

## The Productivity of the Bristol Economy Revised for March 2014

### Summary



The initial impact of the 2008 recession on Bristol's productivity<sup>1,2</sup> (GVA<sup>3</sup> per hour worked) was less severe than that for the UK as a whole. In 2008-09 the productivity of Bristol grew by 1.3% (from 26.6 to 27.0 £/hr), 1.1 percentage points higher than the growth (0.2%) for the UK.



The adverse economic conditions that persisted in 2011 and 2012 resulted in the productivity of Bristol falling by 1.3% (from 28.2 to 27.8 £/hr), a full percentage point more than the fall (0.3%) for the UK.



The recession of late 2008 and the adverse economic conditions of 2011-12 resulted in the productivity of Bristol falling about 8.4% below the value that would have been expected if the trend growth of 2004-8 had continued. This puts Bristol 3<sup>rd</sup> amongst the core city areas behind Tyneside (1.5%) and Liverpool (3.3%) and just in front of the UK, which fell 8.8% below the 2004-08 trend.



Regardless of the effects of the recession and the adverse economic conditions of 2011-12, in 2012 Bristol had the most productive economy (27.8 £ per hr worked) of all the large urban areas (NUTS3<sup>4</sup>) in England outside London.

<sup>1</sup> ONS published revisions to the experimental data for sub-regional productivity (GVA per hour worked) in March 2014

<sup>2</sup> The data presented in this note supersedes that published previously in a note of June 2013

<sup>3</sup> Gross Value Added – the value of an economy - used instead of GDP (Gross Domestic Product) at sub national geographies

<sup>4</sup> 3rd level European geographies "Nomenclature des Unites Territoriales Statistiques" - geographies for which this data set is reported.

# BRISTOL Economic Briefing

## **Bristol the most productive large city economy in England (excluding London)**

Productivity is measured by the amount of economic output (Gross Value Added, GVA) per hour worked. Recently ONS experimental<sup>5</sup> statistics for GVA per hour worked have been revised and updated. The revised data indicates that in 2012, with a GVA per hour of £27.8, Bristol had the most productive economy of all the large urban areas<sup>6</sup> (NUTS3<sup>7</sup>) in England outside London.

Overall, of the 99 areas (NUTS3) in the England for which GVA per hour worked is reported, Bristol is ranked<sup>8</sup> equal 21<sup>st</sup> (with West Sussex). Table A1.1 in Appendix 1 shows the English areas with GVA per hour worked greater than the UK average. There are 22 such areas, over half of which are in London and the Home Counties. Bristol is the only large urban area outside London that has a GVA per hour worked larger<sup>9</sup> than the UK average.

### **Pre-recession 2004 to 2008 Productivity**

With one exception,<sup>10</sup> all of the NUTS3 areas in England saw significant growth in productivity during the period 2004 to 2008. Growth in 22 of the NUTS3 areas was significantly faster than the UK average (1.02 £/hr. per annum); in 25 it was not significantly different and in 54 it was significantly slower. Amongst the Core City<sup>11,12,13</sup> areas one, Tyneside (0.68 £/hr. per annum), grew significantly slower and one (Leeds (1.17 £ per hr. per annum)) significantly faster than the UK average. The others, including Bristol, which had productivity growing at 0.99 £/hr per year from the period, are best described as average in this respect.

### **Post-recession Productivity**

For the UK and 85 of the 99 NUTS3 areas in England productivity growth in the post-recession period was significantly lower than pre-recession. Productivity Growth in the UK fell by about 58% from 1.02 £/hr per annum for the pre-recession to 0.43 £/hr per annum for the post-recession period. Growth rates were more than halved for about 68% of the NUTS3 areas in which productivity fell significantly. Ten NUTS3 areas experienced no significant productivity growth after 2008.

<sup>5</sup> Experimental statistics are subject to changes in methodology. The methodology changed between 2011 and 2013.

<sup>6</sup> Areas with populations (2011 census) greater than 250,000 and population densities larger than 15 people per Hectare.

<sup>7</sup> 3rd level European geographies "Nomenclature des Unites Territoriales Statistiques" - geographies for which this data set is reported. In England Upper tier authorities or groups of lower tier authorities (unitary authorities or districts).

<sup>8</sup> Data, published in 2013, ranked Bristol 14<sup>th</sup> in 2011. The current data has Bristol ranked 20<sup>th</sup> in 2011. See Table A2.1 of Appendix 2

<sup>9</sup> The table shows Bristol equal to the UK but Bristol's GVA is in fact slightly larger than the UK's

<sup>10</sup> The productivity of Wolverhampton fell by 2.9% from £21.4 to £20.8

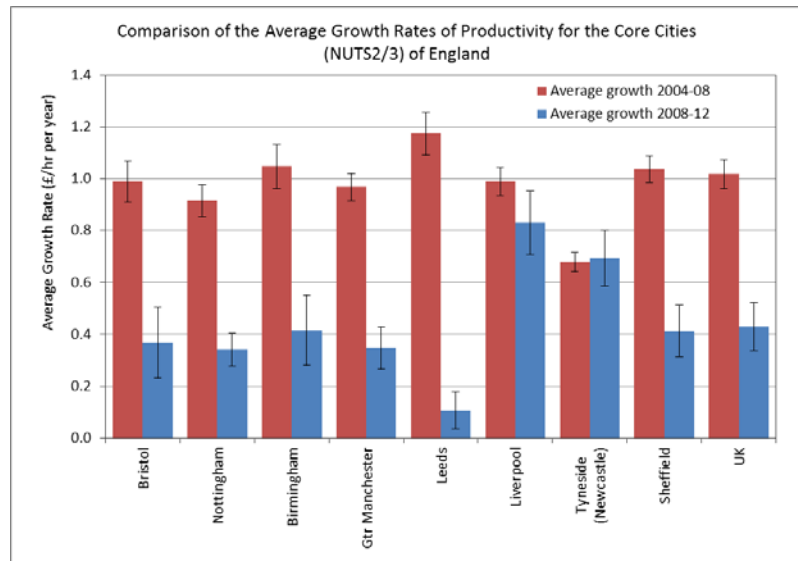
<sup>11</sup> Birmingham, Leeds, Liverpool, Manchester, Newcastle upon Tyne, Nottingham and Sheffield.

<sup>12</sup> Data for the Core City (NUTS2/3) areas is summarised in Table A3.1 in Appendix 3

<sup>13</sup> Newcastle & Manchester are not NUTS3 areas instead data for Tyneside and Greater Manchester are included where appropriate.

## The Core City Areas of England

As is shown in the chart below the performance of six of the Core City areas was indistinguishable from that of the UK. Ranging from 0.34 to 0.42 (£/hr. per year), post-recession growth rates for Bristol, Nottingham, Birmingham, Greater Manchester and Sheffield were all at least 60% below the pre-recession growth rates. The productivity growth for Leeds which had, pre-recession, been growing significantly faster than any other large urban area collapsed to (0.11 £/hr per year) less than 10% of its pre-recession level of 1.17 £/hr per year. There was no significant fall in the growth of productivity for Tyneside and a minor fall in Liverpool, leaving Liverpool and Tyneside with the fastest and second fastest post-recession productivity growth amongst the Core City areas. Bristol, Nottingham, Birmingham, Greater Manchester and Sheffield had the third fastest growing productivity between 2008 and 2012.



Bristol, Nottingham, Birmingham, Greater Manchester and Sheffield had the third fastest growing productivity between 2008 and 2012.

As a consequence of the fall in productivity growth that occurred after the 2008 recession, productivity levels in the core city areas have fallen below those that would have been expected in the absence of the recession and subsequent adverse economic<sup>14</sup> conditions that prevailed during 2011-12.

Area (NUTS2/3)	Ave Linear Growth 2004-08			GVA per hr worked (£/hr)		% difference actual to projection
	Rate (£/hr per year)	95% conf	Quality of fit	Actual 2012	Projection 2012	
Bristol (NUTS3)	0.99	0.16	0.979	27.84	30.41	-8.44
Nottingham (NUTS3)	0.92	0.12	0.953	25.12	27.63	-9.08
Birmingham (NUTS3)	1.05	0.17	0.982	26.46	29.02	-8.82
Greater Manchester (NUTS2)	0.97	0.10	0.958	25.62	28.43	-9.91
Leeds (NUTS3)	1.17	0.16	0.853	27.38	32.08	-14.65
Liverpool (NUTS3)	0.99	0.11	0.996	27.09	28.02	-3.32
Tyneside (Newcastle) (NUTS3)	0.68	0.07	0.973	25.16	25.54	-1.47
Sheffield (NUTS3)	1.04	0.10	0.974	25.17	27.94	-9.89
UK	1.02	0.11	0.969	27.84	30.52	-8.81

Data for the Core City areas is summarised in the table above. Clearly of the Core City areas, Leeds has been the most and Tyneside the least adversely affected. Bristol is third behind Tyneside and Liverpool.

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<sup>14</sup> Nationally the average quarterly GDP growth in 2011 and 2012 was about 0.14%. GDP fell in 4 of the 8 quarters during this period.

## Appendix 1

**Table A1.1: Nominal GVA per hour worked, by NUTS 3 sub-region, Top 23 in England 2004-2012**

Area (NUTS3)	Nominal GVA per hour worked (£)										Rank 2012	2011 Census	
	2004	2005	2006	2007	2008	2009	2010	2011	2012	All usual residents		Density (Persons/Ha)	
Inner London - West	34.7	36.0	38.3	40.9	42.6	42.6	43.5	43.7	43.1	1	Not available		
Inner London - East	28.8	29.8	31.5	33.4	34.7	35.1	36.6	37.5	37.4	2	Not available		
Berkshire	31.0	31.8	32.9	33.9	34.4	34.2	35.3	36.0	35.9	3	861,870	6.8	
Buckinghamshire CC	26.6	27.1	28.0	28.9	29.8	30.4	32.1	33.2	33.2	4	505,283	3.2	
Surrey	27.6	28.3	29.7	31.1	31.9	31.3	32.1	32.7	32.9	5	1,132,390	6.8	
Milton Keynes	26.4	27.0	27.8	28.8	29.5	30.0	31.4	32.6	32.7	6	248,821	8.1	
Outer London - W and NW	26.2	27.0	28.4	30.0	31.1	31.0	31.8	32.3	32.3	7	Not available		
Swindon	24.6	25.2	26.7	28.7	30.5	31.0	31.8	31.9	31.3	8	209,156	9.1	
Cheshire East	24.4	25.3	26.9	28.6	29.8	29.9	30.7	31.3	31.2	9	370,127	3.2	
Cheshire West and Chester	23.8	24.8	26.6	28.7	30.1	30.2	30.7	30.8	30.3	10	329,608	3.6	
Derby	23.1	23.8	25.0	26.3	27.4	27.9	29.4	30.2	30.2	11	248,752	31.9	
Luton	22.3	23.5	25.9	28.3	29.7	29.4	29.7	30.0	29.8	12	203,201	46.9	
Hampshire CC	23.3	24.1	25.5	27.1	28.5	28.9	29.9	30.1	29.8	12	1,317,788	3.6	
Solihull	24.5	25.2	26.6	28.1	29.1	29.2	29.8	30.0	29.6	14	206,674	11.6	
Outer London - E and NE	24.0	24.6	25.7	26.9	27.8	27.7	28.7	29.3	29.4	15	Not available		
Cambridgeshire CC	22.4	22.9	24.0	25.3	26.0	26.0	27.4	28.7	29.3	16	621,210	2	
<b>N &amp; NE Somerset &amp; S Glouc's</b>	<b>23.0</b>	<b>23.6</b>	<b>24.6</b>	<b>25.9</b>	<b>26.8</b>	<b>27.1</b>	<b>28.3</b>	<b>29.1</b>	<b>29.3</b>	<b>16</b>	<b>641,349</b>	<b>5.3</b>	
Hertfordshire	26.3	26.9	27.7	28.4	28.6	28.3	28.9	29.3	29.1	18	1,116,062	6.8	
Oxfordshire	23.0	23.6	24.5	25.5	26.3	26.5	27.8	28.5	28.5	19	653,798	2.5	
Outer London - South	22.8	23.6	24.9	26.2	26.8	26.8	27.4	28.1	28.0	20	Not available		
<b>Bristol, City of</b>	<b>22.8</b>	<b>23.3</b>	<b>24.2</b>	<b>25.5</b>	<b>26.6</b>	<b>27.0</b>	<b>28.0</b>	<b>28.2</b>	<b>27.8</b>	<b>21</b>	<b>428,234</b>	<b>39.1</b>	
West Sussex	22.8	23.5	24.6	25.8	26.7	27.0	27.8	28.2	27.8	21	806,892	4.1	
United Kingdom	22.5	23.2	24.4	25.6	26.4	26.5	27.4	27.9	27.8	N/A	Not available		

London: Yellow

Home Counties: Green

## Appendix 2:

**Table A2.1 Nominal GVA per hour worked, by NUTS 2/3 (Core City) sub-regions, 2004-12**

Area	2004	2005	2006	2007	2008	2009	2010	2011	2012	Rank in England		
										Old-11	New-11	2012
Bristol, City of (NUTS3)	22.8	23.3	24.2	25.5	26.6	27.0	28.0	28.2	27.8	14	20	21
Birmingham (NUTS3)	20.9	21.5	22.5	23.8	25.0	25.5	26.5	26.8	26.5	27	34	36
Leeds (NUTS3)	22.8	23.6	25.0	26.5	27.2	26.9	27.2	27.6	27.4	32	23	24
Gtr Manchester (NUTS2)	20.8	21.5	22.6	23.8	24.5	24.5	25.3	25.7	25.6	N/A	N/A	N/A
Liverpool (NUTS3)	20.3	20.9	21.9	23.2	24.1	24.8	26.1	27.1	27.1	50	29	27
Sheffield (NUTS3)	19.8	20.5	21.6	22.9	23.8	24.0	24.9	25.3	25.2	50	50	50
Tyneside (NUTS3)	20.2	20.7	21.5	22.3	22.7	22.8	23.9	24.9	25.2	56	55	50
Nottingham (NUTS3)	20.5	21.0	22.0	23.2	24.0	23.9	24.5	25.1	25.1	62	54	52

## Appendix 3:

**Table A3.1 Pre-recession (2008) Growth Parameters for GVA per hour worked for the UK and NUTS 2/3 (Core City) sub-regions.**

Area	GVA per hr (£/hr)		% Increase 2004-08	Average Linear Growth Rate (£/hr. per Annum)	95% conf	Quality of fit	Comparisons of Growth	
	2004	2008					wrt <sup>15</sup> UK	wrt <sup>15</sup> Bristol
Bristol, City of (NUTS3)	22.8	26.6	16.9	0.99	0.16	0.981	NSD <sup>16</sup>	NSD
Birmingham (NUTS3)	20.9	25.0	19.5	1.05	0.17	0.980	NSD	NSD
Gtr Manchester (NUTS2)	20.8	24.5	17.8	0.97	0.10	0.991	NSD	NSD
Leeds (NUTS3)	22.8	27.2	19.4	1.17	0.16	0.985	SGT <sup>17</sup>	SGT
Liverpool (NUTS3)	20.3	24.1	18.9	0.99	0.11	0.991	NSD	NSD
Nottingham (NUTS3)	20.5	24.0	17.0	0.92	0.12	0.986	NSD	NSD
Sheffield (NUTS3)	19.8	23.8	20.2	1.04	0.10	0.992	NSD	NSD
Tyneside (NUTS3)	20.2	22.7	12.8	0.68	0.07	0.991	SLT <sup>18</sup>	SLT
United Kingdom	22.5	26.4	17.3	1.02	0.11	0.991	n/a	NSD

**Table A3.2 Pre-recession (2008) Growth Parameters for GVA per hour worked for the UK and NUTS 2/3 (Core City) sub-regions.**

Area (NUTS3)	GVA per hr worked (£/hr)			Ave. Growth 2008-12		Quality of fit	Comparison of growth		% Difference 2004-12
	2004	2008	2012	Rate (£/hr per yr)	95% conf		wrt <sup>15</sup> the UK	wrt <sup>15</sup> 2004-08	
Bristol (NUTS3)	22.8	26.6	27.8	0.37	0.27	0.71	NSD	SLT	22.3
Nottingham (NUTS3)	20.5	24.0	25.1	0.34	0.13	0.90	NSD	SLT	22.6
Birmingham (NUTS3)	20.9	25.0	26.5	0.42	0.26	0.76	NSD	SLT	26.5
Gtr Manchester( NUTS2)	20.8	24.5	25.6	0.35	0.16	0.86	NSD	SLT	23.2
Leeds (NUTS3)	22.8	27.2	27.4	0.11	0.14	0.42	SLT	SLT	20.2
Liverpool (NUTS3)	20.3	24.1	27.1	0.83	0.24	0.94	SGT	NSD	33.6
Tyneside (Newcastle) (NUTS3)	20.2	22.7	25.2	0.69	0.21	0.93	SGT	NSD	24.8
Sheffield (NUTS3)	19.8	23.8	25.2	0.41	0.20	0.85	NSD	SLT	27.2
UK	22.5	26.4	27.8	0.43	0.18	0.88	n/a	SLT	23.6

<sup>15</sup> with respect to

<sup>16</sup> No Significant Difference

<sup>17</sup> Significantly Greater Than

<sup>18</sup> Significantly Less Than