UK MUSIC

METHODOLOGY

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2017

THE CONTRIBUTION OF LIVE MUSIC
TO THE UK ECONOMY

OXFORD
ECONOMICS

METHODOLOGY

This paper summarises our approach to estimating the economic impact of live music tourism (both foreign and domestic) on the UK economy during 2016. The results build on previous research, commissioned by UK Music, and carried out by the International Centre for Tourism and Hospitality Research at the University of Bournemouth. The transparency with which we are able to outline this approach is limited, to some extent, by the confidential nature of some of the data obtained from third party sources e.g. data provided by PRS for Music on the value of royalty payments collected for artists.

For the purposes of measuring the numbers of music tourists in the UK, their spending and associated economic impact, this study counts music goers as tourists:

– For overseas visitors, if they book their ticket to a music event from their home address in a country outside the UK.

–– For domestic visitors, if they travel at least three times the average commuting distance in the Government Office Region (GOR) in which the event took place in order to attend the event. We also include the following restrictions:

–– We have examined attendances at all live music events for which suitable data exists. This includes all concert venues and all festivals with capacity over 1,500. This identifies the majority of spending at UK live music events. The issue with not setting a limit on festival venue capacity is one of tractability.

– Live music must be the primary attraction at the relevant event. Great care has been taken to exclude cases where music is only part of the offering, such as cultural festivals, arts festivals and musical theatre. Including these would necessarily increase the results.

Our methodology involved estimating the attendance at live music events across a range of entertainment venues (festivals, arena concerts, stadium concerts, park concerts and concerts at other venues e.g. nightclubs, theatres etc). This breakdown was primarily influenced by the existing format of some of the data that was provided to us (particularly by PRS for Music).

For both concerts and festivals, two main channels of economic impact were measured: first, the box office receipts generated by foreign and domestic tourists; and, second, ancillary spending of domestic and foreign tourists as a result of attending these events. Doing so required us to estimate the number of domestic and foreign tourists at within-scope events. For this, data from a range of ticket distributors were used to estimate the proportion of these attendees that were domestic (as defined in this study) and foreign tourists respectively. In total, this gave a sample size of nearly 30% of the total tickets sold to within-scope events during 2016.

In addition, the economic impact included estimates of the additional expenditure by foreign tourists during the entirety of their stay in the UK. Such an approach was consistent with that used in the previous study and is also consistent with the method used by the Office of National Statistics (ONS) when assessing the economic contribution of event-driven foreign tourism.[1]

These expenditure estimates were then transformed into more standard metrics such as Gross Value Added (GVA) and Full Time Equivalent (FTE) employment. The final stage of the analysis was to assess the "multiplier" effects of such an injection of expenditure. Although, many impact studies quantify both the indirect and induced effects of an initial direct stimulus, the analysis in this study is constrained to just the indirect or supply chain effect. Doing so ensures that our estimates are consistent with the official valuation of GDP.

The remainder of this section provides further detail on each of these stages as follows:

–– The methodology used to classify local tourists.

The approach used to estimate the attendance and associated flows of domestic and foreign tourists to live music events.

–– The estimation of the various channels of expenditure including box office receipts, associated ancillary spending, and wider trip expenditure by foreign tourists.

–– The methodology used to transform these expenditure values (essentially estimates of direct GO) into an associated contribution to GDP and FTE employment.

––The approach to quantifying the indirect impact of live music tourism spending.

1   For example when the ONS assessed the value of in-bound tourism associated with the staging of the 2012 Summer Olympics, it included the total spending of foreign tourists who purchased tickets for Olympic and Paralympic events whilst in the UK. See http://www.ons.gov.uk/ons/rel/ott/travel-trends/2012/rpt-travel-trends--2012.html#tab-Visits to-the-UK-for-the-London-2012-Olympic-Games- and-Paralympics for further details.

CLASSIFICATION OF A TOURIST

Domestic visitors were classified as either "locals" or "tourists" based on distance travelled to the venue rather than on whether their initial location was in a different GOR. The challenge with using a "distance" criterion was defining an appropriate threshold for distance travelled. To our knowledge, there is no official guidance on this issue, with the ONS instead defining a domestic tourist as someone who has travelled "outside of their natural environment".[2] Given this phrase, we felt it appropriate to quantify the threshold in terms of the distance of an average "commute" which provides a benchmark of what one might consider a "natural environment". The decision to multiply this distance by three was, to some extent, arbitrary (multiplying this distance by two would also in our view be entirely defensible) but reflected our aim to retain a relatively conservative approach to estimation.

In order to quantify average commuting distances across the GOR's we used data from the ONS on commuting patterns of UK residents across Local Authority Districts (LADs) in 2011.[3] For each LAD, a postcode was taken to correspond to the centre of the area. The distance between relevant LADs was then quantified using mapping software which enabled us to produce an estimate of the average commuting distance for each LAD. These figures were then appropriately aggregated to the GOR level.[4]

Estimated average commuting distance and associated distance threshold for categorisation of domestic tourism by GO

GOR	AVERAGE COMMUTING DISTANCE (MILES)	GOR DOMESTIC TOURISM THRESHOLD(MILES)
EAST MIDLANDS	12.4	37.2
EAST OF ENGLAND	13.8	41.5
LONDON	11.5	34.5
NORTH EAST	13.9	41.6
NORTH WEST	11.1	33.4
SCOTLAND	15.7	47.2
SOUTH EAST	12.9	38.8
SOUTH WEST	13.3	39.9
WALES	12.2	36.6
WEST MIDLANDS	12.7	38.1
YORKSHIRE & THE HUMBER	13.6	40.9
UK	11.8	35.5

ESTIMATING ATTENDANCE AND TOURISM FLOWS

Our method for estimating attendance varied according to the type of event venue and the associated evidence base that was available.[5]

FESTIVAL ATTENDANCE[6]

We compiled a database of festivals along with information where possible on capacity and attendance. In total, our list documented 311 festivals although not all of these took place during 2016.[7] Of these, we obtained capacity data for 228 (82%). Therefore, the first step was to estimate capacity data for the remaining 51 festivals. In order to do so, we used the following decision rules:

–– We assume that capacity information for larger festivals (capacity of at least 30,000) will be more readily available and hence assume that all festivals with an unknown capacity are smaller than this.

–– It also seems reasonable to assume that festivals with no capacity information are smaller on average. Therefore, we reduce our estimate of the number of unknown festivals that have capacities between 5,000-29,999 and 1,500-4,999 by 25%.

–– In addition, it is assumed those festivals for which we have no capacity data but that are thought to have capacities greater than 5,000 have smaller average capacities than festivals in our database, so we reduce the expected capacities of these venues by 33%. A similar assumption is made about festivals with an assumed capacity of between 1,500-4,999.

–– Our evidence base for attendance is much smaller but is applied where available. In line with the previous report, we assume that festivals with a capacity of greater than 30,000 sold out with the remainder of in-scope festivals assumed to have been attended by an audience of 90% of the venue's capacity.

–– As a final step, we attempted to adjust our estimates for the fact that the preceding analysis formed estimates of the daily capacity/attendance at the various music festivals despite the majority of festivals being multiday events. In order to adjust for this, data was collected on the length of festivals. Where this information was not available, we assumed a length of 2.7 days, equivalent to the average length of festivals for which this information was available.[8] Multiplying the daily attendance by the number of days would provide an upper bound for the number of unique attendees. However, it is clear that a significant proportion of visitors attend for the entire duration (or at least a period longer than one day) of the festival. Therefore, we assumed that 23% of festival goers were day visitors with the remainder attending the whole of the festival. This was based on ticketing data made available to us about the breakdown of ticket sales for some of the major UK music festivals.

The lack of a single source for festivals means that gathering data for festivals with capacity below 1500 was not feasible. The high impact of large festivals means that the addition of small purely music festivals is unlikely to contribute very much on top of the results presented in this report.

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2   See for example p.12 of the TSA recommended methodological framework (http://epp.eurostat.ec.europa.eu/portalpage/portal/tourism/ documents/BGTSA.pdf).

3   2014 data was not available at the time of the research. Since average commuting distance is unlikely to be subject to much short-term volatility any distortion to the results is likely to be negligible.

4   Data for Northern Ireland was not available, so the threshold was assumed to be equal to the UK average of 35.5 miles.

5   To reemphasise, for a festival to fall within the scope of this study, the primary offering of the event must be music, therefore excluding events such as the Edinburgh Festival, Greenbelt Festival, WOMAD and the Huddersfield Contemporary Music Festival where music forms only part of the offering.

6   This approach draws heavily on the previous report undertaken by the International Centre of Tourism and Hospitality Research at the University of Bournemouth.

7   In particular, a number of festivals are cancelled permanently, are affected by weather or plan to miss certain years

8   This average excluded the Proms and other abnormally long-running festivals in order not to distort the mean.

In total, these steps resulted in final estimates for total individual attendance at within-scope music festivals of 4 million in 2016. (See table below.)

ARENA ATTENDANCE

In comparison to festivals, estimating the attendance at arena concerts was more straightforward. We extrapolated the results from reports by SEC[9] on attendance and box office receipts of concerts at covered venues across the entire UK arena population.[10]

For arenas not covered in the SEC report we assumed that the venues held the same number of concerts, were on average filled to the same level of capacity, and charged the same average ticket price. Based on this, we estimate total arena concert attendance in the UK of 9 million in 2016.

OTHER CONCERT ATTENDANCE

These events were classified into three separate categories: stadium concerts; park concerts; and concerts at other venues such as nightclubs, theatres and academies. For each of these categories we used PRS for Music data on concert royalty payments to estimate the total box office sales for concerts at these venues in 2016. Based on this, total attendance at these events was estimated using an assumed average ticket price. The assumed average price was based on the (mean) average price of the various event types according to the sample of ticketing data made available to us by ticketing agents and box offices.

ESTIMATING TOURISM FLOWS

Having generated estimates of total attendance at music festivals and concerts split by the various venue types, we then estimated the respective flows of foreign and domestic tourists to these events using a large sample of ticket data sourced from a variety of agents. Included in the data were details on the number of tickets purchased, the value of the transaction, the first half of the customer postcode and details on the name of the event and venue. Once this dataset had been filtered to exclude both events where music was not the sole entertainment offering, we were left with just over 9.4 million ticket sales, equivalent to nearly 30% of total estimated attendance at the various music events.

Based on the available ticket sample, we developed estimates of the proportion of ticket sales that were sold to domestic tourists, foreign tourists and locals in different GORs across the five event types. For each domestic transaction, an estimate was generated for the distance travelled by the purchaser using the relevant postcode data, and then compared to the threshold values for a domestic tourist. In instances where our sample size for the specific GOR/ event type combination was less than 5% of estimated total attendance, the relevant tourism penetration flows were estimated based on the average results from other regions.

Estimated UK music festival capacity and attendance in 2016

	NUMBER OF FESTIVALS	AVERAGE CAPACITY PER DAY	AVERAGE ATTENDANCE PER DAY	TOTAL ATTENDANCE PER DAY	TOTAL INDIVIDUAL ATTENDANCE
Capacity greater than 30K	28	62,607	62,607	1,752,998	2,043,567
Capacity between 5K and 29.9K	100	10,967	9,870	987,015	1,411,401
Capacity between 1.5K and 4.99K	54	2,576	2,318	125,194	223,590
Less than 1.5K	97	627	565	25,968	64,387
Unknown Capacity	51	3,922	3,530	180,010	273,690
Imputed between 5K and 29.9K	23	7,348	6,613	148,792	212,769
Imputed between 1.5K and 4.99K	15	1,726	1,553	23,766	42,445
Imputed less than 1.5K	13	627	565	7,452	18,476
Total	220	14,470	13,821	3,037,765	3,933,771
Total within scope	330	10,453	9,939	3,071,185	4,016,634

Estimated share of total attendance in ticket sample by event type

Arenas	Festivals	Grass Roots	Other	Park	Stadium	Total
57.8%	18.8%	21.4%	16.2%	40%	7.6%	30.6%

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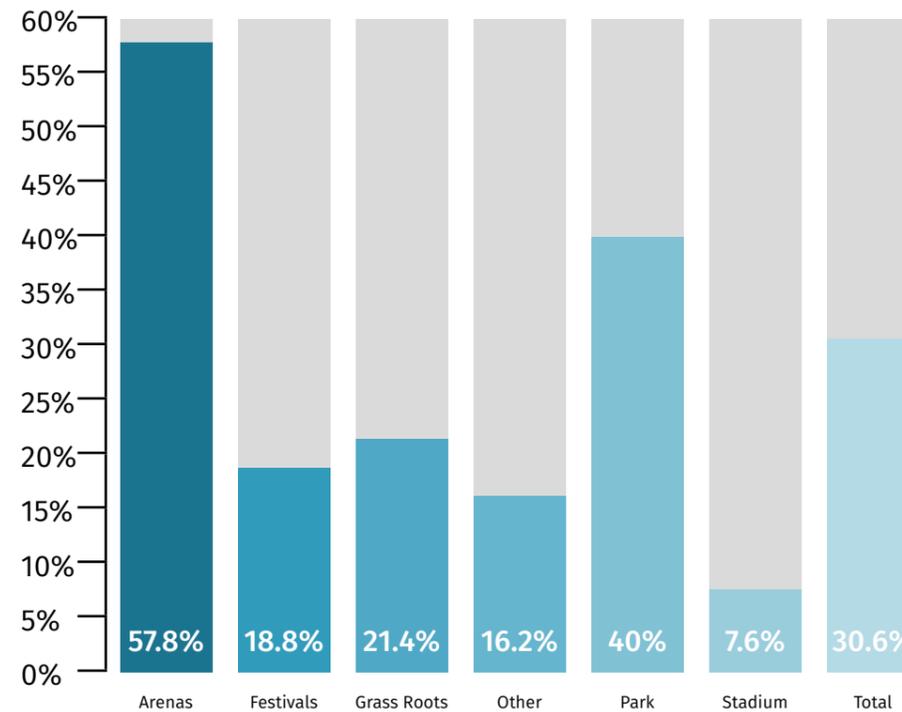
9   "Music and Event Research 2014", a report prepared for the NAA by SEC Ltd, March 2012, and "Music and Event Research 2014", a report prepared for the NAA by SEC Ltd, March 2014.

10   In addition to the NAA members, the results from the SEC report also cover ticket sales at the Manchester Arena and the Metro Radio Arena in Newcastle. Together these venues account for over 80% of the total capacity of UK arenas which regularly stage music concerts.

11   PRS for Music is a society of songwriters, composers and publishers which licenses organisations to play, perform or make available copyright music and then distributes accruing royalties appropriately. Since royalty payments are set as fixed proportion of box office revenue the value of a royalty payment can be used to quantify the box office revenue of that event.

Assumed visitor shares by event type and GOR

	CONCERTS			FESTIVALS		
GOR	Locals	Domestic Tourists	Foreign Tourists	Locals	Domestic Tourists	Foreign Tourists
SCOTLAND	63.4%	33.5%	3.1%	39.6%	56.2%	4.2%
NORTH IRELAND	66.1%	31.5%	2.4%	39.6%	56.2%	4.2%
WALES	56.6%	42.2%	1.2%	39.6%	56.2%	4.2%
NORTH EAST	70.1%	28.6%	1.3%	39.6%	56.2%	4.2%
NORTH WEST	59.2%	38.8%	1.9%	39.6%	56.2%	4.2%
EAST MIDLANDS	62.4%	36.2%	1.4%	39.6%	56.2%	4.2%
WEST MIDLANDS	64.5%	34.7%	0.8%	38.3%	61.3%	0.4%
YORKS & THE HUMBER	63.4%	36.1%	0.5%	34.3%	56.9%	8.7%
EAST OF ENGLAND	67.5%	28.3%	4.2%	30.6%	68.0%	1.4%
SOUTH EAST	73.1%	25.3%	1.6%	55.1%	44.0%	0.9%
LONDON	60.1%	35.6%	4.3%	59.0%	27.7%	13.3%
SOUTH WEST	52.8%	46.0%	1.2%	20.2%	79.0%	0.8%

ESTIMATING TOURISM SPENDING

BOX OFFICE RECEIPTS

For festivals, we applied an assumed average ticket price to our estimate of total unique attendees. The assumed average price was based on the sample of ticketing data for festivals across different regions of the UK. For regions where we felt that the data sample was not sufficiently representative (ticket sales covered less than 25% of total estimated attendance) an average price across the other regions was used.

For arena concerts, we extrapolated the results from the SEC arena survey on box office receipts across other UK-based arenas assuming the same average ticket price of £45 in 2016. (See chart below.)

For the remainder of concerts (parks, stadiums and other venues), we used data collected by PRS for Music on royalty payments to estimate box office receipts at concerts across each GOR. Since royalty payments are set as a fixed proportion of box office receipts (although the tariff does vary depending on the type of events), this method should provide an accurate means of estimating total box office revenue. Although, it would be impossible to produce a "complete" estimate for this question, we are confident that the PRS for Music figures offer the most extensive coverage of any available source. These figures are net of VAT and do not reflect any booking fees or other charges by ticket vendors.

ANCILLARY EXPENDITURE

In general our approach to quantifying associated ancillary expenditure involved applying information gathered from survey responses on spending habits to our estimates of the total number of foreign and domestic tourists or festivals we relied upon the AIF survey for 2016. and survey responses supplied by Richard Fletcher, Festivals Manager at De Montfort University. These surveys divide respondents into locals, foreign and domestic tourists[12] which neatly fitted into our approach. Respondents are asked a variety of questions about total on-site and off-site expenditure during their visit to the festival. We categorised this expenditure into five items: accommodation; travel; onsite spending; offsite spending and other. The implied spending patterns are summarised below. We then allocated this expenditure geographically using the following decision rules, consistent with the previous report:

–– It was assumed that 50% of the difference between foreign and domestic tourist's travel expenditure will leak abroad, with the remainder located within the UK. For both domestic and foreign tourists, we assumed that 50% of domestic travel expenditure impacts locally. This residual 50% was then split between the GORs based on their share of UK transport GVA to ensure that the regional total summed to the national estimate.

–– In order to avoid double counting of box office revenue (which can include camping costs) we excluded one quarter of the accommodation expenditure by foreign and domestic tourists.

Although it is likely that average ancillary spending at concerts will be lower than at festivals, it is fair to assume that tourists will still need to spend money to travel to the venue and will undertake some offsite spending on accommodation, food and drink etc. Therefore, in line with the previous study we assumed that foreign and domestic tourists would spend the same average amount on travel and offsite spending. However, reflecting the shorter duration of a concert, we scale these figures down to reflect one day's expenditure.

In addition, we were allowed access to an NAA survey of individual members on onsite expenditure at concerts. Due to issues of confidentiality we are not able to share details on the expenditure figures collected in this survey but it does mean that our results include estimates of onsite concert expenditure on merchandise and catering. We assumed that these spending levels applied across the other concert venue types (stadiums, parks, other).

Extrapolated arena attendance and box office receipts[13]

UK ARENAS COVERED BY THE SEC REPORT				OTHER UK ARENAS				TOTAL POPULATION	
Aggregate Capacity 000's	Aggregate Attendance 000's	Average Ticket Price £	Total Box Office Receipts £ mns	Aggregate Capacity 000's	Aggregate Attendance 000's	Average Ticket Price £	Total Box Office Receipts £ mns	Total Attendance 000's	Total Box Office Receipts £ mns
234	6,635	45	302	66	2,258	45	103	8,893	405

12   The AIF survey defines someone as a domestic tourist if they travel in excess of 20 miles in order to attend the festival. This clearly does not match up to our definition, the impact of this discrepancy is almost certainly negligible.

13   These figures have been adjusted to remove the estimated share of the Dublin O2 arena (in terms of attendance, capacity, box office receipts etc). Activity at the venue is counted as part of the SEC aggregate figures but falls outside of the scope of this project which is only concerned with UK-based live music events.

Summary of survey responses on survey ancillary spending [14]

AVERAGE EXPENDITURE [£]					
	Sample Size	Accomodation	Travel	Onsite Spend	Offsite Spend	Other
Domestic tourist	2813	46.4	40.7	214.3	29.9	14.2
Local	434	27.8	15.6	194.5	30.5	8.8
Foreign	99	104.8	324.6	277.4	63.6	40.3

WIDER FOREIGN TOURIST SPENDING

In addition to the ancillary expenditure by foreign tourists related to their visit to the music event, we have also estimated the wider trip expenditure by visitors to the UK. In order to do so we used data from the latest International Passenger Surveys (IPS) compiled by VisitBritain. According to IPS (2014) the average foreign visitor to the UK spent 7.5 nights in the country on each visit with an average expenditure of £81 per night. We used these figures to extrapolate for foreign music tourists for the remainder of their expected stay in the UK. Therefore, for festival-goers in 2016, it was assumed that they spent an additional 4.8 nights (using the assumption that the average festival lasts 2.7 nights) in the UK spending £81.0 per night etc.

This additional expenditure was then broken down sectorally based on the breakdown of tourist expenditure by region classified in the 2011 UK Tourism Satellite Account (TSA) developed by the ONS. This breakdown is summarised in the table below.

VALUING THE CONTRIBUTION TO GDP AND EMPLOYMENT

The next stage of our analysis was to transform the gross expenditure figures (effectively an estimate of gross output (GO)) into metrics of more interest including the direct contribution to GDP and associated employment. In order to do so, our general approach was to apply a relevant ratio of GVA to expenditure (depending on the nature of the spending). FTE employment figures were then derived based on estimates of regional productivity in that sector.

GVA

Ratios of sectoral GVA to GO were sourced from the Annual Business Survey (ABS) produced by the ONS. The latest available publication relates to calendar year 2014, so the results from this were assumed to hold in 2016. The table below documents the ratios that were applied for various categories of expenditure including the relevant SIC codes that were used.

The ratios reported below were used for the various categories of ancillary expenditure identified during the analysis. Meanwhile, for box office receipts we used a breakdown of revenue from an arena concert supplied by Paul Latham, Chief Operating Officer of Live Nation from the UK Music Live Music Group. His view was that the relevant aspects of this dataset (i.e. the ratio of value added to total receipts) would also apply for a festival. Due to issues of confidentiality, we cannot provide details on the breakdown but the data indicated that the ratio of GVA to GO for box office receipts was around 0.595.

FTE EMPLOYMENT

The resulting estimates of direct GVA were used to quantify associated FTE employment using relevant estimates of productivity by sector and region. These were derived based on data and forecasts from Oxford Economics' regional forecasting model which covers GVA and employment across a range of sectors. Since data was not available to the same level of disaggregation as the ABS, wider sectors had to be used to cover expenditure categories (e.g. rather than passenger transport, transport and storage was used as the relevant sector). In order to adjust for part-time employment, we used data from the Business Register Employment Survey (BRES) by the ONS. This documents the number of full-time and part-time employees working across different sectors of the economy. A scaling factor was then developed assuming that a part-time employee on average works for half the number of hours per week as his full-time equivalent. Productivity estimates are summarised overleaf.

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14   The onsite figures include the residualpart of entertainment expendituee excluding the price of the ticket. The economic impact of the latter is already accounted for in terms of our estimate of box office receipts. The average festival price Was based on the average price implied by the ticketing data.

Turnover and GVA by sector

Sector	SIC	Turnover	GVA	Ratio
Passenger Transport	49.1; 49.3; 50.1; 50.3; 51.1	55,941	24,893	0.445
Food and beverage service activities	56	63,709	32,619	0.512
Accommodation	55	23,326	14,055	0.603
Retail trade, except of motor vehicles and motorcycles	47	376,734	84,621	0.225
UK Business Economy		3,544	1,167	0.329

All monetary figures presented in the table are in £millions except for the UK business economy which is in £billions

QUANTIFYING THE INDIRECT IMPACT

In order to quantify the indirect impact across the various regions of the UK we used a dynamic regional input output model of the UK economy. 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. In essence an inputoutput model is a table which shows who buys what from whom in the economy (See table opposite.)
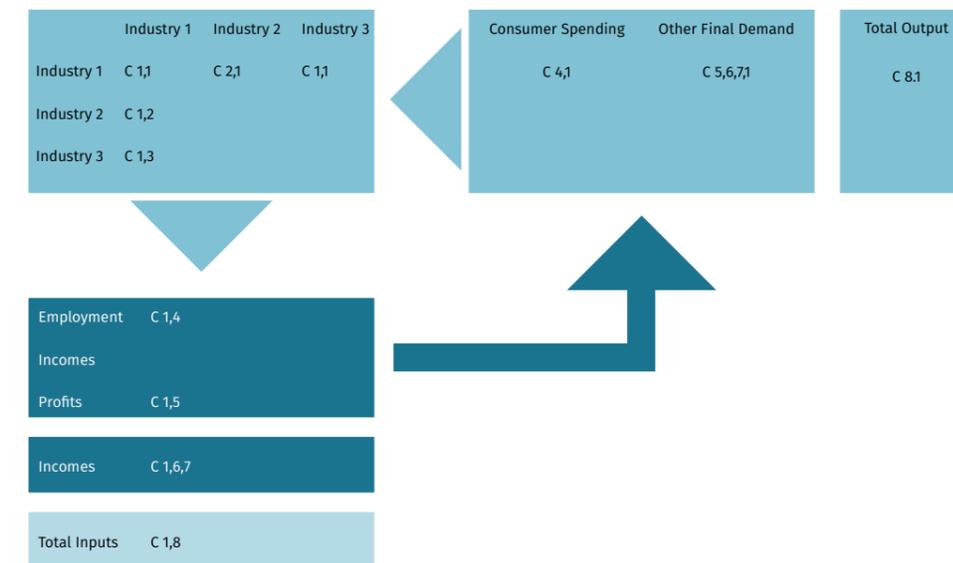
The ONS periodically produces input output[15] but does not disaggregate these to the regional level. In order to estimate such a variant for each GOR, we followed the process adopted[16] by Flegg et al (1995). Therefore, the relationships between different sectors embedded within the domestic use IO table are adjusted to accommodate both their relative sizes in comparison with the rest of the UK, as well as their relative importance in the regional economy. In doing this, the domestic use input-output table better reflects the nature of the regional economy and the level of inter-regional trade occurring for the area of interest. In practice, the local multipliers are smaller than at the national level, reflecting a much higher incidence of "leakage".[17]

In addition, an iterative process was required to reflect the fact that some of the "leakage" from another GOR will reflect demand created across other regions of the UK. So, for example, a one stage-model would only pick up demand created for Scottish suppliers by the live music tourism activity estimated to have taken place within Scotland and therefore would exclude demand created for Scottish suppliers by live music tourism activity in other parts of the UK.

Across each region, the input to the model was calculated as the sum of GO less GVA (technically equal to intermediate consumption) allocated sectorally according to the breakdown of intermediate consumption of the relevant sectors according to the IO table. This generated an estimate of indirect GO which was transformed into GVA and FTE employment using the same process as outlined earlier.

FTE jobs per £million of GVA by region and sector

GOR	Accommodation & Food Services	Arts, Entertainment & Recreation	Transport & Storage	Wholesale & Retail Trade	Whole Economy
SCOTLAND	33.4	29.9	23.1	21.2	18.3
NORTH IRELAND	40.5	34.6	26.3	22.3	20.5
WALES	42.7	47.7	27.5	26.1	21.8
NORTH EAST	40.7	35.6	25.1	23.3	20.4
NORTH WEST	35.6	29.5	25.5	22.7	19.5
EAST MIDLANDS	37.8	32.6	24.7	22.5	20.1
WEST MIDLANDS	33.4	33.1	30.7	26.0	20.2
YORKS & THE HUMBER	36.2	33.7	25.6	21.9	20.8
EAST OF ENGLAND	34.7	31.2	24.9	21.2	17.8
SOUTH EAST	38.9	27.5	21.9	18.4	16.4
LONDON	28.6	19.9	16.8	17.0	13.2
SOUTH WEST	29.3	35.4	27.5	22.9	19.0

A stylised input output model

	Industry 1	Industry 2	Industry 3		Consumer Spending	Other Final Demand		Total Output
Industry 1	C 1,1	C 2,1	C 1,1		C 4,1	C 5,6,7,1		C 8.1
Industry 2	C 1,2							
Industry 3	C 1,3							

Employment Incomes Profits	C 1,4 ... C 1,5
Incomes	C 1,6,7
Total Inputs	C 1,8

15   The most recent covered economic activity during 2010.

16   Flegg A. T., Webber C. D. and Elliott M. V. (1995) "On the appropriate use of location quotients in generating regional input-output tables", Reg. Studies 29, 547-61.

17   "Leakage" refers to any channel through which an injection of money and therefore does not support economic output and activity in the specified region of interest. For example, when a company purchases goods and services, some of these may be purchased from abroad, and therefore would not add to the GDP of the company's country of origin. These imports would be referred to as "leakage". At a regional level, such leakage will inevitably be higher (compared to the national level), as "leakage" occurs not only when goods and services in the supply chain are purchased abroad but also from other regions within the national economy.