OXFORD ECONOMICS

BBPA

Local impact of the beer and pub sector

A report for the British Beer and Pub Association

OXFORD ECONOMICS

Contents

Executive summary

Oxford Economics were commissioned in November 2010 by the British Beer and Pub Association (BBPA) to estimate the local impact of the beer and pub trade. The local estimates have been provided in an accompanying spreadsheet model. This report and executive summary set out some of the key findings at a national and regional level.

Beer and pub activity provides significant benefits…

It is clear that activity in the brewing of beer and subsequent sale through the on and off-trade provide significant economic benefits to the national economy. Table 1 shows our estimates of the direct, indirect and induced impacts of beer and pubs in the UK.

Overall beer and pub activity is estimated to sustain some 983,000 jobs and £13bn of wages across the UK from direct, indirect and induced effects.

983,000 jobs are sustained or created through the activity of the beer and pub sector in the UK…

Table 1: The estimated benefits of beer and pub activity in the UK (2009/10)

UK	GVA (£m)	Employment	Wages (£m)
Direct	11,347	650,839	5,911
Indirect	6,764	206,213	5,276
Induced	3,259	125,471	2,251
Total	**21,370**	**982,523**	**13,438**

Source: Annual Business Inquiry, BBPA and Oxford Economics

We found that the overall economic benefits of beer and pubs were largest in London, South East and North West. This was the case for GVA, employment and wages. In most cases the regional estimates are broadly comparable with population shares, though differentials in regional productivity and wages do cause some differences within the UK.

Estimated impact of each sector…

The underlying analysis focused on estimating the direct, indirect and induced impacts at a local level from:

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

Our analysis produces the following headline findings (which include direct, indirect and induced impacts):

- In total, activity in the brewery sector has been estimated to sustain 72,000 jobs across the UK and £1.6bn of wages in 2010.
- Activity in the pub sector has been estimated to sustain 900,000 jobs across the UK and £11.8bn of wages.
- The selling of beer in the on-trade (excluding pubs) is estimated to sustain or create 36,800 jobs across the UK with £0.6bn of wages.
- In total, activity in the beer related off-trade sector has been estimated to sustain 30,100 jobs across the UK and close to £0.6bn of wages.

Note: the estimates above can not be summed to produce overall impact estimates due to double counting of the brewery sector and its supply chain.

Finally, we find that West Midlands has a significantly higher share of direct GVA from the pub sector than would be expected based on the size of the population. This is likely due to the presence of two of the UK's largest managed pub operators.

1 Introduction

1.1 About this study

Oxford Economics were commissioned in November 2010 by the British Beer and Pub Association (BBPA) to estimate the local impact of the beer and pub trade.

This study considers the impact of the British brewery sector, the pub sectors, and the proportion of hotels, restaurants and retail that is dependent on the sale of beer. Our estimates of the impacts of the beer and pub sector have been developed at Regional, Local Authority and Parliamentary Constituency Area across the UK.

It is not practical to present the local estimates within this report. Instead an accompanying Excel Spreadsheet, provided to BBPA, sets out our detailed findings. It includes a tool for producing summary statistics for each area within the UK. This report does however present our high level findings at a UK and regional level.

1.2 Report structure

This report takes the following structure:

- **Impact of the brewery sector:** presentation of UK and regional estimates of the impacts;
- **Impact of the pub sector:** presentation of UK and regional estimates of the impacts;
- **Impact of beer sales in the rest of the on-trade:** presentation of UK and regional estimates of the impacts;
- **Impact of the off-trade sector:** presentation of UK and regional estimates of the impacts;
- **Impacts of beer and pubs:** presentation of UK and regional estimates of the overall impacts of the production and selling of beer combined with the activities of the pub sector;
- **Conclusion:** concluding comments on the findings;
- **Annex A: Approach:** setting out the methodology used to produce our estimates of local impacts; and
- **Annex B: Existing estimates:** provides a high level summary of existing impact estimates from E&Y.

2 Impact of the brewery sector

2.1 UK estimates

We have estimated that the brewery sector in the UK accounts for just over 16,500 direct jobs with combined wages of £467m (using 2010 brewery data numbers and national averages from the 2007 ABI data such as average wages, productivity and turnover[1]). In arriving at this figure we have taken the ABI data which shows that there were 15,500 employees in the sector in 2010, and have added to this an estimate of self-employment (proxied for by the number of breweries).

Just over 16,500 people are directly employed in the brewery sector…

Table 2.1: The estimated benefits of the brewery sector in the UK (2010)

UK	GVA (£m)	Employment	Wages (£m)
Direct	717	16,513	467
Indirect	1,080	39,277	888
Induced	414	16,184	285
Total	**2,211**	**71,975**	**1,641**

Source: Annual Business Inquiry, BBPA and Oxford Economics

Given employment levels and national productivity in the sector, we estimate direct GVA in the sector to be £717m[2].

The ABI publication estimates that GVA in the sector fell by 43% in 2007. Comparisons with other metrics suggest that this may be overestimated (e.g. turnover in the sector fell by only 13%) and the true level of GVA is higher. It is likely therefore that our calculation of GVA in the sector (which is based on productivity taken from the ABI) underestimates the true value.

The next step was to estimate the likely indirect benefits that arise from supply chain spending. Using UK input / output tables we estimate that indirect GVA totals £1bn. Using sectoral output and productivity data this level of activity equates to approximately 39,300 indirect jobs and £888m of wages sustained through breweries supply chain spending.

72,000 jobs are sustained throughout the UK by the direct, indirect and induced effects of the brewery sector…

[1] At the time of undertaking the analysis 2007 ABI data was the most up to date data available at local authority level and was consistent with the historical and forecast data held by Oxford Economics. Nearing the end of the study more up to date data was released, based on sectoral definitions from the Standard Industrial Classification system for 2007 (SIC 07). Moving to the new sectoral definitions will take a few months, and as such the estimates contained in this report have been derived using 2007 ABI data and SIC 03 sectoral definitions.

[2] Gross Value Added (GVA) is the difference between the value of goods and services produced by a business or a sector, and the cost of raw materials and other inputs which are used up in production. It is essentially a measure of the value added to the services or products provided by a sector or firm.

Furthermore, we have estimated that an additional 16,200 jobs are sustained through the spending patterns of those directly and indirectly employed by the brewery sector in the UK.

As a result, we calculate that 72,000 jobs and £1.6bn of wages are sustained in the UK economy from the direct, indirect and induced effects of beer breweries in 2010.

2.2 Regional estimates

At a regional level the West Midlands enjoys significant proportions of the GVA benefits (see Table 2.2) given the scale of direct activity in the region. At £130m, direct GVA in the West Midlands is notably more than any other region. The North West has the second highest level of GVA arising from the brewing of beer (£95m).

Interestingly the ratio of indirect benefits to direct benefits differs across the regions of the UK for GVA, employment and wages. 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 could enjoy considerable indirect benefits if for example it were to produce much of the agricultural inputs needed for the sector.

Table 2.2: Regional GVA estimates of the brewery sector (2010)

GVA (£m)	Direct	Indirect	Induced	Total
South East	76	134	58	268
London	47	84	30	162
East	86	141	63	291
South West	51	82	32	165
West Midlands	130	164	64	358
East Midlands	36	65	27	128
Yorkshire & The Humber	66	113	40	218
North West	95	111	39	245
North East	6	27	8	41
Wales	37	53	19	109
Scotland	77	89	29	196
Northern Ireland	10	17	4	31
UK	**717**	**1,080**	**414**	**2,211**

Source: Annual Business Inquiry, BBPA and Oxford Economics

In employment terms West Midlands and North West have the largest level of direct employment in the sector (Table 2.3). An analysis of employment also reveals that despite the limited direct employment in the North East, supply chain spending from across the UK provides a considerable number of estimated indirect jobs (mainly within the agricultural sector[3]). Likewise, the

[3] Based on information provided by BBPA, Oxford Economics have made assumptions on the location of hops and barley activity across the UK (see the approach section in Appendix A for details). We have assumed that much of the

South East enjoys one of the highest levels of indirect employment given its level of direct employment in the sector and its concentration of barley and hops growers in the region.

Table 2.3: Regional employment estimates of the brewery sector (2010)

Employment	Direct	Indirect	Induced	Total
South East	1,751	5,447	2,045	9,243
London	1,077	1,902	846	3,825
East	1,991	5,976	2,314	10,280
South West	1,178	3,124	1,372	5,674
West Midlands	2,984	5,835	2,486	11,304
East Midlands	821	2,679	1,074	4,574
Yorkshire & The Humber	1,514	4,997	1,764	8,275
North West	2,194	3,059	1,668	6,920
North East	139	1,484	384	2,006
Wales	861	2,059	881	3,801
Scotland	1,784	2,166	1,167	5,116
Northern Ireland	222	550	184	956
UK	**16,513**	**39,277**	**16,184**	**71,975**

Source: Annual Business Inquiry, BBPA and Oxford Economics

In relation to direct wages, West Midlands and the North West again have the highest levels. As noted in the approach section, there is limited availability of regional wage data for the sector. As such we have set each region equal to the national average level of wages. The findings in Table 2.4 are therefore driven by our estimates of employment above.

Table 2.4: Regional wage estimates of the brewery sector (2010)

Wages (£m)	Direct	Indirect	Induced	Total
South East	50	127	42	218
London	30	65	21	117
East	56	131	43	230
South West	33	64	22	119
West Midlands	84	128	43	256
East Midlands	23	61	19	103
Yorkshire & The Humber	43	108	29	179
North West	62	73	28	164
North East	4	25	6	34
Wales	24	42	13	79
Scotland	50	54	18	122
Northern Ireland	6	10	3	19
UK	**467**	**888**	**285**	**1,641**

Source: Annual Business Inquiry, BBPA and Oxford Economics

In reality wages in the sector are likely to differ across regions reflecting the cost of living and the cost of doing business. As such the figures for say, London and the South East are likely to be underestimated, while figures for Northern Ireland and the North East are likely to be overestimated.

Scottish barley production is used in the brewing of whiskey which reduces Scotland's indirect benefits arising from beer production). These assumptions can be changed if new data becomes available.

3 Impact of the pub sector

3.1 UK estimates

According to the ABI, there were 541,000 employee jobs in the pub sector in 2007. We added to this the number of licensees in 2010 (assuming one self-employed job per pub). As a result, we estimate that direct employment in the sector is approximately 596,000, commanding wages of £4.9bn. Using the ABI data, we find that average wages in the sector are fairly low at £8,279, reflecting the incidence of part-time working in the sector. In addition, for our estimates of the self-employed, we set their wages equal to the average employee wage in the region. Intuitively, this underestimates average wages of the self-employed in the sector. If more accurate data becomes available, the model can be updated accordingly.

Over 596,000 people are directly employed in the pubs sector earning approximately £4.9bn…

Table 3.1: The estimated benefits of the pub sector in the UK (2010)

UK	GVA (£m)	Employment	Wages (£m)
Direct	9,619	596,350	4,933
Indirect	6,716	188,582	4,797
Induced	2,956	114,118	2,042
Total	**19,291**	**899,050**	**11,772**

Source: Annual Business Inquiry, BBPA and Oxford Economics

Note: direct employment, GVA and wages have been estimated for 2010 using 2007 ABI averages.

An additional 303,000 jobs are estimated to be sustained through indirect and induced spending…

Direct GVA in the sector in 2010 was £9.6bn according to the ABI, while turnover was over £20bn. Using the UK input-output tables we estimate that indirect GVA is approximately £6.7bn in the pub sector supply chain.

It is worth noting that this £6.7bn of indirect GVA includes a large proportion of the brewery sector and its supply chain, as such the estimates in this section and the previous section should not be combined (see Section 6 for adjusted estimates of the impact of the beer and pub sector).

Given sectoral productivity levels, this level of indirect GVA translates into 189,000 jobs in the pub sector's supply chain, sustaining wages of approximately £4.8bn.

Again the spending of both the direct and indirect wages will induce further jobs in the economy (mainly in retail, hospitality and other personal services). We have estimated this at 114,000 jobs and £2bn of associated wages. Given productivity levels across the UK regions this equates to a further £3.0bn of GVA.

Overall, activity in the pub sector is estimated to sustain some 900,000 jobs and £11.8bn of wages in the UK.

3.2 Regional estimates

At a regional level the GVA, employment and wage multipliers associated with the pub sector are more homogenous than those observed in the brewing sector. In other words, the scale of the indirect and induced impacts arising from direct activity in the sector is similar across the regions.

Overall, London, West Midlands and the South East produce the highest levels of direct GVA from the pub sector (Table 3.2).

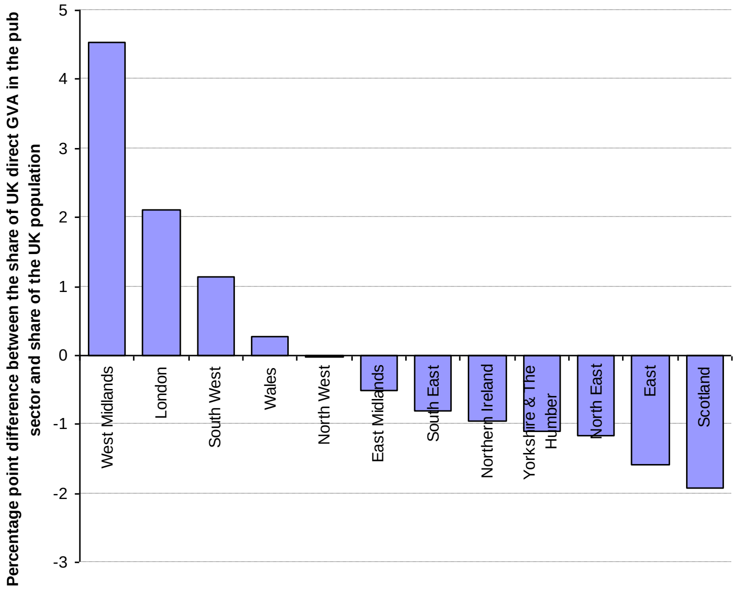
Table 3.2: Regional GVA estimates of the pub sector (2010)

GVA (£m)	Direct	Indirect	Induced	Total
South East	1,228	878	435	2,542
London	1,410	957	419	2,786
East	741	594	290	1,625
South West	933	625	278	1,835
West Midlands	1,274	797	318	2,389
East Midlands	648	466	219	1,334
Yorkshire & The Humber	710	546	225	1,481
North West	1,067	697	311	2,075
North East	295	229	101	624
Wales	496	326	127	949
Scotland	639	467	183	1,289
Northern Ireland	178	134	49	361
UK	**9,619**	**6,716**	**2,956**	**19,291**

Source: Annual Business Inquiry, BBPA and Oxford Economics

Generally speaking the findings reflect the share of UK population (as measured by those aged 16+). As Figure 3.1 shows, only West Midlands has a significantly higher share of direct GVA than its population size might suggest. An explanation for the findings below can be found in regional productivity differences. London (£25,600) and West Midlands (£22,600) have considerably higher levels of productivity in the sector. It is worth noting that two of the largest managed pub operators in the UK (Mitchells and Butlers and Punch Taverns) are based in the West Midlands, which may boost the direct GVA and productivity for the area.

Figure 3.1: Percentage point difference between share of direct GVA and share of UK population



Source: Annual Business Inquiry, BBPA and Oxford Economics

Through supply chain expenditure, Oxford Economics estimate that London and the South East also enjoy the greatest indirect GVA (due to the sectoral employment composition of their local economies). It follows therefore that London and the South East of England enjoy the highest levels of induced GVA (with West Midlands a close third).

The South East and North West have the highest levels of direct employment in the pub sector. Again the findings are broadly in line with population shares (though we may have expected London employment to be a little higher).

Table 3.3: Regional employment estimates of the pub sector (2010)

Employment	Direct	Indirect	Induced	Total
South East	77,941	23,962	15,503	117,406
London	55,089	19,504	11,696	86,289
East	48,836	19,331	10,610	78,778
South West	59,220	18,162	11,857	89,239
West Midlands	56,319	24,020	12,396	92,735
East Midlands	48,360	13,857	8,581	70,798
Yorkshire & The Humber	55,560	18,354	9,902	83,816
North West	76,046	18,729	13,535	108,310
North East	28,031	7,612	4,648	40,292
Wales	31,543	10,052	5,837	47,432
Scotland	44,343	11,374	7,325	63,041
Northern Ireland	15,063	3,623	2,226	20,912
UK	**596,350**	**188,582**	**114,118**	**899,050**

Source: Annual Business Inquiry, BBPA and Oxford Economics

As noted at the start of the sub-section, indirect and induced multipliers are similar across the UK regions; this is particularly the case for employment multipliers.

Given regional wage levels, the South East and London have the highest level of direct wages in the pub sector. When indirect and induced benefits are considered, both regions have significantly higher levels of wages than all other regions.

Table 3.4: Regional wages estimates of the pub sector (2010)

Wages (£m)	Direct	Indirect	Induced	Total
South East	694	653	314	1,661
London	672	737	288	1,698
East	417	461	195	1,073
South West	471	427	189	1,087
West Midlands	464	568	216	1,247
East Midlands	376	330	152	859
Yorkshire & The Humber	381	417	161	959
North West	578	461	227	1,267
North East	217	156	68	441
Wales	231	218	85	533
Scotland	339	294	112	744
Northern Ireland	94	75	35	204
UK	**4,933**	**4,797**	**2,042**	**11,772**

Source: Annual Business Inquiry, BBPA and Oxford Economics

4 Impact of beer sales in rest of on-trade

4.1 UK estimates

Data obtained from the BBPA's Statistical Handbook 2010 reveals that 3.8% of beer sold through the on-trade is done so in the hotels and restaurants sector. Given the price and volume of beer in 2009, these beer sales were worth an estimated £460m, or 1.2% of the sector's turnover. In addition 6.9% of total beer sales in the UK were made in sports clubs. This account for £548m or 5.7% of turnover in the "Other sporting activities" sub-sector of the economy.

Scaling the performance data for each sector we estimate the following benefits from the sale of beer:

- direct employment of approximately 22,200;
- direct wages of £273m; and
- direct GVA of £506m.

The estimates in Table 4.1 use 2009 volumes and 2007 average performance data (taken from ABI). The results are therefore estimates of 2009 activity.

Table 4.1: The estimated benefits of beer related on-trade (excluding pubs) in the UK (2009)

UK	GVA (£m)	Employment	Wages (£m)
Direct	506	22,237	273
Indirect	348	8,764	240
Induced	157	5,839	108
Total	**1,010**	**36,840**	**622**

Source: Annual Business Inquiry, BBPA and Oxford Economics

An estimated 22,200 jobs are directly sustained in the rest of the on-trade sector through the sale of beer…

Following the same approach to that used in previous sections we estimate that through supply chain spending this level of activity would sustain or create a further 8,800 jobs with £240m of wages. Furthermore, through the spending of direct and indirect earnings, an additional 5,800 jobs could be sustained in the wider economy (commanding £108m of wages).

Overall, the selling of beer in the on-trade (excluding pubs) is estimated to sustain or create 36,800 jobs across the UK with £622m of wages.

4.2 Regional estimates

Estimated direct GVA in the sector, originating from the sale of beer, reflects regional population shares, with one major outlier. London has 13% of the UK population, yet has over 26% of total GVA in Table 4.2. This mirrors wider performance trends where London is the undisputed leader in these sectors with the highest level of GVA, turnover, employment, wages, and supply chain purchases. Consequently it enjoys the highest level of indirect and induced benefits.

Table 4.2: Regional GVA estimates of beer related on-trade (excluding pubs) in the UK (2009)

GVA (£m)	Direct	Indirect	Induced	Total
South East	74	50	25	150
London	131	75	36	242
East	37	29	13	80
South West	32	25	11	68
West Midlands	33	26	11	70
East Midlands	27	21	9	57
Yorkshire & The Humber	28	23	9	60
North West	57	38	17	112
North East	16	12	5	33
Wales	15	12	4	31
Scotland	46	31	14	91
Northern Ireland	9	7	2	18
UK	**506**	**348**	**157**	**1,010**

Source: Annual Business Inquiry, BBPA and Oxford Economics

Regional multipliers (i.e. the scale of indirect and induced impacts arising from the direct activity) are fairly consistent and limited in size when compared to the brewery and pub sector (for example the employment multipliers range from 1.6 to 2.1).

Table 4.3: Regional employment estimates of beer related on-trade (excluding pubs) in the UK (2009)

Employment	Direct	Indirect	Induced	Total
South East	3,194	1,177	889	5,260
London	3,435	1,510	1,011	5,956
East	1,891	783	489	3,163
South West	1,797	684	450	2,932
West Midlands	1,743	727	444	2,914
East Midlands	1,378	565	347	2,290
Yorkshire & The Humber	1,686	683	388	2,757
North West	2,377	1,021	744	4,143
North East	819	343	237	1,399
Wales	852	336	188	1,376
Scotland	2,508	756	543	3,808
Northern Ireland	557	179	107	843
UK	**22,237**	**8,764**	**5,839**	**36,840**

Source: Annual Business Inquiry, BBPA and Oxford Economics

Average wages in the sector are particularly low given the incidence of part-time working arrangements and shift work. At a regional level, average direct wages range from £7,956 (Northern Ireland) to £17,889 (London). The differences across regions mirror differences in the cost of living and cost of doing business.

Table 4.4: Regional wage estimates of beer related on-trade (excluding pubs) in the UK (2009)

Wages (£m)	Direct	Indirect	Induced	Total
South East	43	35	18	96
London	61	57	25	144
East	20	20	9	49
South West	18	17	7	42
West Midlands	19	18	8	45
East Midlands	15	14	6	35
Yorkshire & The Humber	15	16	6	38
North West	32	25	12	70
North East	11	8	3	22
Wales	7	7	3	17
Scotland	27	19	8	55
Northern Ireland	4	4	2	10
UK	**273**	**240**	**108**	**622**

Source: Annual Business Inquiry, BBPA and Oxford Economics

5 Impact of the off-trade sector

5.1 UK estimates

Using BBPA figures for 2009, Oxford Economics finds that 46.9% of beer consumption is distributed through the off-trade channel. This figure has risen steadily over time and has been influenced by the smoking ban in 2007, as well as the price competition by large retail supermarkets in recent years.

Using the average price of beer, consumer spending through the off-trade equates to £2.8bn, or 0.4% of overall turnover in the retail and wholesale sector. Using ABI data for the sector, beer accounts for the following direct benefits:

- 15,700 employee jobs;
- £237m of wages; and
- £505m of GVA.

Table 5.1: The estimated benefits of beer related off-trade in the UK (2009)

15,700 jobs are directly sustained in retail through the sale of beer…

UK	GVA (£m)	Employment	Wages (£m)
Direct	505	15,739	237
Indirect	348	8,867	239
Induced	146	5,515	101
Total	**1,000**	**30,121**	**577**

Source: Annual Business Inquiry, BBPA and Oxford Economics

Through supply chain spending, we estimate that the direct benefit of beer consumption through the off-trade sustains over 8,800 jobs and £239m of wages. Again the indirect benefits will include a proportion of brewery jobs and therefore a proportion of brewery supply chain benefits. As with the pub sector estimates before, the estimates in this section can not be added to those of the brewery or pub sector (some brewery and associated indirect and induced benefits would be double counted).

The induced benefits have then been estimated at a further 5,500 jobs and £101m of wages.

Overall, activity in the sector is estimated to sustain some 30,100 jobs and nearly £0.6bn of wages in the UK.

5.2 Regional estimates

At a regional level the impact multipliers associated with off-trade activity are slightly larger than those of the pub sector and are subject to greater variation across the regions. GVA multipliers range from 1.8 to 2.1 across the regions (suggesting that for every £1m of direct GVA produced in the off-trade, between £0.8m and £1.1m of additional GVA is created in the rest of the economy).

Table 5.2: Regional GVA estimates of beer related off-trade in the UK (2009)

GVA (£m)	Direct	Indirect	Induced	Total
South East	66	46	22	134
London	98	62	29	189
East	46	32	15	93
South West	40	29	11	80
West Midlands	34	26	11	70
East Midlands	31	22	9	62
Yorkshire & The Humber	43	29	11	83
North West	55	37	15	107
North East	17	12	4	33
Wales	19	13	5	37
Scotland	42	29	11	81
Northern Ireland	17	11	3	31
UK	**505**	**348**	**146**	**1,000**

Source: Annual Business Inquiry, BBPA and Oxford Economics

As with the pub sector (in section 3) the estimated benefits broadly match population shares, particularly with regards direct employment. However London (with its higher cost of doing business and higher cost of living) has significantly more GVA than population levels would suggest.

Table 5.3: Regional employment estimates of beer related off-trade in the UK (2009)

Employment	Direct	Indirect	Induced	Total
South East	2,203	1,090	762	4,055
London	2,035	1,240	814	4,089
East	1,508	868	546	2,922
South West	1,420	781	480	2,681
West Midlands	1,275	724	422	2,422
East Midlands	1,071	602	349	2,023
Yorkshire & The Humber	1,327	855	468	2,650
North West	1,781	993	662	3,435
North East	594	351	199	1,145
Wales	740	380	228	1,348
Scotland	1,325	703	432	2,460
Northern Ireland	459	279	153	890
UK	**15,739**	**8,867**	**5,515**	**30,121**

Source: Annual Business Inquiry, BBPA and Oxford Economics

Earning levels (Table 5.4) from the sector reflect the employment numbers and regional wage differentials. Intuitively, London and the South East enjoy the greatest level of direct and overall wages.

Table 5.4: Regional wage estimates of beer related off-trade in the UK (2009)

Wages (£m)	Direct	Indirect	Induced	Total
South East	35	32	16	83
London	43	47	20	111
East	22	22	10	55
South West	18	19	8	45
West Midlands	17	18	7	42
East Midlands	15	15	6	35
Yorkshire & The Humber	18	20	8	46
North West	26	25	11	62
North East	8	8	3	19
Wales	9	8	3	21
Scotland	19	18	7	44
Northern Ireland	6	6	2	14
UK	**237**	**239**	**101**	**577**

Source: Annual Business Inquiry, BBPA and Oxford Economics

6 Impact of beer and pubs

6.1 Introduction

This section takes the estimates outlined in the preceding sections and calculates the total economic impact arising from beer and pubs in the UK and across its regions. As noted earlier, the estimates for brewing, pubs, the rest of the on-trade and off-trade cannot be added together to give the total impact due to the double counting of the brewing sector's indirect and induced impacts. In this section we have taken into account these issues by:

- Summing the direct impacts from the four sectors / sources of activity;
- Summing the indirect impacts of pubs, the rest of the on-trade and off-trade, and subtracting direct brewing impacts arising from domestic demand (based on the fact that brewing impacts will be included in the supply chain of pubs and off-trade). Using the BBPA statistical handbook we find that 9.7% of UK beer production was exported. Given the brewing sector forms part of the pubs and off-trade supply chain we can assume that 90.3% of brewery activity in the UK will be accounted for by our estimates of the pubs and off-trade supply chain; and
- Summing induced impacts of pubs, rest of the on-trade and off-trade (induced impacts arising from brewing sector should be included in our estimates for pubs, rest of on-trade and off-trade).

6.2 UK estimates

We estimate that beer and pub activity in the UK produced total direct impacts of 651,000 jobs with £5.9bn of associated wages and £11.3bn of GVA.

Table 6.1: The estimated benefits of beer and pub activity in the UK (2009/10)

UK	GVA (£m)	Employment	Wages (£m)
Direct	11,347	650,839	5,911
Indirect	6,764	206,213	5,276
Induced	3,259	125,471	2,251
Total	**21,370**	**982,523**	**13,438**

Source: Annual Business Inquiry, BBPA and Oxford Economics

983,000 jobs are sustained or created through the activity of the beer and pub sector in the UK…

Through supply chain spending, beer and pub activity is estimated to create 206,000 additional jobs and £5.2bn of wages. This level of indirect benefits combines with our direct estimates to induce a further 125,000 jobs and £2.3bn of wages in the wider economy.

Overall, beer and pub activity is estimated to sustain some 983,000 jobs and over £13bn of wages across the UK from direct, indirect and induced effects.

6.3 Regional estimates

At a regional level our GVA multipliers range from 1.7 in West Midlands to 2.1 in the North East. In other words, we estimate that total direct, indirect and induced GVA impacts in the North East are just over double those of its direct impacts (Table 6.2).

Table 6.2: Regional GVA estimates of beer and pubs in the UK (2009/10)

GVA (£m)	Direct	Indirect	Induced	Total
South East	1,445	906	482	2,832
London	1,686	1,052	484	3,221
East	910	577	319	1,806
South West	1,056	632	300	1,988
West Midlands	1,470	731	340	2,541
East Midlands	741	477	237	1,456
Yorkshire & The Humber	847	539	245	1,631
North West	1,274	686	343	2,303
North East	334	247	110	691
Wales	567	317	136	1,020
Scotland	804	457	208	1,469
Northern Ireland	214	143	55	412
UK	**11,347**	**6,764**	**3,259**	**21,370**

Source: Annual Business Inquiry, BBPA and Oxford Economics

As per the findings in the preceding section, London and the South East enjoy the greatest share of the overall GVA benefits arising from beer and pubs activity.

However as Table 6.3 shows, the North West has the second largest proportion of job benefits after the South East.

Table 6.3: Regional employment estimates of beer and pubs in the UK (2009/10)

Employment	Direct	Indirect	Induced	Total
South East	85,088	26,229	17,154	128,472
London	61,636	22,254	13,521	97,410
East	54,226	20,983	11,645	86,854
South West	63,615	19,627	12,788	96,030
West Midlands	62,320	25,472	13,262	101,054
East Midlands	51,630	15,024	9,277	75,932
Yorkshire & The Humber	60,087	19,891	10,759	90,737
North West	82,398	20,744	14,941	118,082
North East	29,583	8,307	5,084	42,974
Wales	33,997	10,768	6,253	51,018
Scotland	49,960	12,833	8,301	71,093
Northern Ireland	16,301	4,081	2,486	22,868
UK	**650,839**	**206,213**	**125,471**	**982,523**

Source: Annual Business Inquiry, BBPA and Oxford Economics

Again London, the South East and North West have the highest levels of wages reflecting not only activity in the beer and pub sectors, but the cost of living and cost of doing business in London and the South East.

Table 6.4: Regional wage estimates of beer and pubs in the UK (2009/10)

Wages (£m)	Direct	Indirect	Induced	Total
South East	822	720	348	1,889
London	807	842	333	1,982
East	516	504	214	1,234
South West	540	463	204	1,208
West Midlands	585	603	231	1,419
East Midlands	429	359	164	952
Yorkshire & The Humber	456	453	175	1,085
North West	699	512	250	1,461
North East	240	171	75	486
Wales	271	234	91	596
Scotland	435	331	127	893
Northern Ireland	110	85	39	234
UK	**5,911**	**5,276**	**2,251**	**13,438**

Source: Annual Business Inquiry, BBPA and Oxford Economics

7 Conclusions

7.1 Beer and pub activity provides significant benefits…

It is clear that activity in the brewing of beer and subsequent sale through the on and off-trade provide significant economic benefits to the national economy. Overall beer and pub activity is estimated to sustain some 983,000 jobs and over £13bn of wages across the UK from direct, indirect and induced effects.

7.2 Brewing activity provides greater supply chain benefits…

As part of this, the brewing sector is estimated to provide benefits of the following magnitude:

- 16,500 direct jobs enjoying £467m of wages and producing £717m of GVA in 2010;
- Given the capital intensity of the brewing sector, output per head is relatively high. As a result the indirect and subsequent induced impacts are subject to relatively strong multipliers. We therefore estimate:
    - 39,300 indirect jobs and £888m of wages, producing £1bn of GVA; and
    - 16,200 induced jobs and £285m of wages, producing £414m of GVA.

In total, activity in the brewery sector has been estimated to sustain 72,000 jobs across the UK and £1.6bn of wages in 2010.

7.3 The pub sector is a major employer…

In addition we found that the economic impact of the pub sector is of the following magnitude:

- 596,000 direct jobs enjoying £4.9bn of wages and producing £9.6bn of GVA in 2010. The low average wage figure in the sector is a reflection of the high proportion of part-time working arrangements. Output per head in the sector is relatively low and therefore the indirect and induced multipliers, though important, are below those of the brewing sector;
- 189,000 indirect jobs and £4.8bn of wages, producing £6.7bn of GVA; and
- 114,000 induced jobs and £2bn of wages, producing £3.0bn of GVA.

In total, activity in the pub sector has been estimated to sustain 900,000 jobs across the UK and £11.8bn of wages.

7.4 Beer sales activity in the rest of the on-trade…

Furthermore, we found that the economic impact of beer sales in the rest of the on-trade sector is of the following magnitude:

- 22,200 direct jobs enjoying £273m of wages and producing £506m of GVA in 2009;
- 8,800 indirect jobs and £240m of wages, producing £348m of GVA; and
- 5,800 induced jobs and £108m of wages, producing £157m of GVA.

Overall, the selling of beer in the on-trade (excluding pubs) is estimated to sustain or create 36,800 jobs across the UK with £622m of wages.

7.5 Beer sales activity in the off-trade…

Finally, we found that the economic impact of beer related off-trade is of the following magnitude:

- 15,700 direct jobs enjoying £237m of wages and producing £505m of GVA in 2007;
- 8,900 indirect jobs and £239m of wages, producing £348m of GVA; and
- 5,500 induced jobs and £101m of wages, producing £146m of GVA.

In total, activity in the beer related off-trade sector has been estimated to sustain 30,100 jobs across the UK and close to £0.6bn of wages.

7.6 London, South East and North West are big winners…

We found that the overall economic benefits of beer and pubs were largest in London, the South East and the North West. This was the case for GVA, employment and wages.

In most cases the regional estimates are broadly comparable with population shares, though differentials in regional productivity and wages do cause some differences within the UK.

7.7 Published data suggests some performance differentials …

We find that West Midlands has a significantly higher share of direct GVA from the pub sector than would be expected based on the size of the population. Though this is likely to be due to the presence of two of the UK's largest managed pub operators.

Annex A: Approach

This section describes the approach adopted to produce local estimates of the impact of beer and pubs across the UK. It touches on:

- Geographical issues to consider;
- The available data and the limitations;
- The model framework;
- The visual basic software developed for the model; and
- Limitations of the analysis.

Geographical issues

BBPA postcode data

BBPA provided Oxford Economics with detailed datasets on the number and location of:

- Major breweries and associated activities (e.g. distribution and sales) using postcodes;
- Licenses for pubs in England and Wales using postcodes; and
- Licenses for pubs by Local Authority (LA) in Scotland; and
- Licenses for pubs by Court District in Northern Ireland.

The first task was therefore to sort the above data by region, local authority and parliamentary consistency. Where postcode data was available this was a relatively straight forward task. However, for Northern Ireland we needed to apportion the number of licenses to local authority using the share of employment in the hotels and restaurant sector (which also includes employment in pubs and nightclubs).

Available data

The major source of employment and financial data on the sectors is from the Annual Business Inquiry published by National Statistics. The publication of data is typically provided at 2 digit industry level (consistent with the Standard Industrial Classification system 2003) for regions, however more detailed 4 digit industry data is readily available for the UK. In both cases data is available for 2007.

Therefore we had to request the more detailed sectoral breakdown at a regional level from National Statistics. Unfortunately at this level some of the data is suppressed or held back for confidentiality reasons. As such we had to estimate some of the data using the UK data as control totals. In summary, we were able to collate data for the following variable:

- Employment;
- Employment costs;
- Average wages and salaries;
- Gross Value Added (GVA);
- Turnover; and
- Supply chain purchases.

In addition to the ABI data we used sectoral productivity, employment and wages estimates from Oxford Economics' suite of forecasting models (which use published data from National Statistics).

Model framework

Local authority estimates

Figures 1 and 2 below set out the conceptual model of the framework used in this analysis. The framework has been applied to both the estimation of the benefits for breweries and for pubs. In the figures below we show how the framework related to the pub sector.

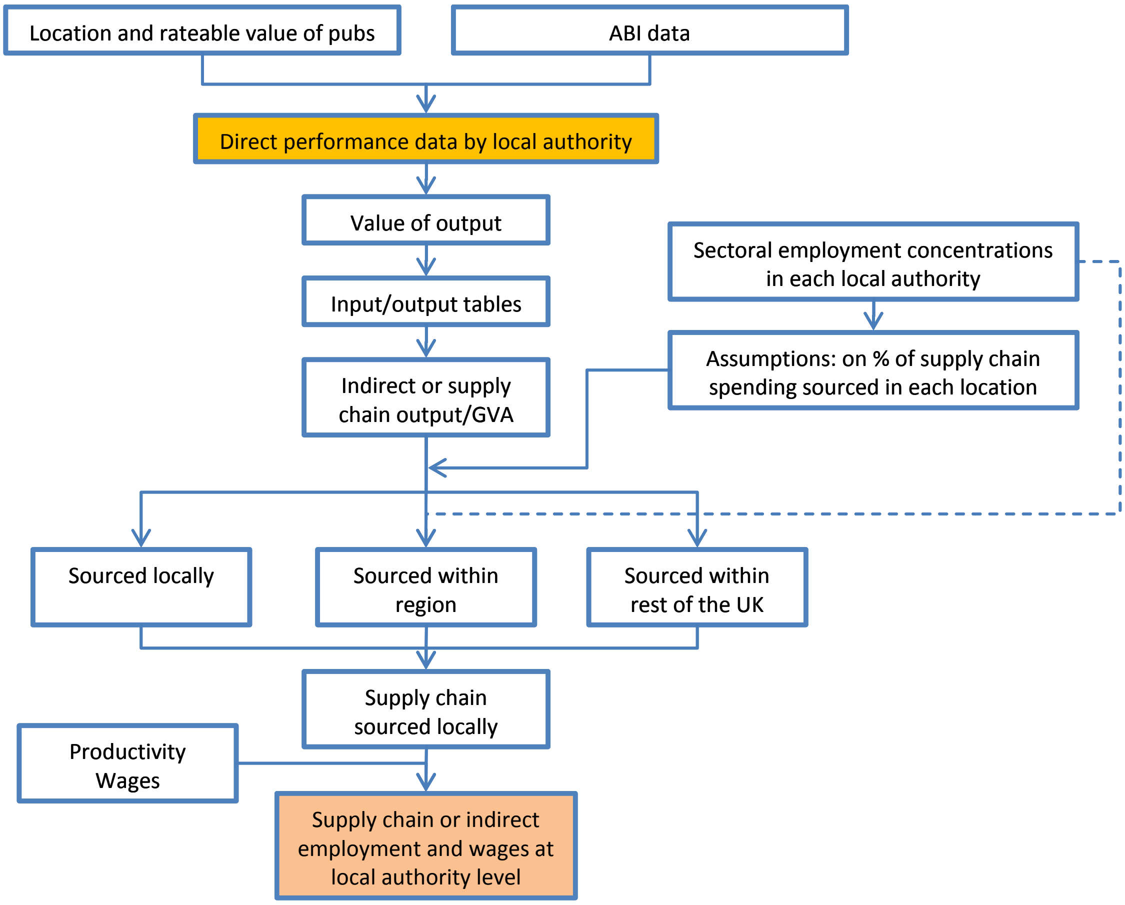
The first step was to estimate local performance metrics for the pub sector. In doing so we used the rateable value for each pub in England and Wales.

The rateable value is estimated using the "fair maintainable trade valuation method". It assesses the rateable value of pubs and other licensed premises. Fair maintainable trade is the annual level of trade (excluding VAT) that a pub can be expected to achieve assuming a reasonably efficient operator. It is based on:

- The type of pub or licensed premises
- The area it is in
- What services it is able to offer – such as food, gaming and sports screenings.

Actual rents and turnovers collected from businesses are used to arrive at levels of fair maintainable trade. A percentage to the fair maintainable trade figure is used to calculate the rateable value.

Figure 1: Conceptual model framework - estimating indirect benefits



Using the rateable values of each pub we apportioned out each of the performance metrics (e.g. employment, GVA, turnover, etc). We were then able to sum up and produce direct benefits for each Local Authority and consequently regional totals. Direct benefits include those directly employed in the sector in question, the earnings from the sector, and the value of output or GVA directly from the sector.

The value of direct output from the sector was then used in conjunction with the UK input / output tables to work out the indirect or supply chain impacts.

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 incomes and other income (mainly profits). In essence an input / output model is a table which shows who buys what from whom in the economy.

Although Input / Output tables gave us an estimate of supply chain spending, they do not assign this geographically. To overcome this we used the sectoral employment concentrations in each local authority along with assumptions to split the supply chain spending or indirect spending into that sourced locally within the Local Authority Area, that sourced within the region and that sourced within the rest of the UK.

We have assumed that sourcing of certain activities should be treated separately. For example, for low value sectors it is likely that a business will look to those closest to it, whereas for high value sectors they will be more open to sourcing services and goods from further afield. The higher the concentration of employment in any one sector the more we assume they source locally.

Table 1 sets out our assumptions. So for example, if an area has a Location Quotient (LQ)[4] in a low value sector of below 50 we have assumed it sources 40% locally, 30% regionally and 30% nationally. However if they have a location quotient above 50 and below 100 in a high value sector, we assume they source 30% locally, 30% regionally and 40% nationally.

Table1: Supply chain spending assumptions

	Locally (%)		Regional (%)		Nationally (%)	
LQ	Low value sectors	High value sectors	Low value sectors	High value sectors	Low value sectors	High value sectors
<50	40	20	30	35	30	45
51-100	50	30	25	30	25	40
101-150	60	40	20	25	20	35
151-200	70	50	15	20	15	30
201-250	80	60	10	15	10	25
250>	90	70	5	10	5	20

Similarly, the supply chain spending that is allocated regionally and nationally, is distributed across the relevant local authorities based on employment concentrations.

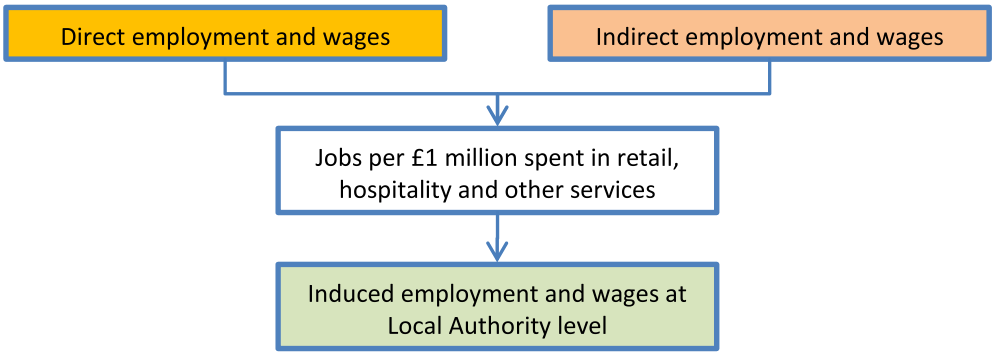
The result is an estimate of supply chain or indirect output split by sector and local authority. After converting this to GVA, we then apply regional sectoral productivity estimates to produce indirect employment. Regional wages are then used to produce indirect wage estimates for each local authority.

The next stage is to produce our induced employment and wage impacts (i.e. the creation of direct and indirect jobs will induce further employment creation

[4] A location quotient shows the concentration of sectoral employment in an area relative to its regional or national average. For example a local authority with a LQ in a specific sector of 100 would mean it has the same proportion of employment in that sector as the regional average. A figure above 100 depicts a higher concentration of employment, and a figure below 100 represents a lower concentration.

through the spending of direct and indirect earnings). Typically, the majority of consumers' disposable income will fall into the three sectors of retail, hotels and restaurants and other personal services. We therefore make an estimate of the number of jobs found in each sector per £1m of income. Given we have calculated direct and indirect wages, we can then estimate the number of additional induced jobs that would be expected to arise in each Local Authority.

Figure 2: Conceptual model framework - estimating induced benefits



Parliamentary Constituency estimates

Estimating the impacts across Parliamentary Constituency (PC) is hindered by the lack of economic data available. In arriving at estimates we used the results of the local authority models.

Estimating direct impacts for brewing and pubs was straight forward given postcode data allowed us to identify the PC (we used the same approach as the one described above). In calculating the indirect and induced impacts we took the regional totals from the LA work (see above), and apportioned the results across PC based on regional population shares.

In estimating the direct impacts of beer sold through the off-trade and hotels and restaurants sector, we took the regional estimates and apportioned them out to PCs based on population shares. Ideally we would have used sectoral employment, however the data was not available. We used the same approach to estimate the indirect and induced impacts by PC.

Limitations

The model developed for this study provides a robust tool for estimating local benefits arising from brewery and beer sales. However it does have limitations:

- In practice pubs or breweries will not source goods and services based purely on regional boundaries and sectoral employment concentrations; there is likely to be a preference for proximity. Despite this, the approach adopted in the model provides a sensible approach to allocating impacts, and takes account of proximity by allocating spending to the local economy, then the regional economy and followed by the UK economy.

- In an ideal world, all the analysis would have been undertaken at PC area from the start. Unfortunately insufficient data exists. We have therefore had to estimate the impacts.
- In our analysis we use 2010 employment and rateable value data to get a picture of the sectors. However the ABI data available is only 2007. Therefore our estimates of GVA, turnover and wages are likely to underestimate the impacts. Ideally we would use 2010 financial data on the sector, however the ABI always has a lag of at least two years.
- Data for manufacturing of beer is limited at a regional level and can be exceptionally volatile:
    - GVA data for the manufacturing of beer is extremely volatile at a regional level and not available for many regions. For the five regions that have published GVA data, we calculated that productivity in 2007 ranged from £154,000 (in Wales) to -£364,000 (in London). As a result productivity in the sector was set equal to the UK average;
    - The same is true of wages and turnover data. As a result, these have been set equal to national averages.

Annex B: Existing estimates

Introduction

E&Y have produced a number of reports on the economic impact of beer in the UK and the rest of Europe. The most recent study was published in 2009 and covers the impact of beer at a national level.

The one major difference between the E&Y estimates and those contained in this report is the scope of the analysis. E&Y focused on the impact of beer, and therefore considered:

- The brewing of beer;
- The supply chain of the brewing sector;
- The direct employment in pubs, clubs, restaurants and hotels that arise due to the selling of beer;
- The direct employment in the off-trade that arises due to the selling of beer.

The Oxford Economics study not only considered the impact of beer, but it also considered the total impact from the pub sector. The analysis contained in this report is therefore more comprehensive and not directly comparable to the E&Y findings. We cover the following at local, regional and national levels:

- The brewing of beer, its supply chain and the wider induced impacts;
- The direct, indirect and induced employment and wages in the pubs sector (this analysis includes all activity within the sector, not just beer activity);
- The direct, indirect and induced impacts in the on-trade (excluding the pubs sector) that arise due to the selling of beer;
- The direct, indirect and induced employment in the off-trade that arises due to the selling of beer; and
- The overall direct, indirect and induced impacts of beer and pubs.

E&Y: brewing sector estimates

The E&Y study reported that the brewery sector employed approximately 15,000 people across the UK in 2008. They estimated that the sector resulted in indirect employment of 48,500 through supply chain purchases.

In estimating the induced impacts of the sector E&Y estimated the employment that can be attributed to the sale of beer; they estimate this figure at 333,700. In this study, Oxford Economics have taken a slightly different approach (as requested by BBPA). Our estimates of induced impacts arise from the spending of those employed either directly in the brewing sector or indirectly in the supply chain.

E&Y: pub sector estimates

The 2009 E&Y study did not provide an estimate of total employment in the pub sector. Rather it focused on providing an estimate of the employment arising through the sale of beer in the hospitality sector (i.e. including hotels, restaurants and pubs). However the 2007 E&Y study did note that in 2005 the sector employed 529,000 employees.

Again, in this report Oxford Economics (as requested by BBPA) have provided an economic impact assessment of the entire pub sector (excluding hotels and restaurants which we consider separately).

E&Y: off-trade estimates

The E&Y study reports that 46% of beer consumption in the UK was distributed through the off-trade channel. Using the average price of beer (excluding VAT), it was estimated that consumer spending on beer in the off-trade equated to €5.2bn or £4.1bn (using exchange rates for 2008). Using turnover per employee, E&Y estimated 17,200 jobs were sustained through the sale of the beer in the off-trade sector.

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