

The Value of the Bristol Economy January 2019

Summary



Between 2011 and 2017 the inflation adjusted Gross Value Added^{1,2} (GVA) of the economy of Great Britain grew at an average of £37.0bn per year between 2011 and 2017. This compares to £40.2bn per year between 1998 and 2007.



Despite solid growth since 2011 (13.5%), in 2017 the GVA of Great Britain was 11.1% below the level that would have been expected if the 2008 recession had not occurred.



In 2017 the GVA³ of Great Britain was £1,775bn, 46.8% larger than it was in 1998.



Long term (1998-2017) the value (inflation adjusted GVA) of the Bristol economy grew at a definite trend⁴ of £182m per year.



Post-recession, between 2011 and 2017, the economy of Bristol grew significantly faster than the long term average at a definite rate of £288m per year.



Regardless of the intermediate behaviour, the economy of Bristol grew by 32.9% between 1998 and 2017. This compares to 46.8% for Great Britain. The economy of Bristol has performed below the British average.



Between 2011 and 2017 the GVAs of four^{5,6} of the ten Core Cities grew more quickly than the British average (13.5%). Post recession the economy of Bristol has performed poorly (12.7%) compared to those of Manchester and Liverpool which grew 36.5% and 18.2% respectively.

¹ Office for National Statistics: [Gross Value Added - Nominal regional, balanced](#)

² Value of the economy: GVA = Gross Domestic Product - Taxes on Products + Subsidies on Products = Outputs-Inputs

³ In 2016 pounds

⁴ The adverse effects of the 2008 recession that are clearly apparent in the national data are less visible in the data for Bristol

⁵ Manchester 36.5%, Birmingham 18.2%, Liverpool 14.6% and Nottingham 14.3%

⁶ More detailed data can be found in Appendix 3 and Appendix 4

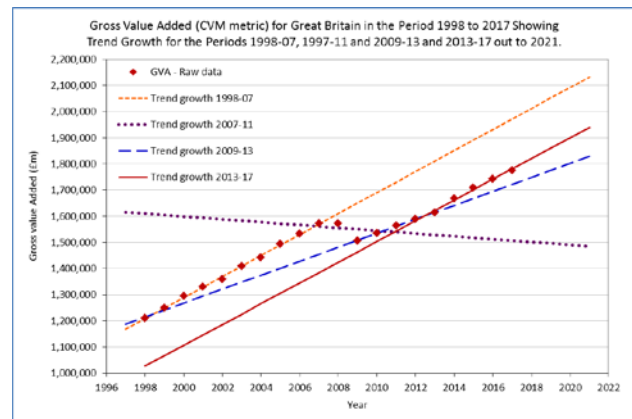
BRISTOL Economic Briefing

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The Picture for Great Britain.

In mid-December the ONS released revised estimates of the value (Gross Value Added) of the national and local economies of the UK for the period 2008 to 2016 and an initial⁷ estimate of its value in 2017. The ONS has increased the scope of the data that's published to include the so called "Chained Volume Measure" (CVM) of GVA. Unlike the "Current Prices" (CP) the CVM metric is inflation adjusted and therefore reflects the growth in business outputs rather than the combined growth in monetary value and business outputs.

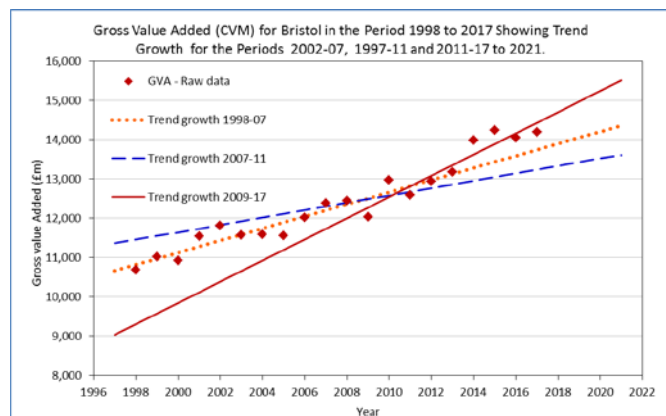
The chart opposite shows the CVM metric for the GVA of Great Britain⁸, in 2016 pounds, with the results of growth trend analysis⁹ for various periods between 1998 and 2017. The 2008 recession is clearly visible in the data. Either side of the recession the British economy grew more or less steadily. Pre-recession, between 1998 and 2007, the GVA of GB grew at a definite trend rate of £40.15bn per annum. The chart shows clearly that the GVA of GB fell



between 2007 and 2009. Post 2009 the GVA grew year on year. Between 2009 and 2013 the GVA of the British economy grew at a definite trend growth rate of £26.70bn per annum and then at a significantly higher (definite) growth rate of £39.7bn per annum between 2013 and 2017. Thus the British economy had recovered the ground lost during the recession by 2012 and in 2017 was 17.9% above the level (£1,506bn) of 2009. However, as of 2017 the GVA of Great Britain (£1,775bn 2016 pounds) remained 11.1% below the level that would have been expected if the 2008 recession had not occurred and the economy had continued expanding at the trend rate for the period 1998 to 2007. In 2017 the British economy was 46.8% larger than it was in 1998.

The Picture for Bristol

The time series of the estimates for the inflation adjusted of GVA for the economy of Bristol is shown in the chart opposite. Clearly, in contrast to the data for GB, the recession is not apparent in the data. Trend analysis indicates the economy of Bristol grew at a definite rate of £154m per year in the period 1998 to 2007 and then at a significantly higher definite rate of £270m per year between 2009 and 2017. However although analysis for the



⁷ the estimate will be revised when the initial estimates of Gross Value Added for 2018 are released in December 2019

⁸ The GVA of GB excludes the "Extra Regio" contributions from the UK which cannot be assigned to regions. See Appendix 2

⁹ For a more detailed analysis of the growth rates during the period (1998-17) of the time series see Appendix 1

period 2014 to 2017 indicates no significant trend as can be seen from the chart it looks like growth slowed after 2014. Overall the economy of Bristol grew by 32.9%, from £10.7bn in 1998 to £14.2bn in 2017. This compares to 46.8% for Great Britain. In the long term the relatively slow growth of the Bristol economy could impact on job creation and investment in the city and subsequently impact the standard of living of people living in Bristol and its surrounds.

Comparison with the British Core Cities

The pattern of GVA growth in all of the British Core Cities except Nottingham mirrors that for Great Britain. The recession seems to have had little if any effect on the economies of Bristol and Nottingham¹⁰. The table¹¹ opposite shows pre and post-recession trend growth for the ten Core Cities. In contrast to Bristol and Nottingham the economies of the other eight Core Cities exhibit the adverse effects of the 2008 recession. Growth either slowed or was reversed in all eight. Post 2011 the economies of all eight started to recover¹². For six of the eight GVA trend growth in the period 2011 to 2017 was slower than for the period 1998 to 2007. As a result the values of economies of Cardiff, Glasgow, Leeds, Liverpool Newcastle and Sheffield will continue to fall behind the levels that would have been expected if the recession had not occurred and the pre-recession trend growth (2002-07) had continued. The 2011-17 trends for Birmingham and Manchester were higher than the pre-recession trends. As a result the economy of Birmingham has recovered to the level that would have been expected if the recession had not occurred and the pre-recession trend growth (2002-07) had continued. The GVA of Manchester is estimated to recover to the levels that would have been expected if the recession had not occurred and the pre-recession trend growth (2002-07) by 2021.

Area Name	Trend Growth Between Years (£m per annum)			
	1998-07	2011-17	Difference	Quality of Difference
Bristol	154	288	-134	converging
Birmingham	369	799	-430	converging quickly
Cardiff	285	181	104	diverging
Glasgow	404	304	100	diverging
Leeds	695	370	325	diverging quickly
Liverpool	448	329	119	diverging
Manchester	686	882	-196	converging
Newcastle	264	152	113	diverging
Nottingham	123	228	-105	converging
Sheffield	305	107	197	diverging quickly

Questions about the contents of this briefing should be addressed to:

Stephen Usmar,
Economic Intelligence Officer,
Economic Development,
Bristol City Council.

email: stephen.usmar@bristol.gov.uk

Phone: 0117 9222925

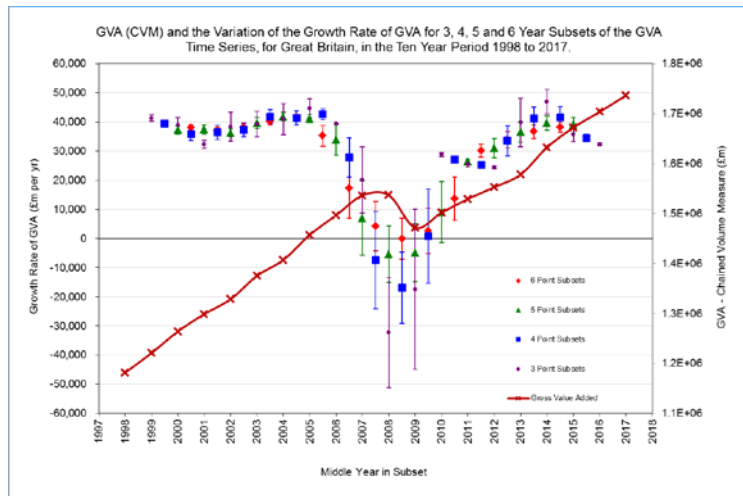
¹⁰ See Appendix 2

¹¹ More detailed data can be found in Table 1 of Appendix 2

¹² See charts in Appendix 4

Appendix 1

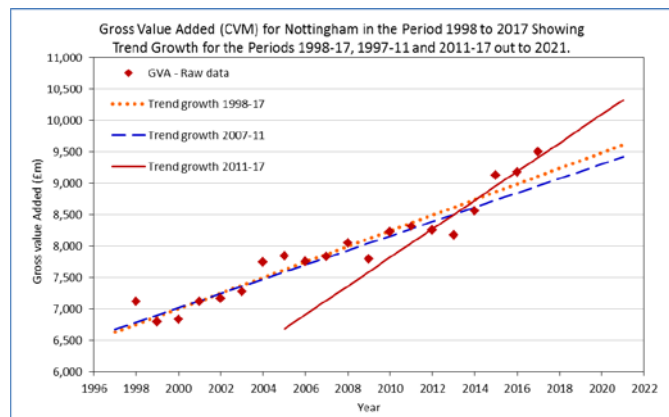
The chart below shows GVA for Great Britain for the period 1998 to 2017 and growth rates for the same data. Prior to the 2008 recession the trend rate of the GVA was quite stable. Between 1998 and 2006, GVA grew at an average of about £39bn per annum. Between 2006 and 2008 growth rates fell as a result of the decrease in GVA between 2008 and 2009. Because of the methodology used to calculate growth rates, growth remained below zero for 2 years. From 2010 onward growth rates were once again positive, increasing to £25bn per year in 2011 and back to pre-recession levels by 2014. However the data suggest that growth rates fell between 2014 and 2016. The 3 point growth rates for 2015 (£35.7bn per annum) and 2016 (£32.3bn per year are significantly lower than that (£47bn per annum) for 2014. For the UK (which includes Extra Regio contributions) trend growth in the period 2002 to 2007 was £39.1bn per annum and that for the period 2011 to 2017 was £36.5bn per annum. In 2017 there was a gap of 11.4% between the GVA of UK¹³ and the level that would have been expected if the 2008 recession had not occurred and the economy had continued expanding at the trend rate for the period 2002 to 2007 and the gap is not shrinking.



Appendix 2

The chart below shows the results of the trend analysis of the GVA of Nottingham for the full time series and various parts of said series. The table below shows the detail of the analysis. Clearly a single trend¹⁴ (£124m per year) is enough to describe the time series of the GVA for Nottingham in the period 1998 to 2017. Further for various pre-2011 intervals analysis results in trends none of which are significantly different¹⁵ to each. However the post-2011 trends for the periods 2011 to 2017 and 20153 to 2017 are significantly¹⁶ higher than those for the pre-2011 intervals and for the full time series.

Trend Period	Trend (£m/yr)	Fit Quality	95% Conf (£m)
1998-07	123	0.8135	41
1998-11	113	0.8845	23
1998-17	124	0.9151	17
2007-11	114	0.6093	104
2011-17	228	0.8548	82
2013-17	329	0.9478	87



¹³ The gap for Great Britain was 11.1%

¹⁴ With a fit quality greater than 0.9 this is a definite trend

¹⁵ All of the differences between the "Trends" are less than the sum of the relevant 95% conf limits

¹⁶ All of the differences between the "Trends" are greater than the sum of the relevant 95% conf limits

Appendix 3

Table 1: The details of post-recession GVA (inflation adjusted) growth for the British Core Cities and Great Britain with comparisons to the pre-recession trend growth for 2002 to 2007.

Area Name	Inflation Adjust GVA (£m)		2002-07 Trend Values (£m)		% Diff Between Trend & Reported GVA in Year		Trend Growth Between Years (£m per yr)			
	2011	2017	2011	2017	2011	2017	1998-07	2011-17	Diff'	Quality of Diff'
Bristol	12,599	14,200	12,820	13,745	-2	3	154	288	-134	converging
Birmingham	23,367	27,613	25,015	27,226	-7	1	369	799	-430	converging quickly
Cardiff	9,921	10,978	11,198	12,909	-11	-15	285	181	104	diverging
Glasgow	17,492	19,324	19,619	22,044	-11	-12	404	304	100	diverging
Leeds	21,115	22,897	25,342	29,513	-17	-22	695	370	325	diverging quickly
Liverpool	10,468	11,992	11,244	13,934	-7	-14	448	262	186	diverging
Manchester	14,442	19,712	16,115	20,231	-10	-3	686	882	-196	converging quickly
Newcastle	8,295	9,183	9,445	11,032	-12	-17	264	152	112	diverging
Nottingham	8,317	9,506	8,391	9,127	-1	4	123	228	-105	converging
Sheffield	11,147	11,862	12,906	14,735	-14	-19	305	107	197	diverging
GB (£bn)	1,564	1,775	1,731	1,972	-10	-10	40	37	3	diverging slowly

Table 2: Relative growth of GVA for Great Britain and the British Core Cities

Area Name	Percentage Growth of Inflation Adjusted GVA Between the Years						
	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2011-17
Bristol	2.7	1.8	6.2	1.8	-1.4	1.1	12.7
Birmingham	-0.9	3.2	2.6	4.3	6.0	1.8	18.2
Cardiff	0.4	-0.9	-0.1	3.5	5.2	2.2	10.7
Glasgow	1.2	1.8	3.5	0.4	0.6	2.5	10.5
Leeds	-1.8	0.7	1.7	4.9	1.2	1.5	8.4
Liverpool	0.8	-0.1	5.1	3.3	0.3	4.4	14.6
Manchester	5.0	6.3	4.9	3.8	7.6	4.3	36.5
Newcastle	1.1	-1.1	0.0	6.6	0.8	3.0	10.7
Nottingham	-0.8	-0.9	4.7	6.6	0.6	3.5	14.3
Sheffield	2.5	-0.3	0.0	2.0	1.0	1.0	6.4
Great Britain	1.5	1.6	3.4	2.4	1.9	1.9	13.5

Appendix 4

