indirect and induced impacts). In theory, an area with no brewery activity could experience considerable indirect benefits, if for example, it was to produce much of the inputs demanded by the sector.

Fig. 8. GVA benefits of breweries, UK regions, 2018

	GVA (£m)			
	Direct	Indirect	Induced	Total
South East	154	319	193	667
London	134	309	355	798
East	165	295	150	610
South West	126	187	146	459
West Midlands	199	272	161	632
East Midlands	128	192	94	414
Yorkshire & The Humber	154	232	108	495
North West	115	255	157	527
North East	43	71	49	163
Wales	70	87	53	211
Scotland	192	202	107	501
Northern Ireland	15	44	21	81
UK	1,495	2,467	1,596	5,558

Source: ONS, BBPA, Oxford Economics

In employment terms, the West Midlands and Scotland have the largest estimates of direct jobs in brewery activities (Fig. 9). Our analysis shows that brewery related supply chain spending from across the UK provides significant estimated indirect and induced jobs. This is most apparent in the North East and the South East which have experienced high indirect and induced employment, relative to their level of direct brewery employment. This is particularly the case in the South East, where the brewery sector sustains 12,100 jobs (joint highest with the West Midlands).

Fig. 9. Employment benefits of breweries, UK regions, 2018

	Employment			
	Direct	Indirect	Induced	Total
South East	1,800	7,000	3,200	12,100
London	1,500	4,200	3,000	8,800
East	2,000	6,600	2,700	11,200
South West	1,700	4,300	2,700	8,600
West Midlands	2,700	6,800	2,600	12,100
East Midlands	1,900	3,800	1,900	7,600
Yorkshire & The Humber	2,100	5,300	2,400	9,800
North West	1,700	5,700	3,000	10,300
North East	600	1,500	900	3,100
Wales	1,000	2,500	1,100	4,700
Scotland	2,600	3,700	2,000	8,300
Northern Ireland	300	900	500	1,600
UK	19,900	52,300	26,000	98,200

Source: ONS, BBPA, Oxford Economics

Note: May not add due to rounding

Regional average wage differences lead to regional wage impacts contrasting with that of employment. Although the West Midlands has the largest direct wage impacts associated with breweries, it falls behind that of both London and the South East in terms of total earnings sustained by brewery activity.

Total earnings supported by brewery activity is highest in the South East and London regions at an estimated £314 million and £296 million respectively—closely followed by the West Midlands with £292 million in wages sustained.

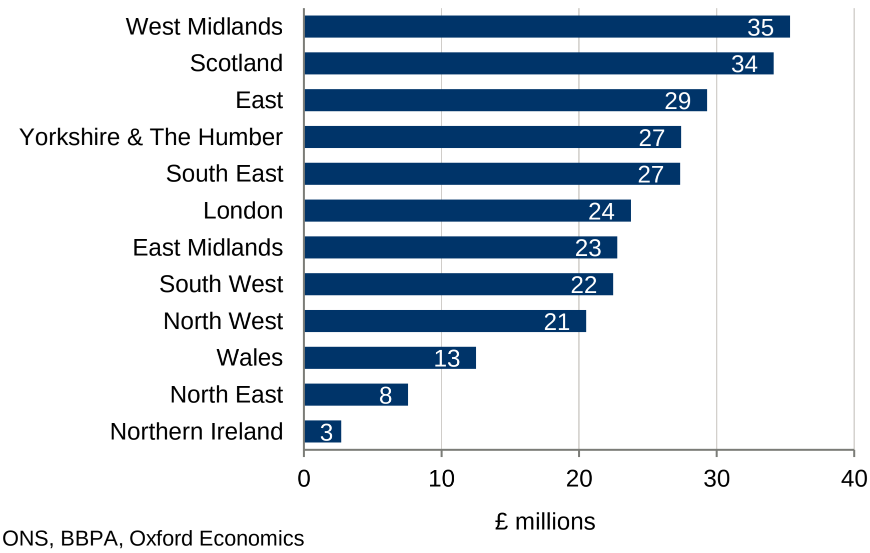
Fig. 10. Wages benefits of breweries, UK regions, 2018

	Wages (£m)			
	Direct	Indirect	Induced	Total
South East	64	173	77	314
London	56	144	96	296
East	69	157	59	286
South West	52	93	51	196
West Midlands	84	151	57	292
East Midlands	54	86	39	178
Yorkshire & The Humber	65	117	47	229
North West	48	128	61	237
North East	18	33	18	69
Wales	29	52	20	102
Scotland	82	88	40	209
Northern Ireland	6	16	9	32
UK	628	1,238	575	2,441

Source: ONS, BBPA, Oxford Economics

Oxford Economics estimates of net capital expenditure (CapEx) utilise the ratio of direct capital expenditure to direct GVA at the regional level from the most recent Annual Business Survey. UK breweries are estimated to have spent £266 million in net capital investment throughout 2018. The West Midlands and Scotland recorded the highest levels of net investment at £35 million and £34 million respectively, collectively accounting for a quarter of the UK total.

Fig. 11. Net capital expenditure (CapEx) by breweries, UK regions, 2018



Source: ONS, BBPA, Oxford Economics

The final stage of our analysis included the estimation of taxes generated by the sector. The brewery sector is estimated to have generated £3.9 billion of direct taxes, including £91 million in corporation tax, £196 million in income tax and national insurances contributions (NIC) and £3.6 billion in excise duty.[5] This total rises to £4.7 billion in tax revenue when the indirect and induced impacts are also considered—see Fig 12. The North West region is estimated to have generated the highest amount of tax associated with brewery activity at £776 million and is closely followed by the West Midlands with £737 million in revenues contributed towards the public purse.

Fig. 12. Tax revenue generated by breweries, UK regions, 2018

	Total tax estimates (£m)			
	Corporation tax	Income tax/ NIC	Excise duty	Total
South East	43	89	193	326
London	63	96	225	384
East	39	80	146	265
South West	32	51	70	153
West Midlands	41	79	618	737
East Midlands	29	47	379	454
Yorkshire & The Humber	32	61	599	692
North West	36	62	678	776
North East	12	17	5	34
Wales	13	25	500	538
Scotland	35	57	167	258
Northern Ireland	6	7	43	56
UK	**379**	**670**	**3,623**	**4,673**

Source: ONS, HMRC, BBPA, Oxford Economics

[5] The terms ‘direct tax’ and ‘indirect tax’ are used in the same sense as ‘direct employment’ and ‘indirect employment’ rather than in the normal sense of distinguishing between a tax on a person or property rather than a tax on a transaction.

3. IMPACT OF BEER SALES IN THE ON-TRADE

3.1 UK WIDE IMPACTS

The estimates in this section use beer sales volumes from the latest BBPA Statistical Handbook and published ONS sectoral data. Data from the statistical handbook reveals that UK households spent £13.7 billion on beer within the on-trade in 2018. This information is then combined with CGA Strategy data which links on-trade sales to the outlet type were consumption takes place. Given average price and sales volumes we arrive at estimates specific to beer related activity within the main sectors which constitute the UK on-trade—namely pubs, hotels, restaurants and sports/ social clubs.

Scaling this performance data, we estimate that the sale of beer within the on-trade directly supported 333,800 jobs, £3.9 billion in wages and £6.4 billion of GVA in the UK (Fig. 13).

Fig. 13. Estimated benefits of beer related on-trade, UK, 2018

UK	GVA (£m)	Employment	Wages (£m)
Direct	6,446	333,800	3,943
Indirect	4,249	82,600	1,922
Induced	4,654	75,800	1,676
UK	**15,349**	**492,200**	**7,541**

Source: ONS, BBPA, Oxford Economics

Note: May not add due to rounding

We estimate that through supply chain spending this level of activity would sustain or create a further 82,600 jobs with £1.9 billion of wages and £4.2 billion of GVA. Furthermore, through the spending of direct and indirect earnings within the consumer economy, an additional 75,800 induced jobs could be sustained in the wider economy, generating £1.7 billion of wages and creating £4.7 billion of induced GVA.

Overall, the sale of beer in the on-trade across the UK was estimated to sustain 492,200 jobs, £7.5 billion of wages and £15.3 billion of GVA.

3.2 SECTORAL IMPACTS

The economic benefits associated with the sale of beer in the on-trade are concentrated within the accommodation & food sector—a consequence of most sales taking place within the UK's pubs, hotels and restaurants. In total, the sales of beer with the on-trade supported 329,300 hospitality related jobs across the UK, with an associated £3.5 billion in wages and £5.9 billion in GVA. Relatively low productivity within the sector means that although accommodation & food accounts for a relatively large share of the employment benefits, the GVA and earnings impacts are more widely spread.

Outside of hospitality, employment impacts are largest within the wholesale & retail and arts & entertainment sectors (34,200 and 30,800 jobs respectively). Manufacturing is another key beneficiary via indirect procurement spending, supporting 18,100 jobs and over £1.1 billion of GVA. However, this is surpassed by the combined benefits accrued within the professional services and administrative & support sectors. The sale of beer within the on-trade supported over 33,000 jobs and £1.3 billion of GVA across these two sectors.

Fig. 14. Sectoral benefits of beer related on-trade, UK, 2018

	GVA (£m)	Employment	Wages (£m)
Agriculture	162	5,300	112
Mining & quarrying	31	400	16
Manufacturing	1,184	18,100	473
Electricity, gas, steam	269	1,500	57
Water supply	157	1,500	45
Construction	180	3,400	102
Wholesale & retail	1,366	34,200	643
Transportation & storage	400	9,000	250
Accommodation & food	5,915	329,300	3,518
Information & comms	403	4,700	173
Financial & insurance	547	4,700	171
Real estate	1,770	4,000	100
Professional services	707	14,800	468
Administrative & support	628	18,900	381
Public admin	62	1,000	30
Education	132	3,600	84
Human health	106	3,200	69
Arts & entertainment	1,183	30,800	779
Other service activities	147	3,700	69
Total	**15,349**	**492,200**	**7,541**

Source: ONS, BBPA, Oxford Economics

Note: May not add due to rounding

3.3 REGIONAL IMPACTS

Although regional multipliers are notably lower than that of the brewery sector, they are more consistent across the different UK regions (GVA multipliers range from 2.1 to 2.6). Estimated direct GVA associated with the sale of beer broadly reflects regional population shares with the exception of London—which benefits from the strength of its hospitality industry. Consequently, London experiences the highest level of indirect and induced benefits, an as a result, the largest share of total GVA of any region at £3.2 billion.

Fig. 15. GVA benefits of beer related on-trade, UK regions, 2018

	GVA (£m)			
	Direct	Indirect	Induced	Total
South East	964	587	623	2,173
London	1,296	804	1,108	3,208
East	502	411	399	1,312
South West	512	298	416	1,226
West Midlands	640	385	402	1,426
East Midlands	353	305	258	916
Yorkshire & The Humber	452	341	299	1,091
North West	706	487	495	1,689
North East	217	119	146	481
Wales	283	142	161	586
Scotland	432	295	282	1,009
Northern Ireland	90	76	66	232
UK	**6,446**	**4,249**	**4,654**	**15,349**

Source: ONS, BBPA, Oxford Economics

Note: May not add due to rounding

Employment multipliers for the sale of beer within the on-trade ranged from 1.4 to 1.6 and are therefore smaller than that of GVA but vary less across regions. The South East provides the largest direct employment (46,400 jobs) and total employment (68,000 jobs), closely followed by London and the North West.

Fig. 16. Employment benefits of beer related on-trade, UK regions, 2018

	Employment			
	Direct	Indirect	Induced	Total
South East	46,400	11,200	10,300	68,000
London	42,800	10,700	10,200	63,800
East	31,700	8,900	7,200	47,800
South West	34,600	6,500	7,600	48,600
West Midlands	26,900	8,300	6,700	41,900
East Midlands	24,900	6,200	5,300	36,300
Yorkshire & The Humber	31,700	7,800	6,500	46,000
North West	33,500	10,400	9,300	53,300
North East	12,000	2,600	2,700	17,300
Wales	18,400	3,300	3,300	25,000
Scotland	24,700	5,300	5,200	35,100
Northern Ireland	6,200	1,400	1,400	9,000
UK	**333,800**	**82,600**	**75,800**	**492,200**

Source: ONS, BBPA, Oxford Economics

Note: May not add due to rounding

Average wages in the sector reflect the relatively high incidences of part-time working arrangements and shift working. At the regional level, average direct wages range from £8,200 (Wales) to £17,700 (London). In comparison, the UK average direct wage for the on-trade element was £11,800. The differences across regions reflect the disparities in living costs and the associated costs of doing business more generally.

Fig. 17. Wage benefits of beer related on-trade, UK regions, 2018

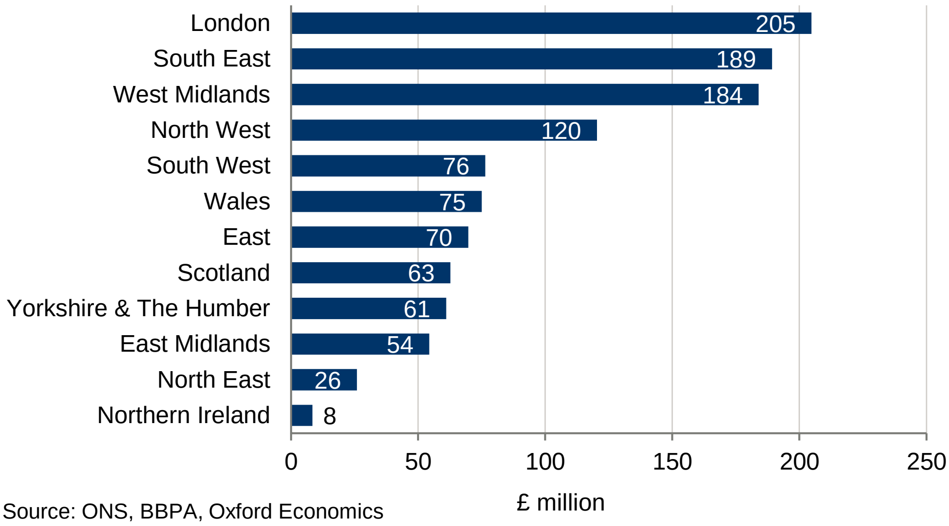
	Wages (£m)			
	Direct	Indirect	Induced	Total
South East	601	276	240	1,118
London	758	337	315	1,409
East	293	207	160	660
South West	340	134	145	619
West Midlands	353	185	145	682
East Midlands	239	132	105	477
Yorkshire & The Humber	263	164	130	558
North West	429	226	190	845
North East	155	53	53	262
Wales	151	64	61	275
Scotland	293	116	106	515
Northern Ireland	68	27	26	121
UK	**3,943**	**1,922**	**1,676**	**7,541**

Source: ONS, BBPA, Oxford Economics

Note: May not add due to rounding

The sale of beer in the on-trade (pubs, hotels, restaurants and sport clubs) is estimated to have contributed £1.1 billion in net capital expenditure throughout the UK. London, the South East and the West Midlands are estimated to have contributed the greatest share—accounting for over half the national total between them

Fig. 18. Net capital expenditure (CapEx), UK regions, 2018



Source: ONS, BBPA, Oxford Economics

The beer related on-trade is estimated to have generated £3.6 billion through direct taxes. This figure includes four categories: corporation tax (£146 million), income tax/ NIC (£409 million), VAT (£2.7 billion) and business rates (£306 million).[6] However, the total tax impact increases further to £5.4 billion after we include revenues associated with indirect and induced activity (Fig. 19). In line with our findings throughout this section—London and the South East contribute the largest share of the total tax figure (32 percent collectively)—a reflection of the overall strength of the hospitality sectors in these regions.

[6] Business rates associated with the pub component of the on-trade only.

Fig. 19. Tax revenue generated by beer related on-trade, UK regions, 2018

	Total tax estimates (£m)				
	Corporation tax	Income tax/NIC	Value added tax (VAT)	Business rates	Total
South East	110	208	380	39	736
London	199	356	419	24	998
East	69	106	236	25	436
South West	68	76	267	31	443
West Midlands	69	122	232	27	450
East Midlands	48	71	187	25	331
Yorkshire & The Humber	55	78	244	29	406
North West	91	150	341	36	618
North East	25	41	109	13	189
Wales	31	33	176	20	261
Scotland	57	80	248	29	414
Northern Ireland	14	16	60	8	97
UK	**836**	**1,336**	**2,901**	**306**	**5,380**

Source: ONS, HMRC, BBPA, Oxford Economics

4. IMPACT OF BEER SALES IN THE OFF-TRADE

4.1 UK WIDE IMPACTS

The estimates in this section use beer sales volumes data available within the BBPA Statistical Handbook 2020 combined with published ONS data. Information within the Statistical Handbook shows that 54 percent of total UK beer sales occur within the off-trade channel. This share has risen almost every year since 1980, leading to off-trade beer sales overtaking those in the on-trade in 2015.

Using the average price of beer in the off-trade and the volume of beer sold, we estimate that associated consumer spending equates to £5.7 billion, or 0.4 percent of overall turnover in the wholesale & retail sector. By combining this data with ONS published data, we estimate that the beer related off-trade directly supports 19,300 jobs, £356 million of wages and £760 million of GVA across the UK (Fig. 20).

Fig. 20. Estimated benefits of beer related off-trade, UK, 2018

UK	GVA (£m)	Employment	Wages (£m)
Direct	760	19,300	356
Indirect	399	7,200	191
Induced	498	8,100	179
UK	**1,658**	**34,600**	**727**

Source: ONS, BBPA, Oxford Economics

Note: May not add due to rounding

Using the latest UK input-output tables, the indirect GVA of the beer related off-trade's supply chain is estimated to be £399 million. Given sectoral productivity levels, this level of indirect GVA translates to 7,200 jobs throughout the supply chain, sustaining wages of £191 million.

Furthermore, the spending of both the direct and indirect wages will induce further economic benefits within the economy. We have estimated this impact at 8,100 jobs and £179 million of wages. Given productivity levels across the UK regions, this translates to a further £498 million of induced GVA.

Overall, beer sales in the off-trade are estimated to sustain 34,600 jobs, £727 million of wages and £1.7 billion of GVA in the UK.

4.2 SECTORAL IMPACTS

The economic benefits associated with the sale of beer in the off-trade are concentrated within the wholesale & retail sector—which hosts the direct activity. The sector therefore supports the 19,300 direct jobs, which increases further to a total of 22,100 jobs after we consider the wider indirect and induced impacts. This level of employment supports £409 million in wages throughout the wholesale & retail sector and £873 million of GVA.

The next largest employment benefits are found within the transportation & storage sector. In total, the sale of beer in the off-trade is estimated to support 2,200 jobs within this sector—highlighting the importance of logistics and distribution to beer sales within this channel. The hospitality sector (1,500 jobs and professional services (1,800 jobs) also enjoy a notably uplift. However, relatively higher average earnings in the professional services lead to the sector recording a relatively stronger value added and wages impact overall.

Fig. 21. Sectoral benefits of beer related off-trade, UK, 2018

	GVA (£m)	Employment	Wages (£m)
Agriculture	5	200	4
Mining & quarrying	3	0	2
Manufacturing	72	1,100	31
Electricity, gas, steam	22	100	5
Water supply	11	100	3
Construction	25	500	14
Wholesale & retail	873	22,100	409
Transportation & storage	98	2,200	61
Accommodation & food	35	1,500	19
Information & comms	51	600	22
Financial & insurance	58	500	18
Real estate	197	400	11
Professional services	86	1,800	57
Administrative & support	63	1,900	38
Public admin	8	100	4
Education	14	400	9
Human health	11	300	7
Arts & entertainment	11	400	6
Other service activities	14	300	7
Total	**1,658**	**34,600**	**727**

Source: ONS, BBPA, Oxford Economics

Note: May not add due to rounding

4.3 REGIONAL IMPACTS

Estimated direct GVA in the beer related off-trade again broadly reflects regional population shares. The main outlier is London—likely a reflection of the increases cost of living and doing business within the region. While the region represents 13 percent of the UK population, it is estimated to account for around a fifth of the UK's direct GVA associated with the sale of beer through the off-trade. After this the South East and the North West rank in second and third place in terms of both direct and total GVA (Fig 22.). The North East recorded the highest GVA multiplier of any UK region at 2.4 (meaning that for every £1 million of direct GVA produced in the off-trade, a further £1.4 million of additional GVA is created in the wider regional economy through indirect and induced spending).

Fig. 22. GVA benefits of beer related off-trade, UK regions, 2018

	GVA (£m)			
	Direct	Indirect	Induced	Total
South East	130	64	68	261
London	150	93	116	359
East	70	40	45	155
South West	53	25	42	121
West Midlands	65	34	43	142
East Midlands	50	23	30	103
Yorkshire & The Humber	50	27	32	109
North West	82	44	54	180
North East	17	9	14	40
Wales	23	9	16	47
Scotland	48	24	30	103
Northern Ireland	24	5	8	38
UK	760	399	498	1,658

Source: ONS, BBPA, Oxford Economics

Figure 23 below shows the direct, indirect and induced employment impacts associated with sale of beer via the off-trade in each of the 12 UK regions. The employment multipliers remain broadly consistent across the regions, though collectively they are higher than the on-trade equivalents. The same three regions which enjoyed the largest amounts of direct and total GVA also generate the largest amount of direct and total employment—namely, the South East, London and the North West.

Fig. 23. Employment benefits of beer related off-trade, UK regions, 2018

	Employment			
	Direct	Indirect	Induced	Total
South East	2,800	1,100	1,100	5,000
London	2,700	1,100	1,100	4,900
East	1,800	900	800	3,500
South West	1,600	500	800	2,800
West Midlands	1,700	700	700	3,200
East Midlands	1,400	500	600	2,500
Yorkshire & The Humber	1,500	600	700	2,800
North West	2,400	900	1,000	4,300
North East	600	200	300	1,100
Wales	700	200	300	1,200
Scotland	1,400	400	600	2,400
Northern Ireland	500	100	200	800
UK	19,300	7,200	8,100	34,600

Source: ONS, BBPA, Oxford Economics

Note: May not add due to rounding

The distribution of earnings generated by the sale of beer within the off-trade broadly reflects the employment numbers and regional wage differentials. Therefore, London and the South East record the largest levels of both direct and overall wages. Indeed, the average direct wage in London's off-trade stood at £23,600—significantly higher than the North East, the lowest amongst the UK regions, where the average worker earnt £12,800.

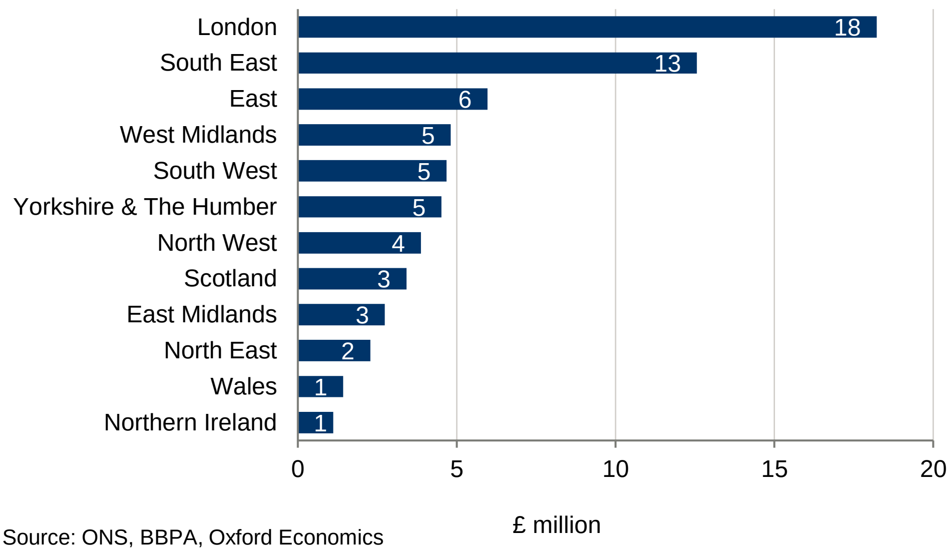
Fig. 24. Wage benefits of beer related off-trade, UK regions, 2018

	Wages (£m)			
	Direct	Indirect	Induced	Total
South East	65	31	26	121
London	64	38	33	135
East	35	22	18	75
South West	25	11	15	52
West Midlands	30	17	15	62
East Midlands	24	12	12	48
Yorkshire & The Humber	25	15	14	54
North West	38	23	21	82
North East	8	4	5	18
Wales	10	4	6	20
Scotland	22	11	11	44
Northern Ireland	10	2	3	15
UK	356	191	179	727

Source: ONS, BBPA, Oxford Economics

The sale of beer in the off-trade retail sector is estimated to have generated £66 million in net capital expenditure. Figure 25 shows that London contributed the largest share of the UK total (£18 million), closely followed by the South East with £13 million of net investment within the sector.

Fig. 25. Net capital expenditure (CapEx), UK regions, 2018



Source: ONS, BBPA, Oxford Economics

The beer related off-trade sector is estimated to have generated £1.06 billion of direct tax, comprising £53 million of corporation tax, £76 million in income tax/NIC and £931 million in VAT. After accounting for indirect and induced taxes, this sub-sector is estimated to have generated £1.25 billion in total taxes, including £121 million in corporation tax, £175 million in income tax/ NIC and £952 million in VAT (Fig. 26). London and the South East generated the largest levels of tax revenue, due in part to those regions enjoying the largest level of activity across the beer related off-trade.

Fig. 26. Tax revenue generated by beer related off-trade, UK regions, 2018

	Total tax estimates (£m)			
	Corporation tax	Income tax/NIC	Value added tax (VAT)	Total
South East	18	33	153	204
London	29	40	202	270
East	10	18	83	112
South West	9	11	65	85
West Midlands	10	14	83	107
East Midlands	7	11	59	77
Yorkshire & The Humber	7	12	59	78
North West	13	18	104	134
North East	3	3	21	27
Wales	4	4	29	36
Scotland	8	9	61	78
Northern Ireland	3	3	33	39
UK	**121**	**175**	**952**	**1,249**

Source: ONS, HMRC, BBPA, Oxford Economics

5. IMPACT OF THE OVERALL BEER AND BREWERY SECTOR

5.1 INTRODUCTION

This section of the report takes the estimates outlined in the preceding sections and calculates the total economic impact arising from the beer and brewery sector in the UK and across its regions. Simply summing the respective benefits of all three sub-components (breweries and the sale of beer via the on-trade and off-trade elements) will overestimate the indirect, induced and as a result, overall impacts. This is a consequence of the supply chain within the on-trade and off-trade elements containing a proportion of brewery sector and its own supply chain, therefore summing all three together would result in the double counting of some of the impacts.

Given the above, we have a adopted the following approach to calculate the total impacts for GVA, employment, wages and tax:

- **Direct impacts:** Calculated by summing the direct impacts associated with the three core elements of the beer and brewery activity.
- **Indirect impacts:** Total indirect impacts are calculated by summing those associated with the sale of beer in the on-trade and off-trade, alongside 13 percent of the indirect impacts from breweries (as the BBPA Statistical Handbook shows that the exports account for 13% of the sector's total production). The remainder of the brewery element's indirect impacts will already be accounted for in the indirect estimates from the other two elements.
- **Induced impacts:** Total induced impacts are calculated by summing those associated with the sale of beer in the on-trade and off-trade, alongside 13 percent of the induced impacts from breweries (as the BBPA Statistical Handbook shows that the exports account for 13% of the sector's total production). The remainder of the brewery element's induced impacts will already be accounted for in the induced estimates from the other two elements.[7]

5.2 UK WIDE IMPACTS

We estimate that the beer and brewery sector in the UK produced total direct impacts of 372,900 jobs with £4.9 billion of associated wages and £8.7 billion of GVA. Through supply chain spending, beer and brewery activity is estimated to create 96,600 additional indirect jobs, £2.3 billion of wages and £5 billion of GVA. This level of indirect benefits combines with our direct estimates to induce a further 87,200 jobs, £1.9 billion of wages and £5.4 billion of GVA in the wider economy.

[7] All of the breweries' excise duty will be included in total tax estimates associated with the beer and brewery sector because breweries alone generate this form of tax and therefore it won't be double counted.

Overall, beer and brewery activity is estimated to have sustained 556,700 jobs, £9.1 billion of wages and £19 billion of GVA across the UK economy from direct, indirect and induced effects.

Fig. 27. Estimated benefits of the beer & brewery sector, UK, 2018

UK	GVA (£m)	Employment	Wages (£m)
Direct	8,701	372,900	4,927
Indirect	4,964	96,600	2,271
Induced	5,357	87,200	1,929
UK	**19,022**	**556,700**	**9,127**

Source: ONS, BBPA, Oxford Economics

Note: May not add due to rounding

5.3 SECTORAL IMPACTS

The economic contribution of the beer and brewery sector is widely spread across the UK's sectoral landscape. Overall impacts are most concentrated in the accommodation & food sector—which is turn is strongly linked with the sale of beer through the on-trade channels, hospitality and tourism more broadly. The accommodation & food industry accounts for 60 percent of beer and brewery total employment impacts (331,600 jobs), close to 40 percent of total earnings generated (£3.5 billion) and one third of total GVA benefits (£6 billion).

Following this, the impacts are most significant in the wholesale & retail and manufacturing sectors, due in part to the level of direct activity supported through the off-trade and brewery elements respectively. Combined, the beer and brewery sector supported a total of 99,000 jobs and £5.2 billion in GVA across these sectors.

Interestingly, the beer and brewery industry supports economic activity in a range of other areas—most noticeably sectors which are often associated with creative industries. Together, the arts & entertainment, professional services and information & comms sectors accounted for 10 percent of the total employment benefits (54,300 jobs) and 13 percent of the total value added (£2.5 billion).

Fig. 28. Sectoral benefits of the beer & brewery sector, UK, 2018

	GVA (£m)	Employment	Wages (£m)
Agriculture	212	7,000	146
Mining & quarrying	36	500	18
Manufacturing	2,842	40,500	1,169
Electricity, gas, steam	303	1,700	64
Water supply	176	1,600	51
Construction	214	4,000	121
Wholesale & retail	2,326	58,500	1,093
Transportation & storage	532	12,000	332
Accommodation & food	5,968	331,600	3,547
Information & comms	472	5,500	203
Financial & insurance	637	5,500	199
Real estate	2,035	4,600	115
Professional services	836	17,500	553
Administrative & support	721	21,700	437
Public admin	73	1,200	36
Education	152	4,100	96
Human health	122	3,700	80
Arts & entertainment	1,198	31,300	788
Other service activities	167	4,200	79
Total	**19,022**	**556,700**	**9,127**

Source: ONS, BBPA, Oxford Economics

Note: May not add due to rounding

5.4 REGIONAL IMPACTS

The economic benefits associated with the beer and brewery sector are widely spread across the UK regions. We estimate that London and the South East experienced the greatest levels of total GVA, as a result of the level of direct activity and the sectoral employment composition of their economies. The UK wide GVA multiplier of the sector is estimated at 2.2, meaning the every £1 of direct GVA supported a further £1.2 throughout the economy via the indirect and induced impacts.

Fig. 29. GVA benefits of the beer & brewery sector, UK regions, 2018

	GVA (£m)			
	Direct	Indirect	Induced	Total
South East	1,247	691	715	2,654
London	1,580	936	1,269	3,785
East	736	489	464	1,689
South West	691	348	476	1,515
West Midlands	903	454	465	1,823
East Midlands	530	353	300	1,184
Yorkshire & The Humber	656	398	345	1,398
North West	903	564	570	2,037
North East	276	137	166	580
Wales	376	162	184	721
Scotland	672	345	325	1,343
Northern Ireland	129	87	77	293
UK	**8,701**	**4,964**	**5,357**	**19,022**

Source: ONS, BBPA, Oxford Economics

A Fig. 30 shows, the South East was estimated to provide the greatest proportion of direct and total employment benefits, followed by London and the North West. Total employment impacts are broadly dispersed across the regions in line with population shares.

Fig. 30. Employment benefits of the beer & brewery sector, UK, 2018

	Employment			
	Direct	Indirect	Induced	Total
South East	51,000	13,200	11,800	76,100
London	47,100	12,400	11,700	71,100
East	35,500	10,600	8,300	54,500
South West	37,800	7,500	8,800	54,000
West Midlands	31,300	9,900	7,800	49,000
East Midlands	28,100	7,200	6,100	41,400
Yorkshire & The Humber	35,400	9,100	7,500	52,000
North West	37,600	12,100	10,700	60,300
North East	13,200	3,000	3,100	19,400
Wales	20,200	3,800	3,800	27,800
Scotland	28,700	6,200	6,000	40,800
Northern Ireland	7,000	1,700	1,700	10,300
UK	**372,900**	**96,600**	**87,200**	**556,700**

Source: ONS, BBPA, Oxford Economics

Note: May not add due to rounding

As in the case of the separate brewery, on-trade and off-trade elements, the beer and brewery sector generated the highest levels of direct and total wages in London and the South East. This reflects not only direct activity in the sector but the cost of living and doing business in London and the South East. In total the sector supported £1.6 billion and £1.3 billion in total wages in these regions respectively (Fig. 31).

Fig. 31. Wage benefits of the beer & brewery sector, UK regions, 2018

	Wages (£m)			
	Direct	Indirect	Induced	Total
South East	730	329	276	1,335
London	878	393	360	1,631
East	397	249	185	832
South West	418	157	166	741
West Midlands	467	221	168	856
East Midlands	317	155	122	595
Yorkshire & The Humber	353	194	150	697
North West	515	266	218	999
North East	181	62	61	304
Wales	190	74	69	334
Scotland	396	138	122	657
Northern Ireland	85	31	30	146
UK	**4,927**	**2,271**	**1,929**	**9,127**

Source: ONS, BBPA, Oxford Economics

Using the ratio of direct net capital expenditure (CapEx) to GVA at a regional level from the latest Annual Business Survey, estimates suggest the beer and brewery sector generated £1.5 billion of CapEx across the UK (Fig. 32). London and the South East are estimated to have provided the largest levels of CapEx at £247 million and £229 million respectively. This is the result of the sector's relatively large footprint in these regions, in addition to above average CapEx/ GVA ratios.

Fig. 32. Net capital expenditure (CapEx), UK regions, 2018

Source: ONS, Oxford Economics

Activity in the beer and brewery sector generates a significant amount of tax towards the public purse. In total (after including indirect and induced taxes), the sector is estimated to have generated £10.4 billion in tax revenue. This is made up of £1 billion in corporation tax, £1.6 billion in income tax/ NIC, £3.6 billion in excise duty, £3.9 billion in VAT and £306 million in business rates (Fig. 33). London and the North West are estimated to have generated the largest amounts of total taxes as a result of them having amongst the largest level of activity across the sector as a whole.

Fig. 33. Tax revenue generated by the beer & brewery sector, UK, 2018

	Total tax estimates (£m)					
	Corporation tax	Income tax/NIC	Excise duty	Value added tax (VAT)	Business rates	Total
South East	134	252	193	533	39	1,151
London	236	408	225	621	24	1,514
East	84	135	146	319	25	708
South West	81	93	70	332	31	608
West Midlands	84	147	618	315	27	1,191
East Midlands	59	88	379	247	25	797
Yorkshire & The Humber	66	97	599	304	29	1,095
North West	109	176	678	445	36	1,444
North East	29	47	5	130	13	224
Wales	37	40	500	205	20	801
Scotland	69	96	167	310	29	671
Northern Ireland	17	20	43	92	8	180
UK	**1,006**	**1,597**	**3,623**	**3,853**	**306**	**10,385**

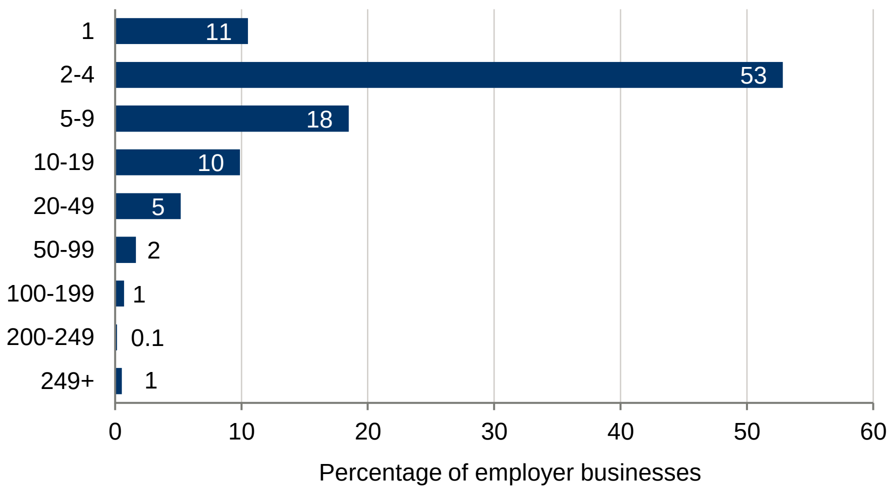
Source: ONS, HMRC, Oxford Economics

Note: Summing the benefits associated with breweries, on-trade sales and off-trade sales will overestimate the indirect and induced impacts and as a result, overall impacts.

5.5 SUPPORTING SMALL BUSINESS

The beer and brewery sector supports a large number of businesses across the UK, both directly and indirectly. Although, not a count of businesses, BBPA data shows that the sector directly supports close to 2,000 active breweries and 47,000 pubs nationwide in 2018. In addition, there are a larger number of businesses which go on to sell and distribute beer in the off-trade and the remainder of the on-trade. In total, there were over 206,000 licenced business premises across the UK which all benefit to some extent from the sale of beer. A significant proportion of these businesses are classified as Small and Medium-sized Enterprises (SMEs), typically employing less than 250 employees. At the UK level, over 80 percent of all businesses employ less the 10 people. Smaller businesses therefore form the bedrock of the UK economy—however, relative to larger enterprises, they are typically more exposed to economic headwinds due to more limited access to both finance and markets.

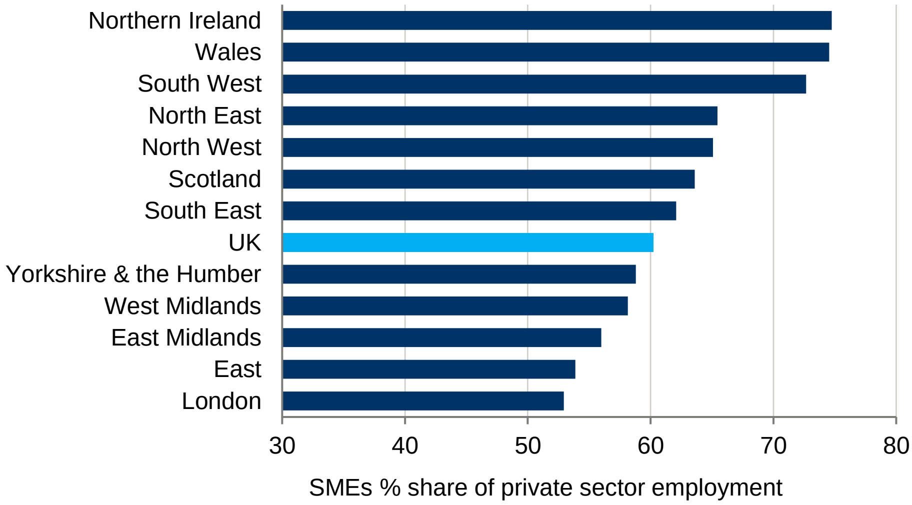
Fig. 34. UK businesses by number of employees, 2018



Source: Department for Business, Energy & Industrial Staregy,Oxford Economics

SME importance from an employment perspective varies considerably across the UK. At the national level, SMEs account for 60 percent of all private sector employment—see Fig 35. However, this share ranges from as low as 53 percent in London to as high as 75 percent in Northern Ireland. Therefore, from an employment perspective, SMEs perform an even more important role within the economies of the devolved regions, the North of England and the South West.

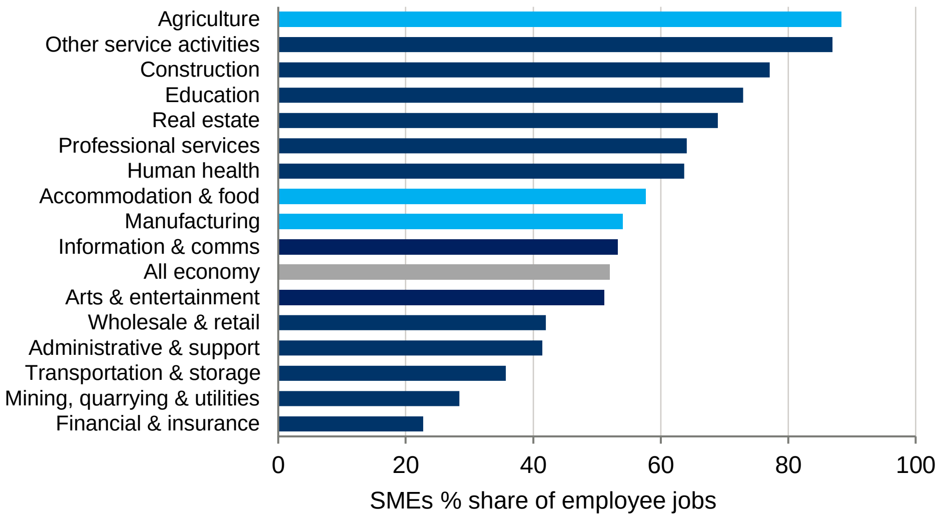
Fig. 35. SMEs importance to the regions, UK regions, 2018



Source: Department for Business, Energy & Industrial Strategy, Oxford Economics

Furthermore, the data shows that SME's play a relatively more important role in specific sectors of the economy. Our analysis has shown that a large proportion of the beer and brewery sector's total economic benefits are found within both manufacturing and the accommodation & food services sectors. Both these sectors exhibit relatively large SME employment concentrations when compared to other sectors of the economy. SMEs accounted for 58 percent of employee jobs in the accommodation & food services sector in 2018—six percentage points more than the economy average. Equally, agriculture is a prominent supplier of the industry (via the procurement of hops) and has a significant SME component. Turnover data also shows that smaller businesses typically represent a relatively large share of the total across these sectors. Therefore, the beer and brewery sector tends to support economic activity in sectors with greater SME prevalence.

Fig. 36. SMEs and sectoral employment, UK, 2018



Source: Department of Business, Energy & Industrial Strategy, Oxford Economics

Using published sectoral business population data, alongside our economic impact results, we have estimated the number of SMEs that the beer and brewery sector could support across the UK economy.[8]

We estimate that direct activity associated with the brewing and sale of beer was enough to support around 29,400 SMEs across the UK. Almost two thirds of these businesses belonged to the accommodation & food sector—therefore strongly associated with the sale of beer across the on-trade channel. After we consider the sector's wider supply chain and consumer spending related impacts, the total estimated number of SMEs supported increases significantly to 63,300. The sectors with the largest potential number of SMEs supported (28,500 combined) were the accommodation & food and arts & entertainment sectors. Furthermore, an estimated 6,400 SMEs are supported across the UK's wholesale and retail sector.

[8] In reality, the beer and brewery sector will help sustain economic activity (to some degree) in a much larger number of individual business. However, for the purposes of the above illustration, activity is condensed to represent the holistic turnover/ output of the typical SME according to sectoral characteristics.

Fig. 37. Estimated SMEs supported by beer & brewery activity, UK, 2018

	Direct	Indirect	Induced	Total
Agriculture	0	1,300	400	1,700
Mining & quarrying	0	10	10	20
Manufacturing	1,900	1,200	400	3,500
Electricity, gas, steam	0	100	100	200
Water supply	0	40	20	60
Construction	0	700	900	1,500
Wholesale & retail	2,100	2,300	2,100	6,400
Transportation & storage	0	1,100	800	2,000
Accommodation & food	19,700	700	1,200	21,600
Information & comms	0	500	600	1,100
Financial & insurance	0	700	1,100	1,800
Real estate	0	1,000	3,800	4,800
Professional services	0	2,300	1,000	3,300
Administrative & support	0	1,400	800	2,300
Public admin	0	0	0	0
Education	0	400	2,300	2,700
Human health	0	20	900	900
Arts & entertainment	5,700	400	700	6,900
Other service activities	0	300	2,200	2,500
Total	**29,400**	**14,600**	**19,300**	**63,300**

Source: Department for Business, Energy & Industrial Strategy, BBPA, Oxford Economics

Note: May not add due to rounding

6. CONCLUSIONS

6.1 BEER AND BREWERY ACTIVITY PROVIDES SIGNIFICANT BENEFITS

It is clear that the brewing of beer and the sale of beer more generally, through the on-trade and off-trade channels, provides significant economic benefits to the national economy. Overall, the beer and brewery sector is estimated to have sustained **556,700 jobs**, **£9.1 billion of wages** and **£19 billion of GVA** across the UK from direct, indirect and induced effects. Almost 372,000 of these jobs were directly supported within the sector. The economic benefits tend to be relatively well spread across the UK regions—broadly reflecting population shares. That said, London and the South East tend to see the largest impacts due to the strength of the hospitality sector and the relatively higher cost of living. From a sectoral perspective, the economic benefits are well distributed across the UK economy, although the hospitality and manufacturing sectors are key beneficiaries.

The beer and brewery sector is estimated to have generated **£1.5 billion in net capital expenditure** and supported **£10.4 billion to total tax revenue** in 2018. Business demographics and employment data suggest that small and medium sized businesses (SMEs) are relatively more likely to be supported by beer and brewery activity due to the characteristics of the sector, alongside the distribution of its economic benefits.

6.2 THE ON-TRADE ELEMENT IS THE MAIN CONTRIBUTOR

Our analysis shows that the sale of beer through the on-trade results in the largest economic benefit relative to the other elements of the overall beer and brewery sector. In total, beer's sale through the on-trade has been estimated to have sustained 492,200 jobs, £7.5 billion of wages and £15.3 billion of GVA across the UK in 2018.

6.3 BREWING PROVIDES THE LARGEST SUPPLY CHAIN BENEFITS

Given the capital intensive nature of the brewing sector, output per head is found to be relatively high. As a result, the subsequent indirect and induced impacts are subject to relatively high economic multipliers. In total, activity in breweries has been estimated to have sustained 98,200 jobs, £2.4 billion of wages and £5.6 billion of GVA across the UK in 2018.

6.4 THOUGH THE OFF-TRADE REMAINS SIGNIFICANT

Although the off-trade element is the smaller of the three beer and brewery sub-components it is no less significant in economic impact terms. In total, the beer related off-trade has been estimated to sustain 34,600 jobs, £727 million of wages and £1.7 billion of GVA across the UK in 2018.

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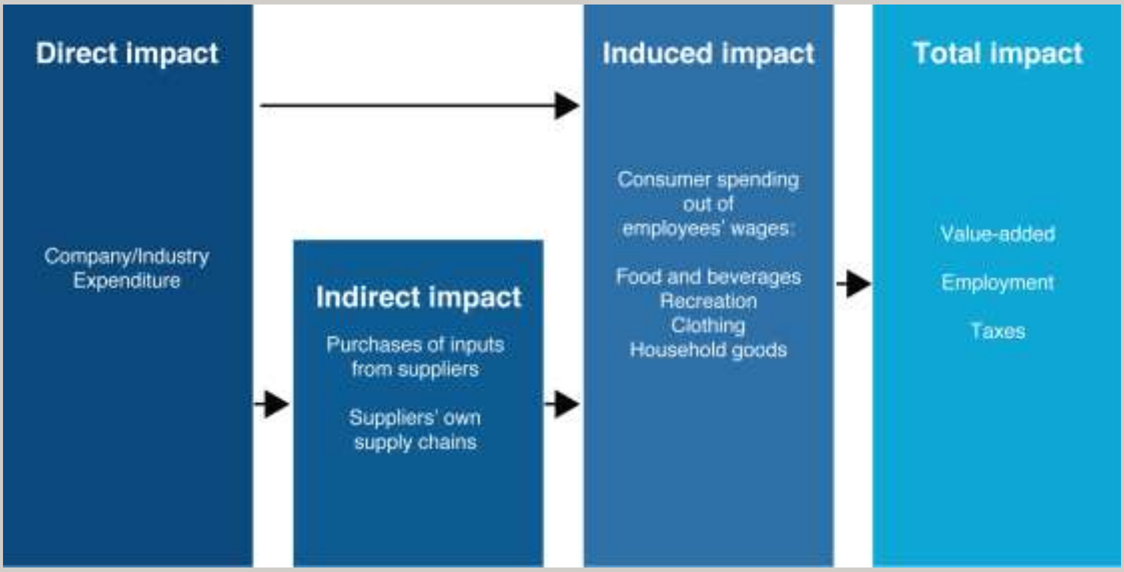
ANNEX A: MODELLING APPROACH

ECONOMIC IMPACT MODELLING

Economic impact modelling is a standard tool used to quantify the economic contribution of a company or industry. Impact analysis traces the economic contribution through three separate channels:

- **Direct impact**–refers to activity conducted directly by the beer and brewery sector.
- **Indirect impact**–consists of activity that is supported because of the procurement of goods and services by the beer and brewery sector across the UK. It includes not just purchases by breweries and the beer related on-trade and off-trade entities, but subsequent rounds of spending throughout their supply chain.
- **Induced impact**–reflects activity supported by the spending of wage income by direct and indirect employees.

Fig. 38. Direct, indirect, induced and total economic impacts



Direct Impacts

Data on the direct impacts were informed by the latest available UK and regional ONS Annual Business Survey (ABS 2018), employment data from the UK Business Register and Employment Survey (BRES), earnings data available from the Annual Survey of Hours and Earnings (ASHE), BBPA industry data and Oxford Economics' UK regional model.

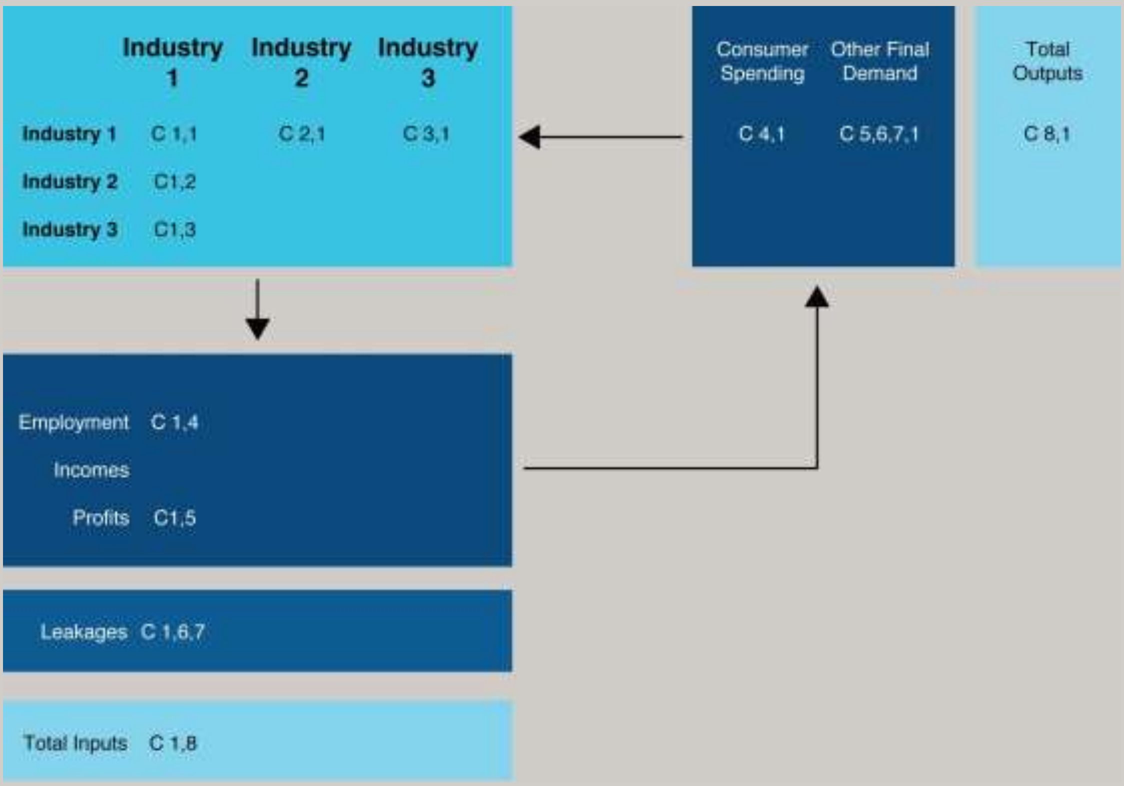
Indirect and Induced Impacts

Indirect and induced impacts were estimated using an input-output model. An input-output model gives a snapshot of an economy at any point in time. The model shows the major spending flows from "final demand" (i.e. consumer spending, government spending investment and exports to the rest of the world); intermediate spending patterns (i.e. what each sector buys from every other sector – the supply chain in other words); how much of that spending stays within the economy; and the distribution of income between employment and other forms such as corporate profits. Figure 39 provides an illustrative guide to a stylized input-output model.

As way of an example, when modelling the brewery component, direct GVA data (ABS) was converted to industry output and was allocated to the 'manufacture of food products, beverages and tobacco products' sector within the model (the most granular sectoral breakdown which captures the 'manufacture of beer' sector available within the ONS Input-Output tables). This is then worked through the Type 1 and Type 2 UK level multiplier framework in order to arrive at a total national output estimate, capturing spending flows that result from the original direct brewery activity (i.e. supply chain and resulting consumer spending). Published GVA to output ratios are then applied to transform output back into sectoral GVA across the different sectors of the economy. Oxford Economics then applies sectoral productivities to transform GVA into jobs terms and published sectoral wage data is applied to arrive at associated earnings estimates. This process results in estimates for the sector's total economic impact at the UK level which was then used in the next stage of the modelling analysis.

In building our impact model we adjusted the UK input-output tables to account for the local characteristics of the regional economies across the country.[9] In doing so we used academic guidelines like those contained in academic papers such as Flegg, A. T. and Tohmo, T. (2013) "Regional input-output tables and the FLQ formula: A case study of Finland" (Regional Studies, 47 (5). pp. 703-721).

Fig. 39. A stylised Input-Output model



[9]https://www.ons.gov.uk/economy/nationalaccounts/supplyandusetables/datasets/ukinputoutputanalyticaltablesdetailed. This study utilised the latest edition of the UK tables (2016 edition)

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