

Statistical bulletin

Regional Gross Value Added (Production Approach): December 2013

Experimental statistics showing annual estimates of regional Gross Value Added using the production approach (GVA(P)) released on 18th December 2013. This release contains analysis of GVA Chained Volume Measure estimates for NUTS1 and NUTS2 regions and a comparison of NUTS1 GVA(I) and GVA(P) current price estimates.

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Release date:
18 December 2013

Next release:
18 December 2014

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1. Key points

- Following a review of the methodology used to deflate the regional GVA estimates, ONS has introduced a new version of the experimental 'real' regional GVA estimates that constrains the regional figures to sum to the UK total for each industry in constant prices.
- Users wanting to compare real GVA growth across regions, or with the UK as a whole, should use the constrained estimates.
- Users wanting to monitor the relative performance of different industries within a single region are advised to use the unconstrained estimates. Please note however that for Scotland, Wales and Northern Ireland alternative 'real' measures are available that have been designated National Statistics, and these should be considered of better quality than the experimental GVA(P) estimates for those countries.
- More information about these different versions can be found on the next page of this bulletin.

2. Constrained and unconstrained estimates

Following the first release of experimental GVA(P) estimates in December 2013, an issue was identified concerning the deflation methodology used to produce the constant price 'real' figures (chained volume measures, or CVM). The original method used output deflators that were consistent with the UK GDP(O) statistics, but did not take into account the difference introduced into the annual national figures (the ones published in the National Accounts Blue Book) through the use of expenditure-based deflation within the annual Supply and Use Tables (SUT). This difference results in stronger real-terms growth in the expenditure-deflated figures over the span of the time series data.

ONS published an [article \(254.5 Kb Pdf\)](#) in January 2014 describing the issues around this methodology and the implications for users. The main conclusion is that, for users interested in comparing real GVA growth across regions, or with the UK as a whole, a more accurate picture can be obtained by using regional estimates that are constrained to sum to the national total in constant prices. We have now added two new reference tables to this release that contain these constrained estimates.

The original unconstrained estimates are still available in separate reference tables, as these estimates present a more accurate picture of the relative performance of different industries within a given region (since they are not affected by the coherence adjustments applied to certain industries in order to balance the SUT nationally). Users should note, however, that owing to the use of output deflators these unconstrained estimates show real growth in output rather than real growth in GVA. It is therefore not appropriate to compare these unconstrained estimates across different regions or with the UK as a whole.

For [Scotland](#), Wales ([Index of Market Services](#) and [Indices of Production and Construction](#)) and [Northern Ireland](#) alternative 'real' measures are available that have been designated National Statistics, and these should be considered of better quality than the experimental GVA(P) estimates for those countries. These statistics are available quarterly and include an industry breakdown that provides the best available view of the regional economy. Users should note, however, that these measures do not use entirely consistent data and methods, so they are not ideal for the purpose of comparison across regions.

The next publication of experimental Regional GVA(P) in December 2014 will focus on the constrained estimates, although we will continue to make the unconstrained estimates available for users who are interested in monitoring the relative performance of different industries within their region.

ONS is developing SUT in previous years' prices, which should provide industry-level deflators that can be applied directly, removing the need to constrain the regional estimates to ensure consistency with the UK figures. It is expected that this development will be completed by 2017, resulting in a single regional real GVA dataset from December 2017.

3. Summary

These estimates of Gross Value Added (GVA) are compiled using the production approach, whereby GVA is calculated for a given reference period as the total value of all goods and services produced (output), less goods and services used up or transformed in the production process, such as raw materials and other inputs (intermediate consumption). These experimental figures are presented for areas according to the European Nomenclature of Units for Territorial Statistics (NUTS). Economic activity that cannot be assigned to any specific region is allocated to Extra-Regio (see background note 1).

Note: Table 1 contains values based on regional constant price estimates which have been constrained to be consistent with published UK constant price GVA. All other analyses in this bulletin are based on unconstrained regional constant price estimates, as appeared in the original publication in December 2013.

Table 1: NUTS1 All industry regional CVM indices from 2007 to 2011

Base year = 2010

NUTS1 regions	2007	2008	2009	2010	2011
North East	103.5	103.9	98.0	100.0	101.6
North West	103.4	100.3	98.1	100.0	98.6
Yorkshire & The Humber	112.4	110.7	100.9	100.0	101.9
East Midlands	107.4	103.7	97.8	100.0	102.1
West Midlands	104.4	101.3	94.2	100.0	101.1
East of England	104.0	102.8	98.7	100.0	99.4
London	105.7	104.7	97.5	100.0	103.4
South East	99.1	103.2	98.6	100.0	101.1
South West	102.0	101.2	98.0	100.0	99.4
England	103.5	103.9	98.0	100.0	101.6
Wales	106.4	102.0	99.9	100.0	107.6
Scotland	103.1	107.1	100.6	100.0	102.8
Northern Ireland	109.8	107.5	100.7	100.0	100.6
Extra-Regio	123.8	116.8	106.7	100.0	82.7

Source: Office for National Statistics

4. About this release

1. This bulletin presents the first full set of experimental results for regional 'real' Gross Value Added using a production approach (GVA(P)). The new GVA(P) measure is principally designed to provide 'real' estimates of constant price GVA growth, via chained volume measures (CVM).
2. The development and publication of regional GVA(P) at constant prices (where the effects of inflation are removed) involves deflating annual current price data (which include the effects of inflation). The production approach to compile GVA is conceptually equivalent to the income approach, but allows deflation of current prices to produce constant price measures, since the production components relate to goods and services which can be broken down into price and volume indices. Hitherto regional GVA has only been calculated on an income basis (GVA(I)), which is incompatible with deflation.
3. The GVA(P) estimates are compiled using a 'top-down' approach. National Accounts Supply and Use Tables (SUT) provide national totals for each of 112 industry components. Regional indicator datasets are used to calculate regional proportions for each industry. These proportions are then used to regionalise the UK total output and UK total intermediate consumption for each industry, prior to the calculation of regional GVA(P) for each industry. The UK totals are consistent with the UK National Accounts Blue Book 2013. A consequence of this methodology is that current price regional GVA(P) will always match the latest national totals for each industry, even though at regional level GVA(P) and GVA(I) estimates may differ due to the different methods used to compile them.
4. Constant price GVA(P) is derived by deflating the current price estimates for each of the 112 industries using national industry deflators obtained from the UK Gross Domestic Product (Output) system. These deflators are consistent with the National Accounts Blue Book 2013 and they are used because no regional price indices are currently available. The Eurostat Manual on Regional Accounts (2012) recommends that in the absence of regional prices the use of national deflators is acceptable provided that deflation occurs at a minimum level of 38 industries. Greater industrial detail allows the deflation to take account of regional variation in industrial, and hence product, composition.
5. In order to derive constant price GVA, output and intermediate consumption should ideally be deflated separately, using prices relating to outputs and intermediate consumption respectively. This process is known as double deflation. However there are no suitable input price indices available for deflating intermediate consumption. For this reason the constant price GVA(P) estimates in this statistical bulletin are derived using single deflation of current price GVA(P). The process produces a specific constant price series for each industry. To allow aggregation to broader industry groups for publication, the current and constant price series are used to produce a chained volume measure (CVM). This bulletin includes data for 33 industries, at constant prices given in CVM, with the effects of inflation removed.
6. The estimates in this bulletin are experimental and do not have National Statistics status. We advise users to exercise caution in the interpretation and use of these statistics. The ONS also publishes annual estimates of regional GVA(I) at current prices, which are National Statistics and remain the primary ONS source of regional GVA. [The most recent estimates of GVA\(I\) were published on December 11th 2013.](#) Where the GVA(P) results differ significantly from the existing GVA(I) measure, the latter should take precedence. GVA(P) current price estimates are included in this publication to enable users to compare the two current price measures directly.
7. Similarly there are additional regional constant price publications produced by the Devolved Administrations of the UK. These are all quarterly estimates and are therefore more current than annual regional GVA(P) estimates. The constant price indices for Scotland and Wales are designated as National Statistics and should be considered to be more reliable than the experimental GVA(P) estimates. Where there are differences between the current price GVA(I) and GVA(P) estimates we advise users to make use of these quarterly indices in preference to the annual GVA(P) estimates.

- [Gross Domestic Product \(GDP\) for Scotland](#) – chained volume measures of GVA at basic prices are produced by The Scottish Government. This release uses similar sources and methods to ONS UK GDP at basic prices and is designated as a National Statistic.
- [The Northern Ireland Composite Economic Index \(NICEI\)](#) is an experimental quarterly measure of the performance of the Northern Ireland economy based on official statistics. The NICEI provides an appropriate short term indicator for the NI economy in advance of more complete figures such as the annual Regional Accounts information for NI from ONS.
- The Welsh Government (in conjunction with the Office for National Statistics) produces quarterly series for short term output indices covering most of the private sector economy in Wales, the [Indices of Production and Construction](#) and the [Index of Market Services](#). These show quarterly growth in output in real terms from 1998.

5. NUTS1 real regional GVA(P) estimates

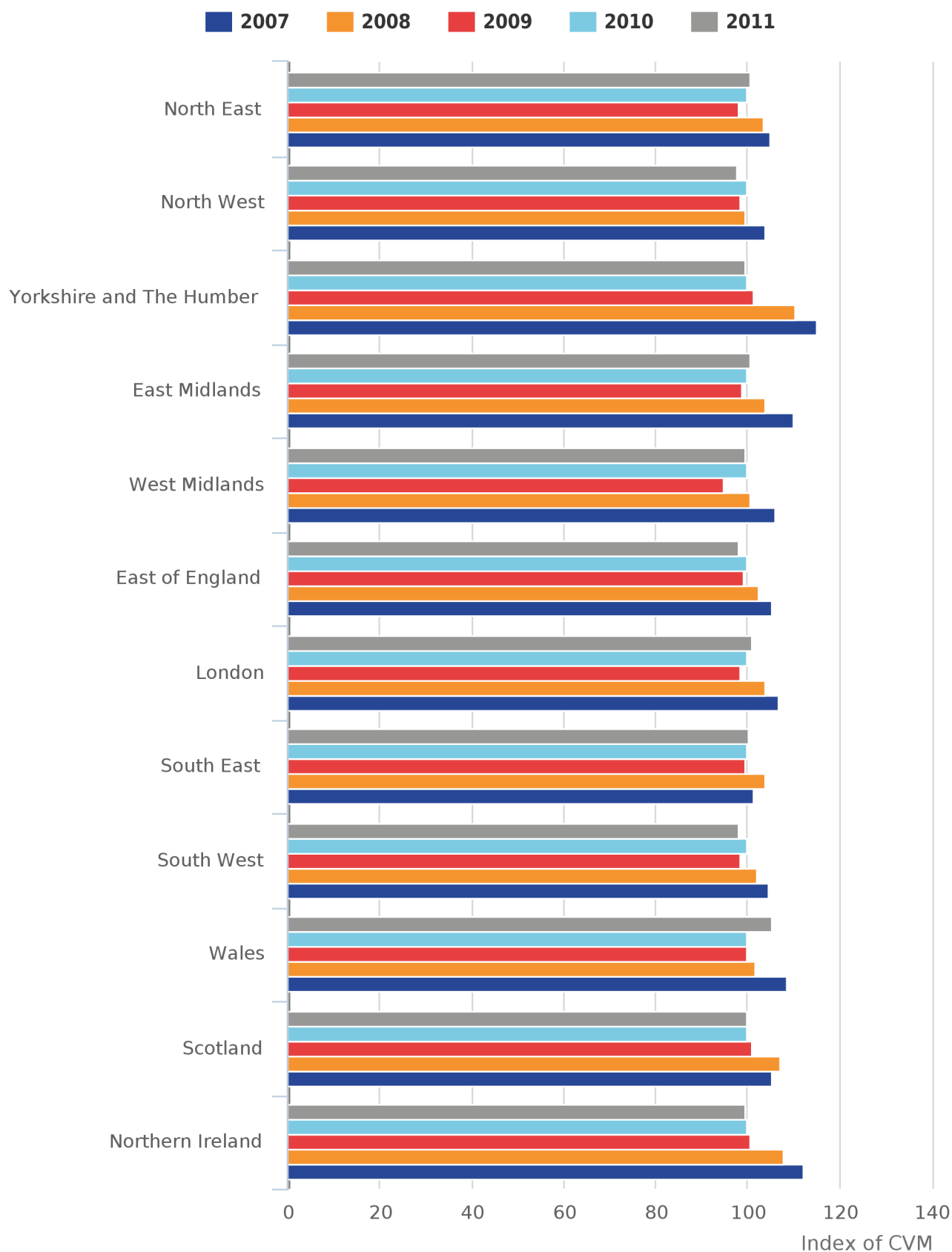
Real GVA for NUTS1

At NUTS1 level the real GVA expressed as Chained Volume Measures (CVM) indices showed a general pattern of steady growth from 2000 through to the start of the downturn in 2008.

For eight of the NUTS1 regions the index peaked in 2007. Real GVA for the North East and the West Midlands was highest in 2006, and highest in the South East and Scotland in 2008. Of the NUTS1 regions only the East of England and London demonstrated uninterrupted growth in real GVA between 1998 and 2007 (pre-downturn).

The largest increase in real GVA over the pre-downturn period (1998 to 2007) was in London (from 76.5 to 106.7), followed by Northern Ireland (from 83.1 to 112.2) and Yorkshire and The Humber (from 91.4 to 115.1). The smallest increase over this period was in the West Midlands (from 96.2 to 106.1).

Figure 1: NUTS1 Index of Real GVA for all industry totals (Chained Volume Measure)



Source: Office for National Statistics

Notes:

1. 2010 = 100.

The UK economy experienced a downturn between Q2 2008 and Q3 2009. GVA(P) expressed in chained volume measures (CVM), known as real GVA, has fallen in each NUTS1 region between 2007 (pre-downturn) and 2011.

Real GVA decreased in each year between 2007 and 2011 in two NUTS1 regions: Yorkshire and The Humber, and Northern Ireland.

Post-downturn, real GVA grew in both 2010 and 2011 in five NUTS1 regions: the North East, the East Midlands, the South East, London, and Wales.

Of the NUTS1 regions, the largest decrease in real GVA between 2007 and 2011 was in Yorkshire and The Humber, from 115.1 in 2007 to 99.4 in 2011.

The impact of the downturn in 2008 is evident in each region except for the South East, where real GVA increased from 101.4 in 2007 to 104.0 in 2008, and Scotland, where real GVA increased from 105.1 to 106.9 in the same period.

Post-downturn, the West Midlands had the largest increase in real GVA between 2009 and 2010 (from 94.6 to 100.0) and Wales had the largest increase in real GVA between 2010 and 2011 (from 100.0 to 105.3).

6. NUTS2 real regional GVA(P) estimates

Real GVA for NUTS2

At NUTS1 there was general growth in real GVA expressed as chained volume measures (CVM) in the pre-downturn period, followed by a sharp decline. However within the regions there is variation between NUTS2 sub-regions. The downturn and recovery affected all sub-regions with each showing its own characteristics.

Of the 37 NUTS2 sub-regions only East Yorkshire and Northern Lincolnshire and West Midlands had a higher real GVA index in 1998 compared with the latest estimates (2011).

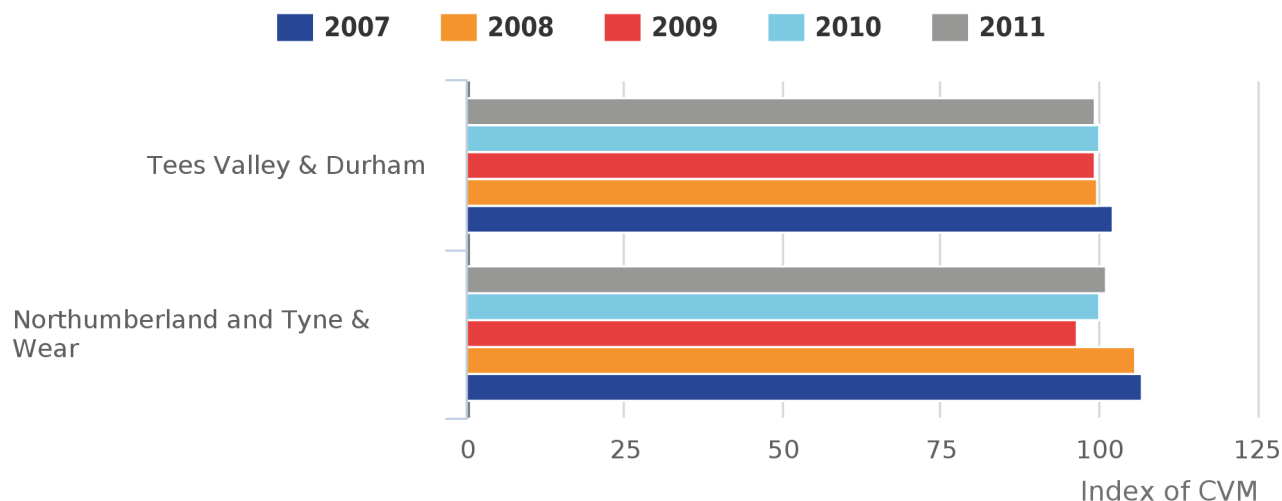
Merseyside was the only NUTS2 sub-region where real GVA increased in both of the years affected by the downturn (2008 and 2009).

Of the NUTS2 sub-regions, Cheshire had the largest increase in real GVA between 2009 and 2010 (from 90.0 to 100.0) and Lincolnshire had the largest increase in real GVA between 2010 and 2011 (from 100.0 to 108.5).

At NUTS2 level the largest decrease in real GVA between 2007 and 2011 was in East Yorkshire and Northern Lincolnshire, which decreased from 133.9 to 98.3. Real GVA increased in five of the 37 NUTS2 sub-regions between 2007 and 2011. The largest increase over this period was in North Eastern Scotland, which increased from 99.1 to 101.6.

The South East was the only region where real GVA in each NUTS2 sub-region increased in 2008, before showing the impact of the downturn in 2009.

Figure 2: NUTS2 All industry regional CVM indices for the North East



Source: Office for National Statistics

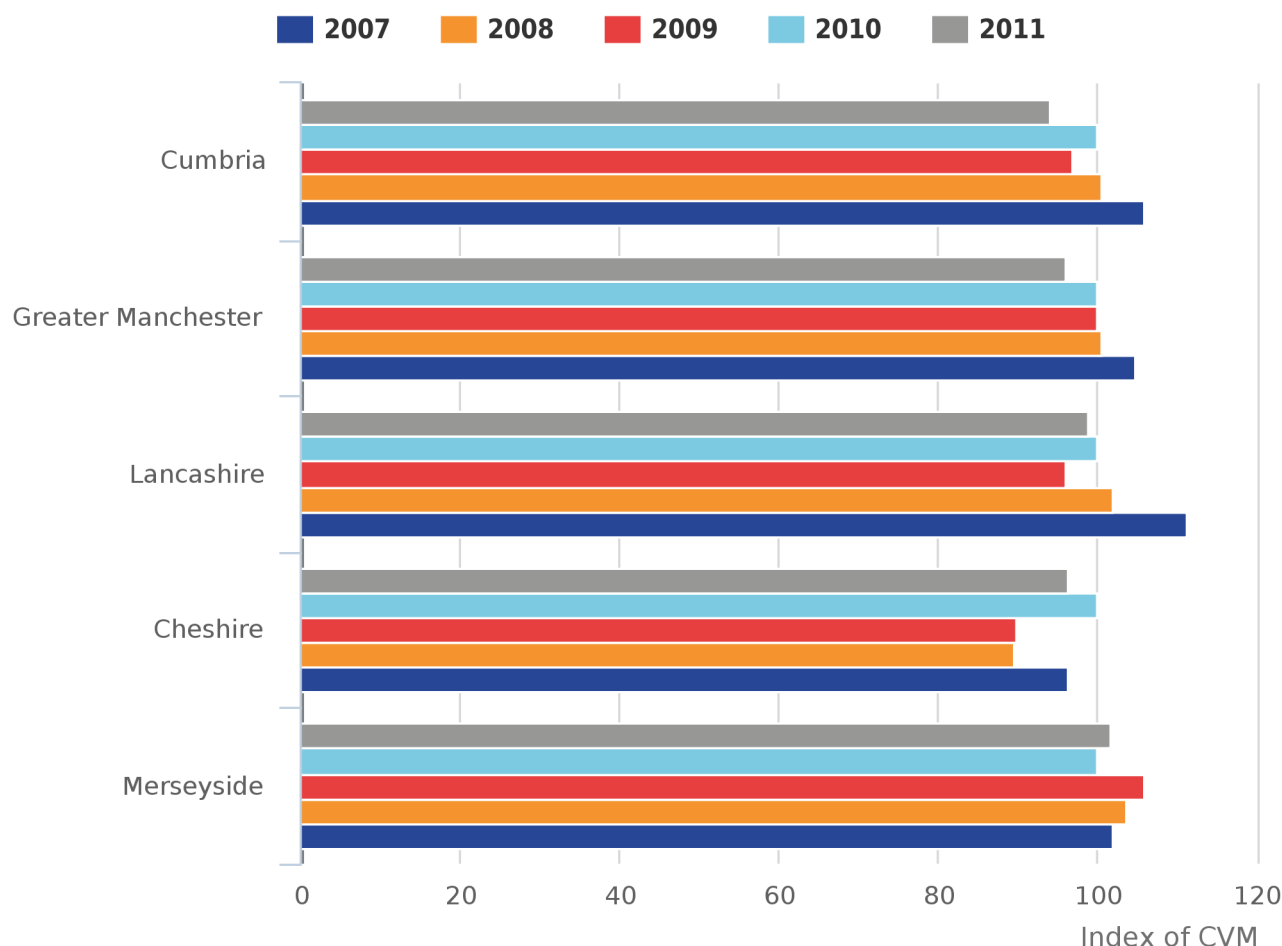
Notes:

1. 2010 = 100.

The effect of the downturn is clear in Northumberland and Tyne and Wear sub-region, but much less evident for Tees Valley and Durham. This latter sub-region shows little movement overall, but its index does decrease over the downturn period, driven principally by industry sections D (electricity, gas, steam and air-conditioning supply), E (water supply; sewerage, waste management) and P (education).

Northumberland and Tyne and Wear has a clear 2009 decrease, sections C (manufacturing), D and P (education) being amongst the notable falling industries.

Figure 3: NUTS2 All industry regional CVM indices for the North West



Source: Office for National Statistics

Notes:

1. 2010 = 100.

Merseyside is one of three sub-regions to increase between 2007 and 2009. It lacks the obvious downturn trough displayed by the other sub-regions. In Merseyside industry section C (manufacturing) increased between 2007 and 2009 (before starting to decrease). Some industries fell, e.g. sections D (electricity, gas, steam and air-conditioning supply), E (water supply; sewerage, waste management) and K (financial and insurance services). Other industries had rising indices, e.g. sections B (mining and quarrying), J (information and communication) and (in 2011) S (other service activities), although these had less impact than manufacturing.

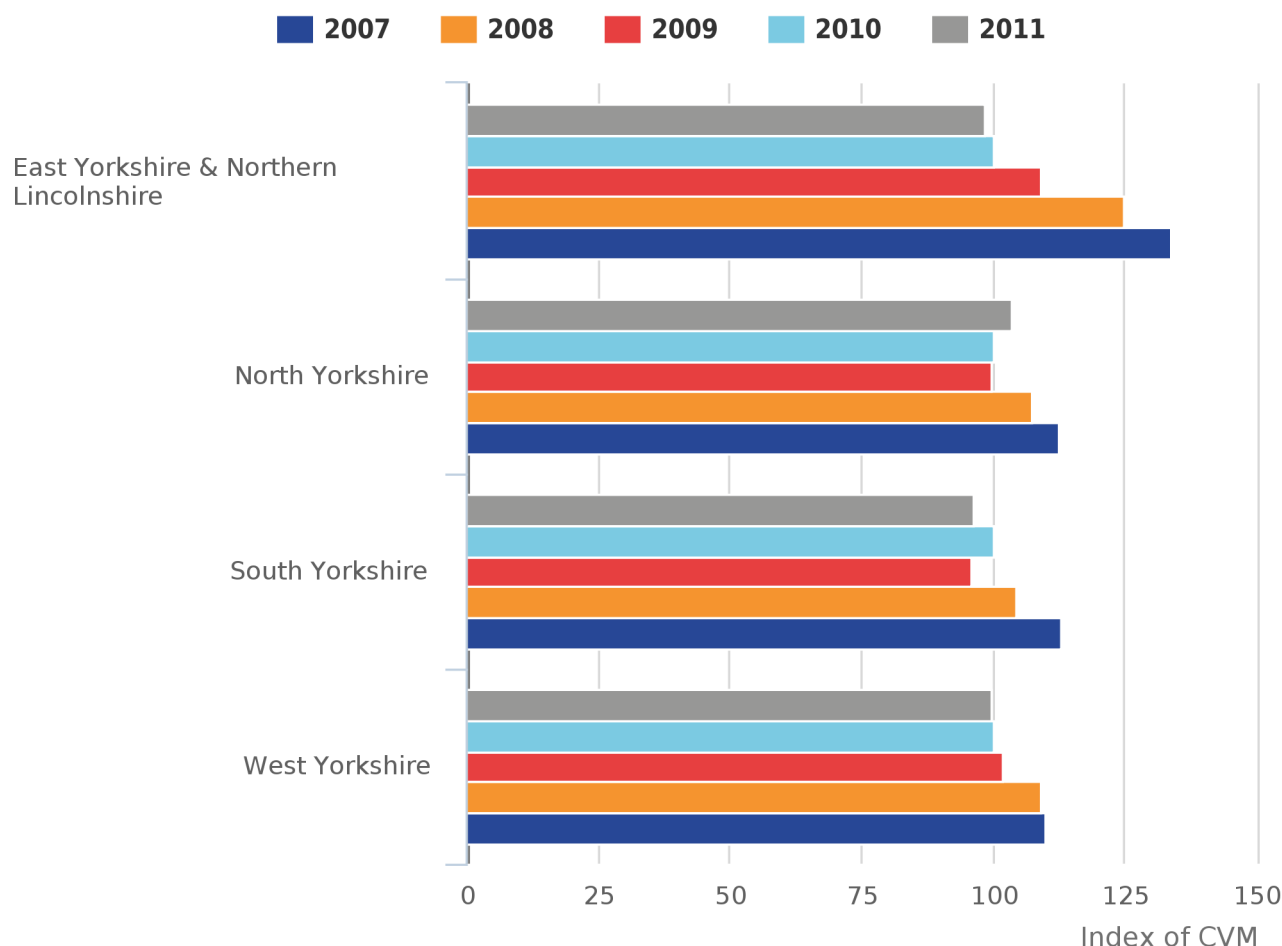
Cheshire experienced sharp falls in sections A (agriculture, forestry and fishing), E and P (education). However, there was also a rise in section C (manufacturing).

Lancashire had large drops in 2008 and 2009 over a large number of industries including sections B, C, D and E.

Greater Manchester had falling indices over a similar industrial range to Merseyside but in addition section A also fell.

Cumbria also had a number of falling and rising industries. Section D had a large decrease from an index of 224.8 in 2007 to just 38.3 in 2010. Other industries falling include sections E, I (accommodation and food service activities) and P, while those rising include sections A and R (arts, entertainment and recreation).

Figure 4: NUTS2 All industry regional CVM indices for Yorkshire and The Humber



Source: Office for National Statistics

Notes:

1. 2010 = 100

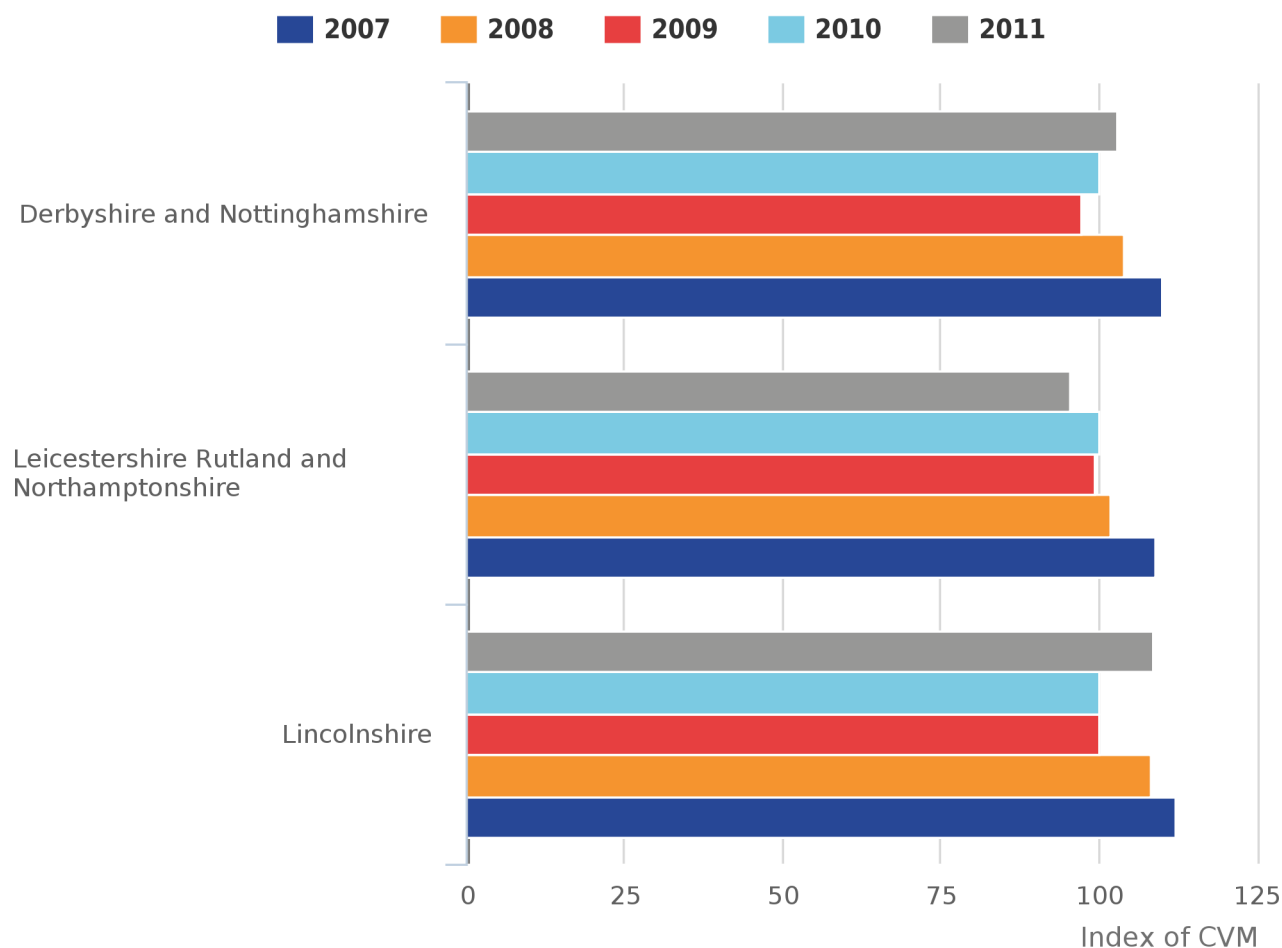
East Yorkshire and Northern Lincolnshire had large decreases from 2007 (with an index of 133.9) to 2009 (with an index of 108.9) then further to 2011 (with an index of 98.3), decreasing each year over this period. This was fuelled by substantial decreases in several industries, including sections B (mining and quarrying), C (manufacturing), G (wholesale and retail trade; repair of motor vehicles) and I (accommodation and food service activities).

North Yorkshire also shows decreases over several industries, notably B and C, but also including D (electricity, gas, steam and air-conditioning supply), and (up to 2010) G.

Almost all industries show decreases in South Yorkshire. Exceptions include sections I and T (activities of households).

West Yorkshire shows decreases in sections A (agriculture, forestry and fishing), C and (contrasting with South Yorkshire) T. This sub-region did show growth for section R (arts, entertainment and recreation).

Figure 5: NUTS2 All industry regional CVM indices for the East Midlands



Source: Office for National Statistics

Notes:

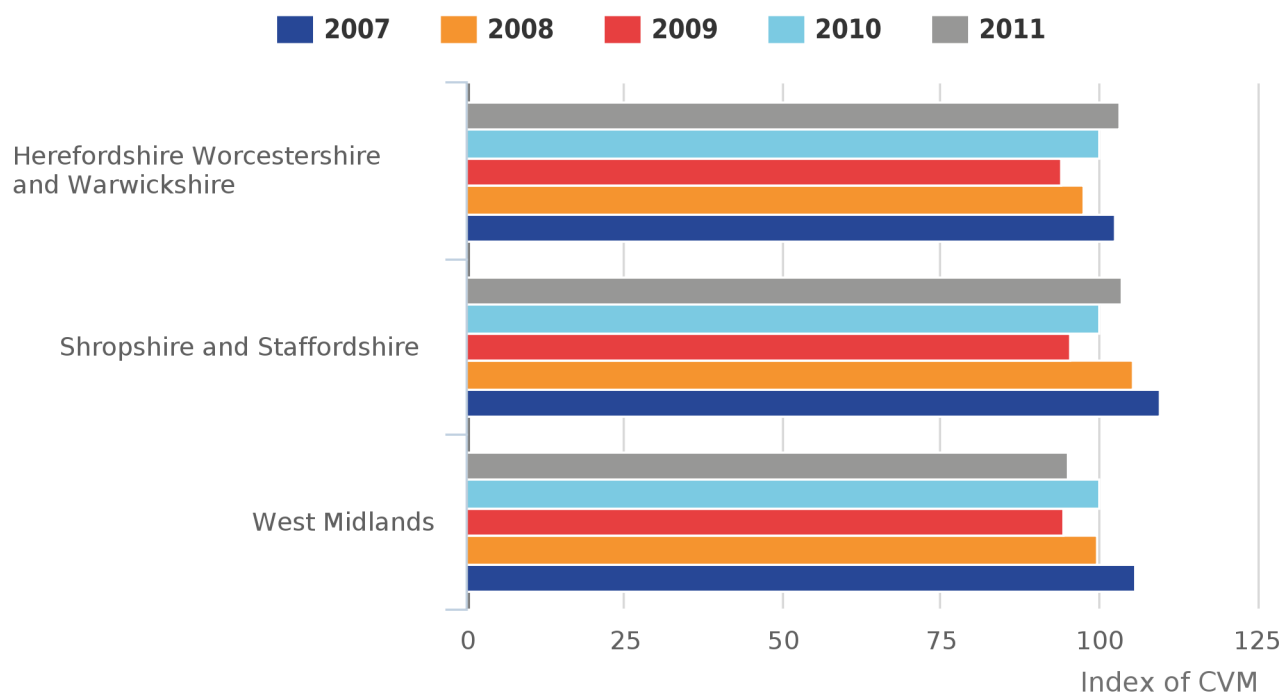
1. 2010 = 100.

Derbyshire and Nottinghamshire experienced decreases in the indices of many industries, notably B (mining and quarrying), C (manufacturing), I (accommodation and food service activities) and F (construction), but many showed a recovery in 2011.

In Leicestershire, Rutland and Northamptonshire, with falls most noticeable in sections D (electricity, gas, steam and air-conditioning supply) and F, fewer industries show a recovery in 2011.

Lincolnshire has many decreasing industries, especially sections B, D and H (transportation and storage), but here the growth in 2011 is more notable. In section T (activities of households) the recovery is particularly steep, to an index value of 649.7.

Figure 6: NUTS2 All industry regional CVM indices for the West Midlands



Source: Office for National Statistics

Notes:

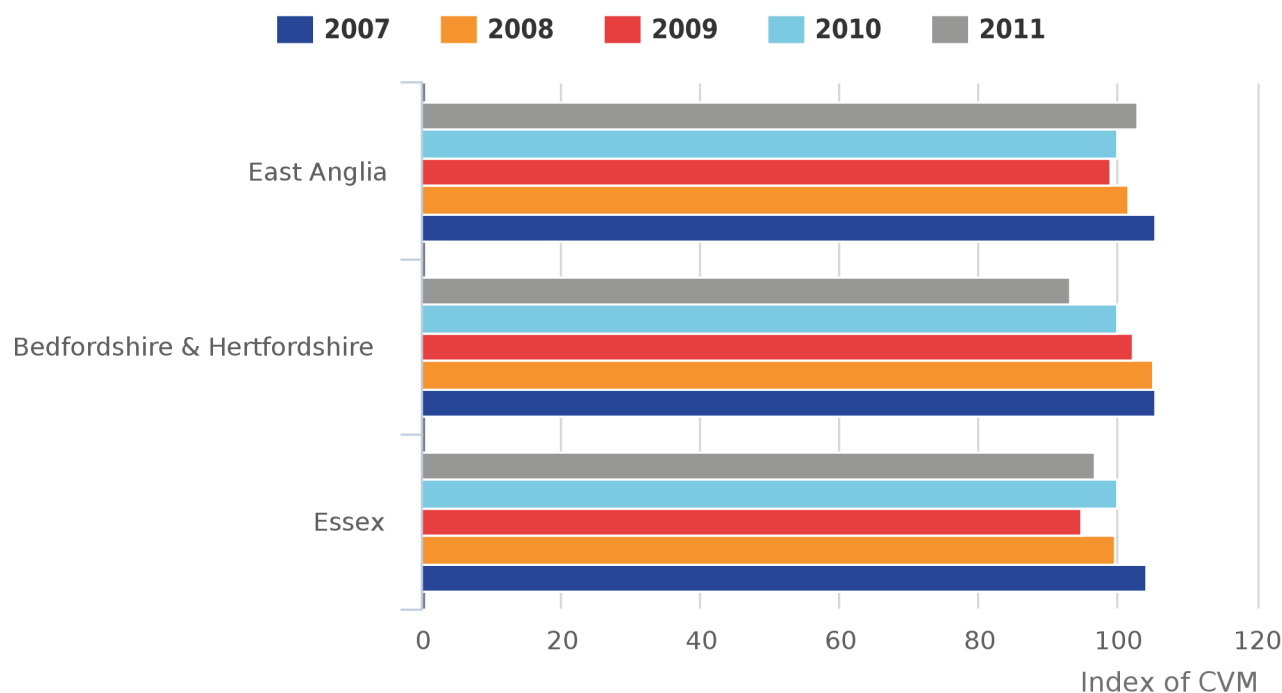
1. 2010 = 100

All of the West Midlands sub-regions follow a similar pattern over the period of the downturn. However, for Herefordshire, Worcestershire and Warwickshire industry sections C (manufacturing) and F (construction) show notable decreases.

Shropshire and Staffordshire has a wider spread of falling industries, adding sections H (transportation and storage) and P (education).

The West Midlands sub-region has an even wider spread, including all of those industries mentioned above plus others, for example sections B (mining and quarrying), I (accommodation and food service activities) and R (arts, entertainment and recreation). The West Midlands sub-region differed from the other two in that several of these industries also decreased in 2011.

Figure 7: NUTS2 All industry regional CVM indices for the East of England



Source: Office for National Statistics

Notes:

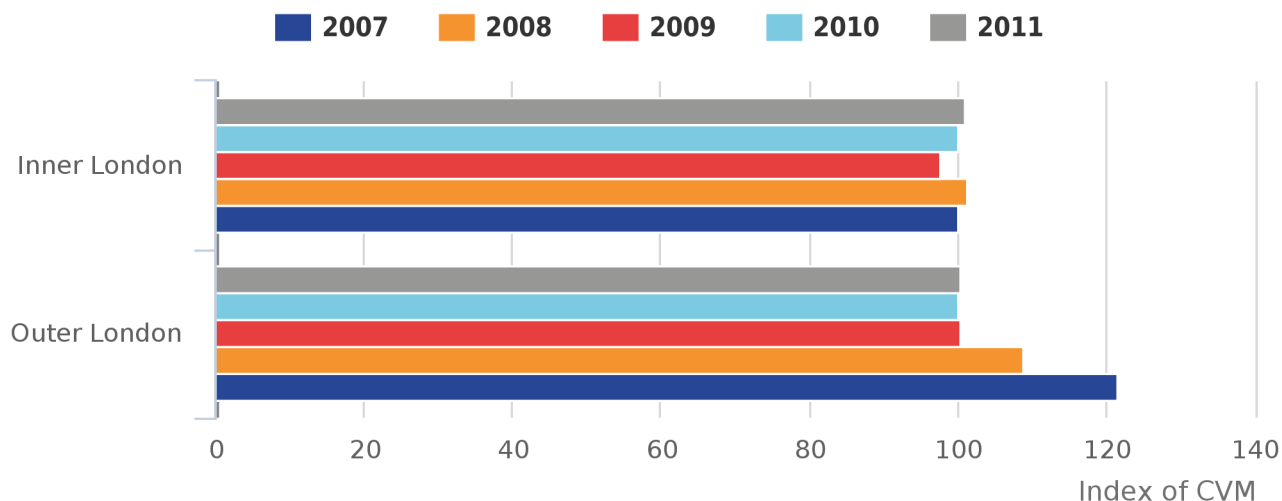
1. 2010 = 100

For the East of England all sub-regions show the effect of the downturn. East Anglia had steep falls in several industries, particularly sections B (mining and quarrying), D (electricity, gas, steam and air-conditioning supply), I (accommodation and food services), P (education) and T (activities of households). Most of these show a recovery in 2011.

In Bedfordshire and Hertfordshire, despite decreases in several industries, such as sections B, E (water supply; sewerage, waste management), and M (professional, scientific and technical activities), the sub-region resisted the overall fall in 2008. This was due to sections C (manufacturing) and G (wholesale and retail trade; repair of motor vehicles) maintaining growth. However, since 2008 this sub-region's index has fallen each year.

In Essex the dip was again due to reductions in many industries, but especially in sections C (manufacturing), D and K (financial and insurance activities).

Figure 8: NUTS2 All industry regional CVM indices for London



Source: Office for National Statistics

Notes:

1. 2010 = 100.

Inner London largely avoided the steep decline experienced elsewhere. However, several industries did show the effects of the economic downturn. Among these were sections A (agriculture, forestry and fishing), C (manufacturing) and O (public administration and defence; compulsory social security), but these declining industries were balanced by growth in other sections: F (construction), J (information and communication), L (real estate activities) and S (other service activities).

Outer London had decreases in all those sections falling in Inner London and more, but with no balancing growths in other industries. In 2011 there some signs of growth, e.g. in sections L, O and S.

Figure 9: NUTS2 All industry regional CVM indices for the South East



Source: Office for National Statistics

Notes:

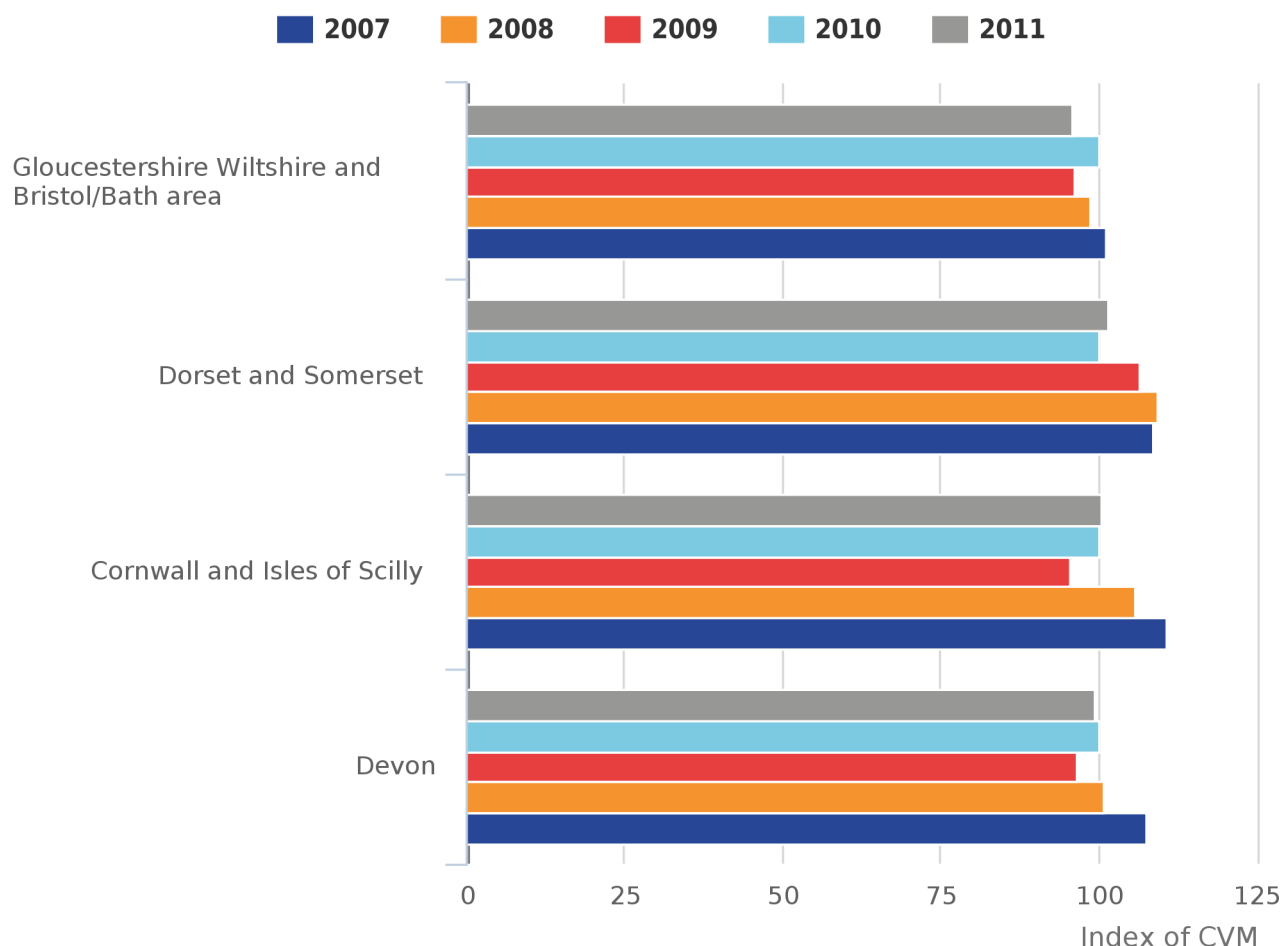
1. 2010 = 100.

Two of the South East's sub-regions (Berkshire, Buckinghamshire and Oxfordshire, and Surrey, East and West Sussex) appear to have avoided the worst effects of the recent downturn. This is due to both having some areas of growth over the 2007 to 2011 period. Both experienced falls in several industries, especially in sections C (manufacturing) and D (electricity, gas, steam and air-conditioning supply), and for Surrey, East and West Sussex also section E (water supply; sewerage, waste management). However, both sub-regions demonstrated growth in sections N (administrative and support service activities), O (public administration and defence; compulsory social security), P (education) and Q (human health and social work activities).

Hampshire and Isle of Wight clearly shows the effect of the downturn but not in all industries. Among those showing a fall were sections B (mining and quarrying), C (manufacturing), E and F (construction), while there was growth in sections D (electricity, gas, steam and air-conditioning supply), J (information and communication) and O (public administration and defence; compulsory social security).

Kent offered a different mix of industries resulting in a similar overall effect. In Kent the industries showing a notable decrease included sections D and S (other service activities), and from 2008 section C (manufacturing). There was growth in sections J, O and Q.

Figure 10: NUTS2 All industry regional CVM indices for the South West



Source: Office for National Statistics

Notes:

1. 2010 = 100.

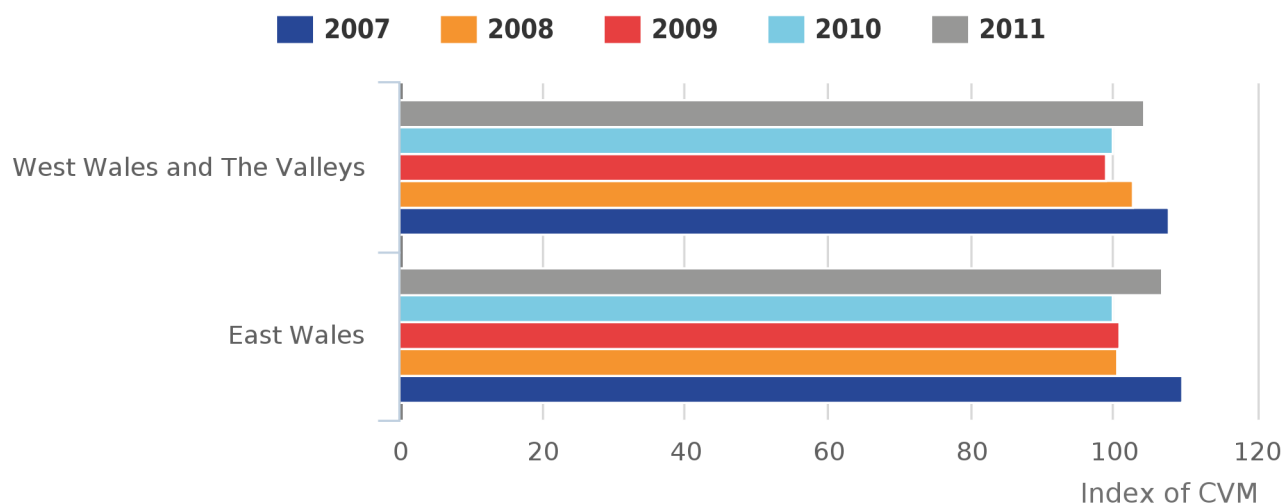
Gloucestershire, Wiltshire and Bristol/Bath area suffered declines in many industries, most notably in sections B (mining and quarrying) and D (electricity, gas, steam and air-conditioning supply). Few industries showed any sustained growth except sections N (administrative and support service activities) and O (public administration and defence; compulsory social security), but it was notable that manufacturing (section C) was stable throughout.

For Dorset and Somerset most changes were comparatively small, but there were exceptions, e.g. in sections B and D.

Decreases were more notable in Cornwall and Isles of Scilly, especially in industry sections D, F (construction), K (financial and insurance activities) and L (real estate activities). There were some growing industries too, particularly section M (professional, scientific and technical services).

Devon shows a big downturn drop, especially in 2008. This was caused by industry sections C, E (water supply; sewerage, waste management), I (accommodation and food service activities), J (information and communication) and K.

Figure 11: NUTS2 All industry regional CVM indices for Wales



Source: Office for National Statistics

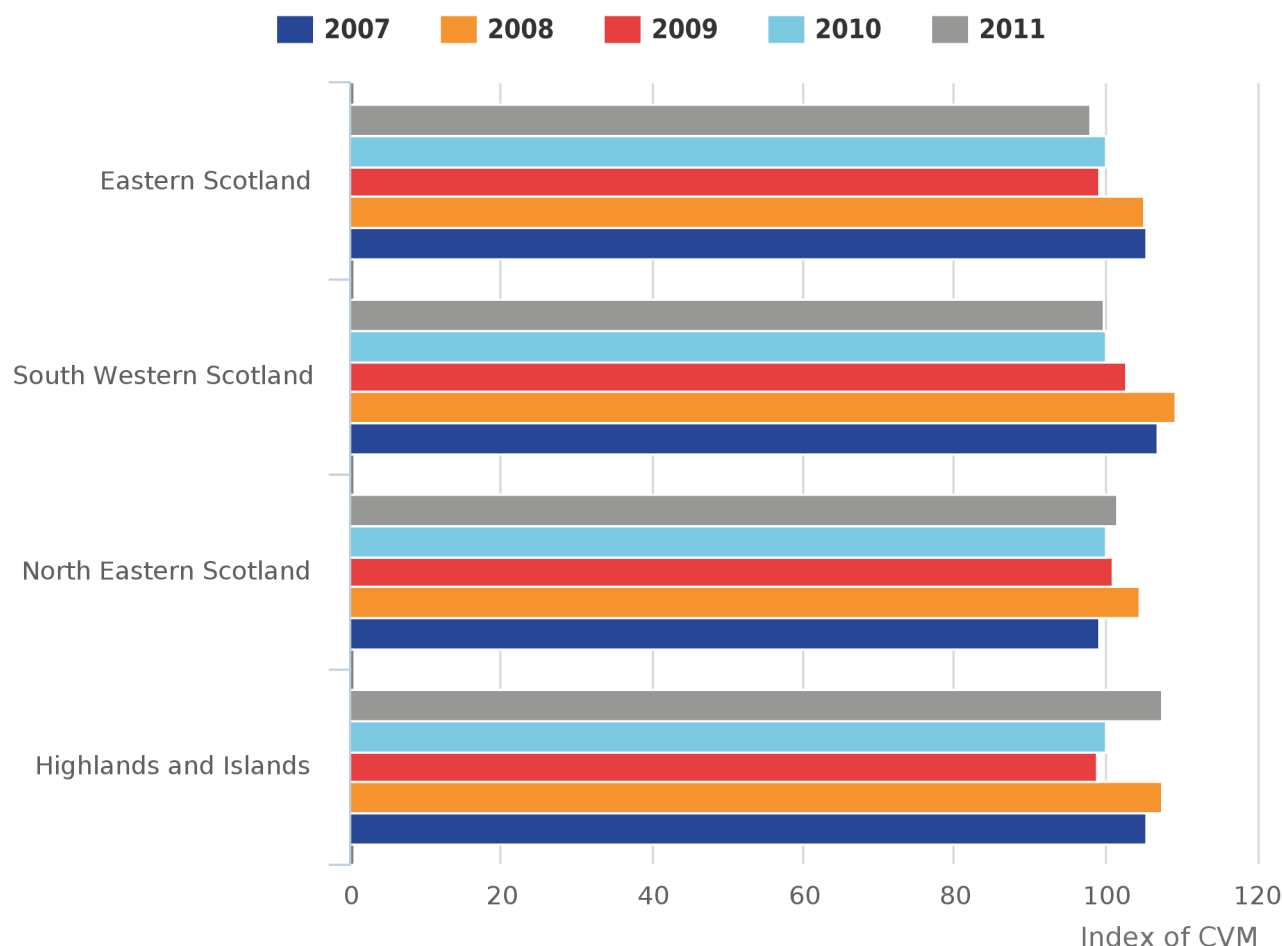
Notes:

1. 2010 = 100

Both Welsh sub-regions exhibit a significant increase in 2011. West Wales and The Valleys in 2011 shows high growth (over 10% increase in index) in industry sections I (accommodation and food service activities), P (education) and T (activities of households). Lesser growth can be seen in another eight industry sections.

East Wales grew rapidly (over 10%) in 2011 in industry sections D (electricity, gas, steam and air-conditioning supply), G (wholesale and retail trade; repair of motor vehicles), J (information and communication), Q (human health and social work activities) and R (arts, entertainment and recreation). There was growth in another six industry sections.

Figure 12: NUTS2 All industry regional CVM indices for Scotland



Source: Office for National Statistics

Notes:

1. 2010 = 100.

Few Highlands and Islands industries seemed to be deeply affected by the downturn. The principal exceptions were sections A (agriculture, forestry and fishing) and B (mining and quarrying).

Eastern Scotland had decreases in sections B, C (manufacturing), F (construction and J (information and communication), amongst other industries.

South Western Scotland shows a number of falling industries, including sections A, H (transportation and storage) and P (education).

North Eastern Scotland has decreases in industry sections A, D (electricity, gas, steam and air-conditioning supply), K (financial and insurance activities) and L (real estate activities), with growth in 2011 in sections G (wholesale and retail trade; repair of motor vehicles) and O (public administration and defence; compulsory social security).

NUTS2 All industry regional CVM indices for Northern Ireland

Note: no NUTS2 figure is shown here as Northern Ireland is the same at NUTS1 and NUTS2 (please see Figure 1).

Northern Ireland is one of the few regions to show a decrease every year from 2007 with industry sections E (water supply; sewerage, waste management) and F (construction) both falling each year. Sections I (accommodation and food service activities) and L (real estate activities) also suffered decreases.

7. Comparison of current price regional GVA(I) and GVA(P)

This section compares the current price Gross Value Added (Production Approach) (GVA(P)) estimates that underpin the chained volume measures with the current price Gross Value Added (Income Approach) (GVA(I)) estimates published on 11th December 2013. The period for comparison is from 1998 to 2011.

Although conceptually identical, the different methods and data sources used in the two measures inevitably result in differences between the GVA(I) and GVA(P) estimates. The reasons for presenting this comparison are to allow users to see where these differences exist, to show the scale of the difference across industries and regions, and to provide advice on the appropriate use of these new experimental statistics.

Where there is a marked difference between the current price GVA(I) and GVA(P) estimates, users are strongly advised to use the GVA(I) estimates. These are National Statistics and have satisfied the UK Statistics Authority requirements for quality and adherence to the National Statistics Code of Practice. The GVA(P) estimates are experimental and should therefore be considered less reliable.

The following industries have been identified as showing conspicuous differences across a number of regions. For these industries users are advised to exercise caution in their use of the real GVA(P) estimates, as there may be quality issues with the underlying data.

- Section L (real estate activities).
- Section O (public administration and defence; compulsory social security).
- Section P (education).

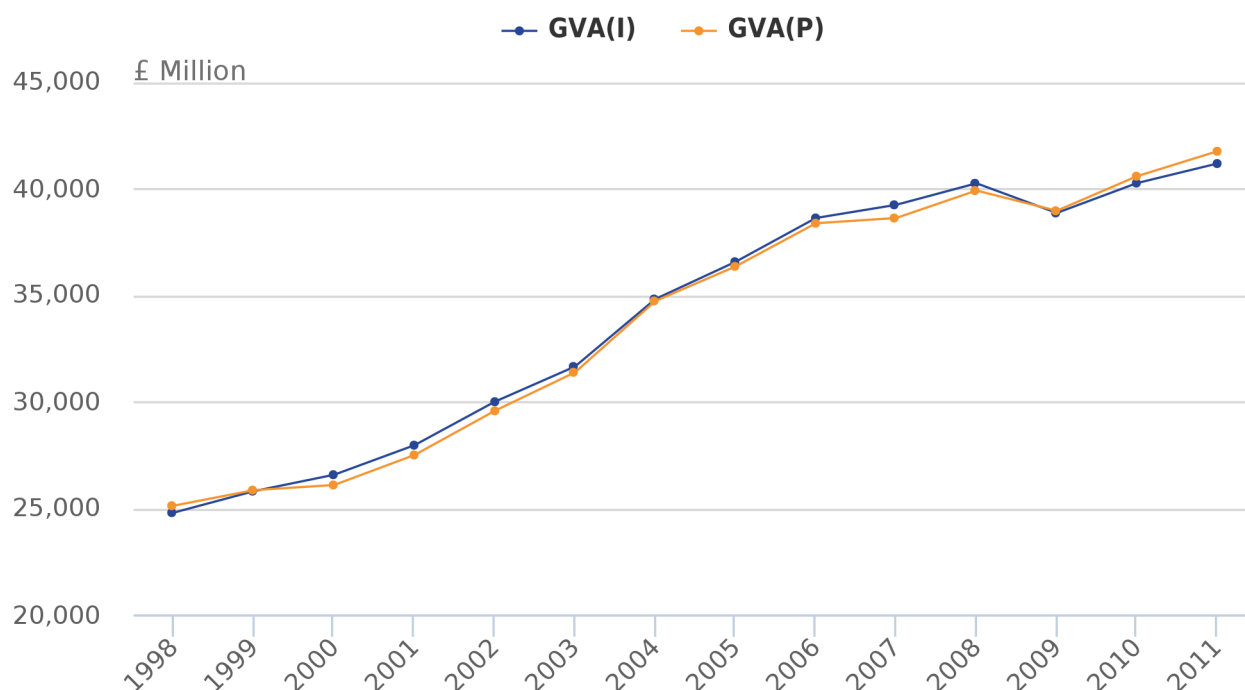
ONS plans to begin a programme of continuous improvement aimed at addressing the main areas of concern with the GVA(P) measures. These industries will be given priority in this programme of work.

The figures that follow show a direct comparison of the current price estimates for all industries for each of the NUTS1 regions. For the most part they show that, at the whole economy level, the two measures are very similar. Even where there are level differences, the overall trend is largely consistent. When comparing the current price GVA(P) with GVA(I), London was the only NUTS1 region where the GVA(P) was consistently higher than the GVA(I) across the entire time series. In the South East GVA(P) was higher than GVA(I) from 2007 to 2011.

For each region the industries where there is a notable difference between the GVA(I) and GVA(P) estimates are identified. Again, for these industries users are advised to exercise caution in their use of the real GVA(P) estimates.

North East

Figure 13: Comparison of GVA(I) and Current price GVA(P) all industries totals for the North East, 1998 to 2011



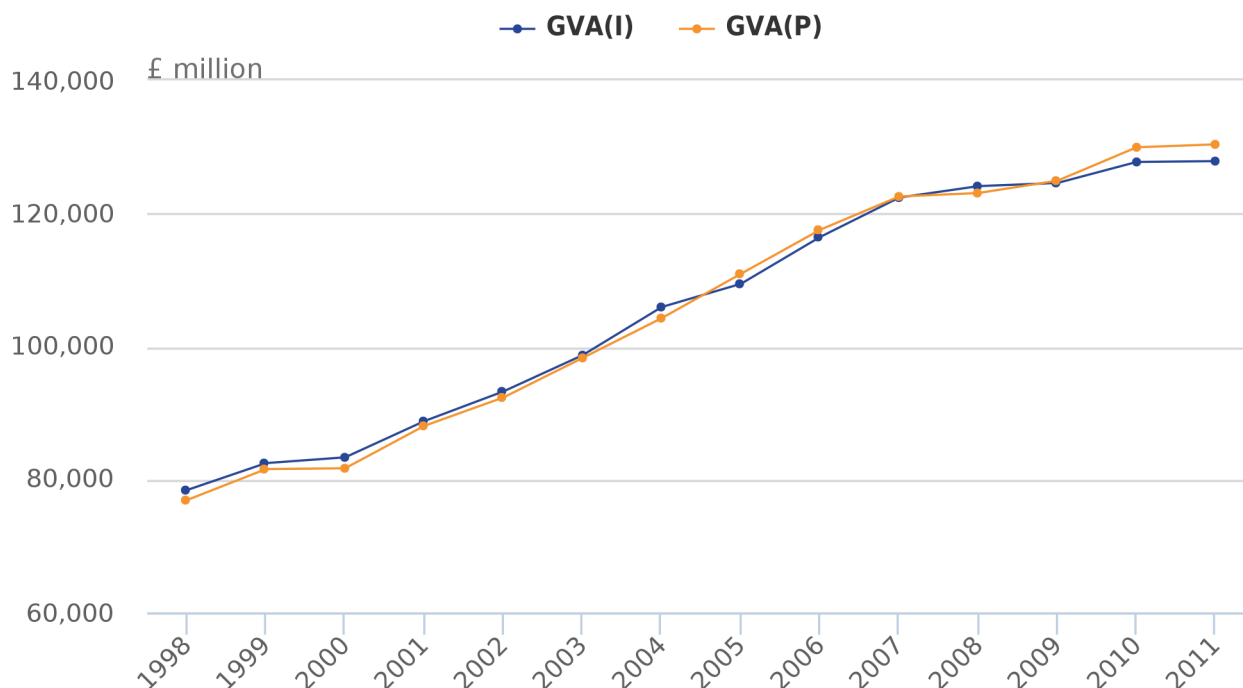
Source: Office for National Statistics

In the North East GVA(I) and GVA(P) were relatively similar throughout the period of comparison.

While the GVA(I) and GVA(P) current price aggregated series are relatively similar, at industry level there are sections which see notable differences. Within section L (real estate activities) GVA(I) was higher than GVA(P) for all years. This was offset by section M (professional, scientific and technical activities) and section R (arts, entertainment and recreation), where GVA(P) was higher than GVA(I) for all years.

North West

Figure 14: Comparison of GVA(I) and Current price GVA(P) all industries totals for the North West, 1998 to 2011



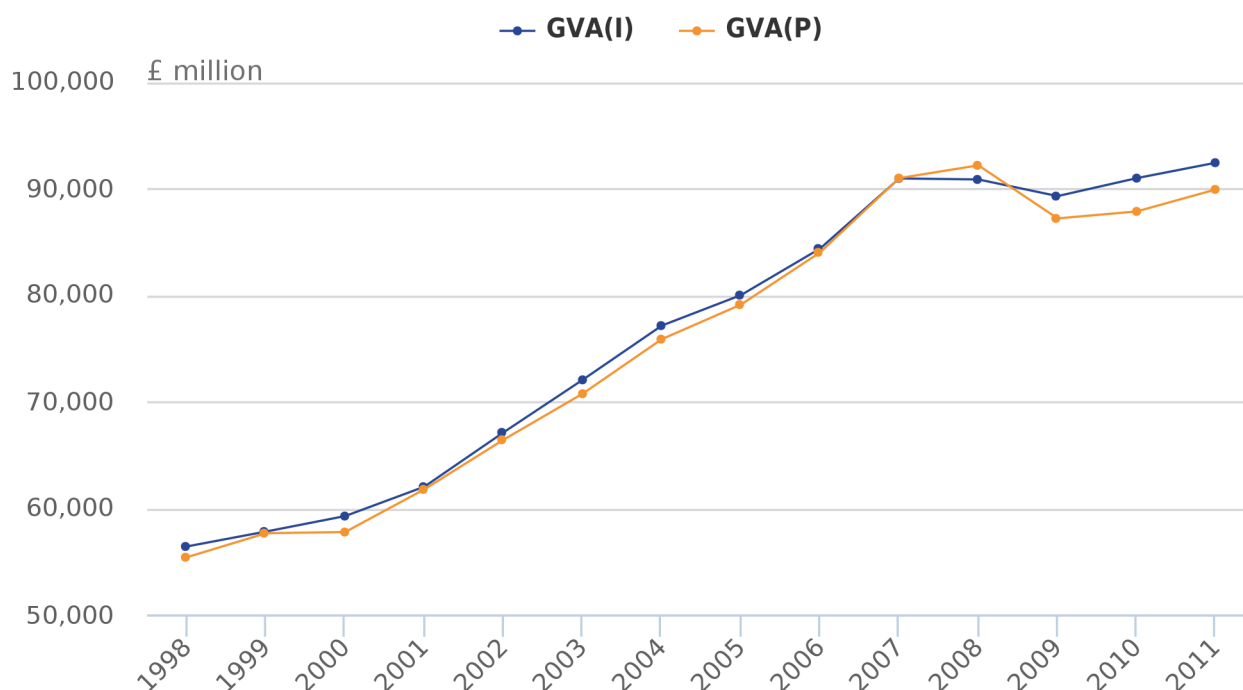
Source: Office for National Statistics

In the North West the GVA(P) and GVA(I) series were very similar throughout the period of comparison.

While the GVA(I) and GVA(P) current price aggregated series are relatively similar, at industry level there are sections which see notable differences. Within section O (public administration and defence; compulsory social security), the GVA(P) series is higher than GVA(I) for all years. However, section O is offset by section P (education), in which the GVA(I) series is higher than GVA(P) for all years.

Yorkshire and The Humber

Figure 15: Comparison of GVA(I) and Current price GVA(P) all industries totals for Yorkshire and The Humber, 1998 to 2011



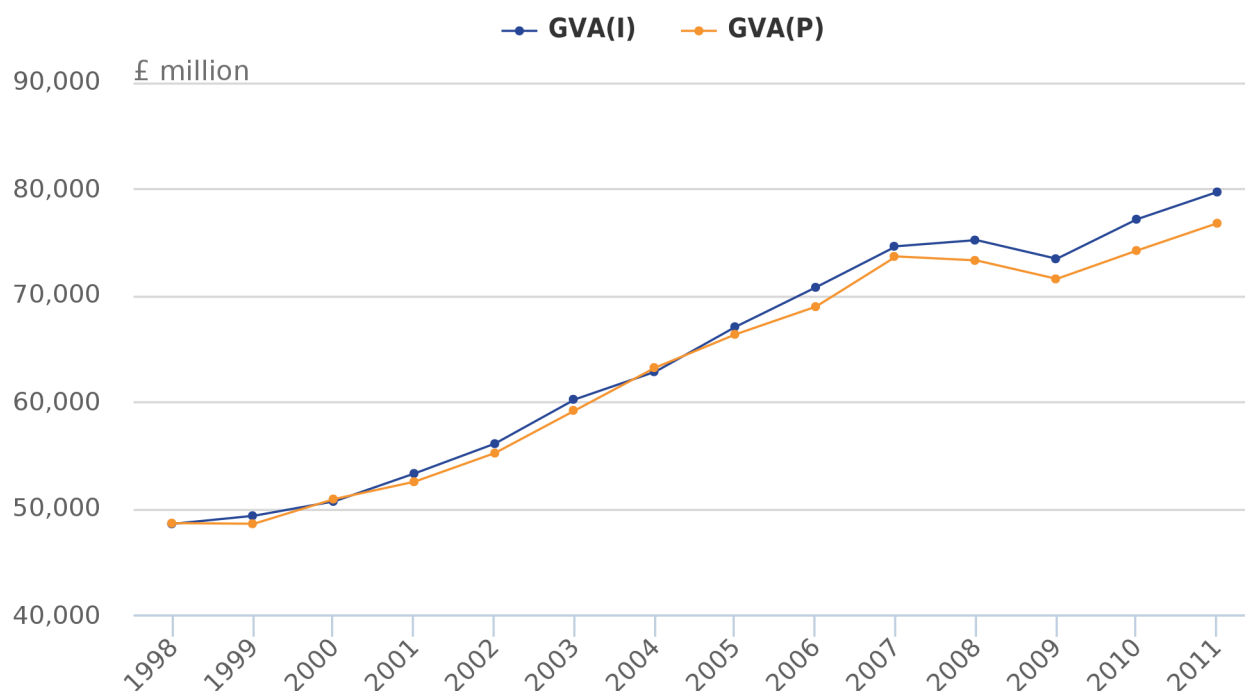
Source: Office for National Statistics

In Yorkshire and The Humber, GVA(I) became noticeably higher from 2009 onwards. This can be seen in the following industries:

- Section G (wholesale and retail trade; repair of motor vehicles).
- Section L (real estate activities). The gap between GVA(I) and GVA(P) widens from 2009 onwards.

East Midlands

Figure 16: Comparison of GVA(I) and Current price GVA(P) all industries totals for the East Midlands, 1998 to 2011



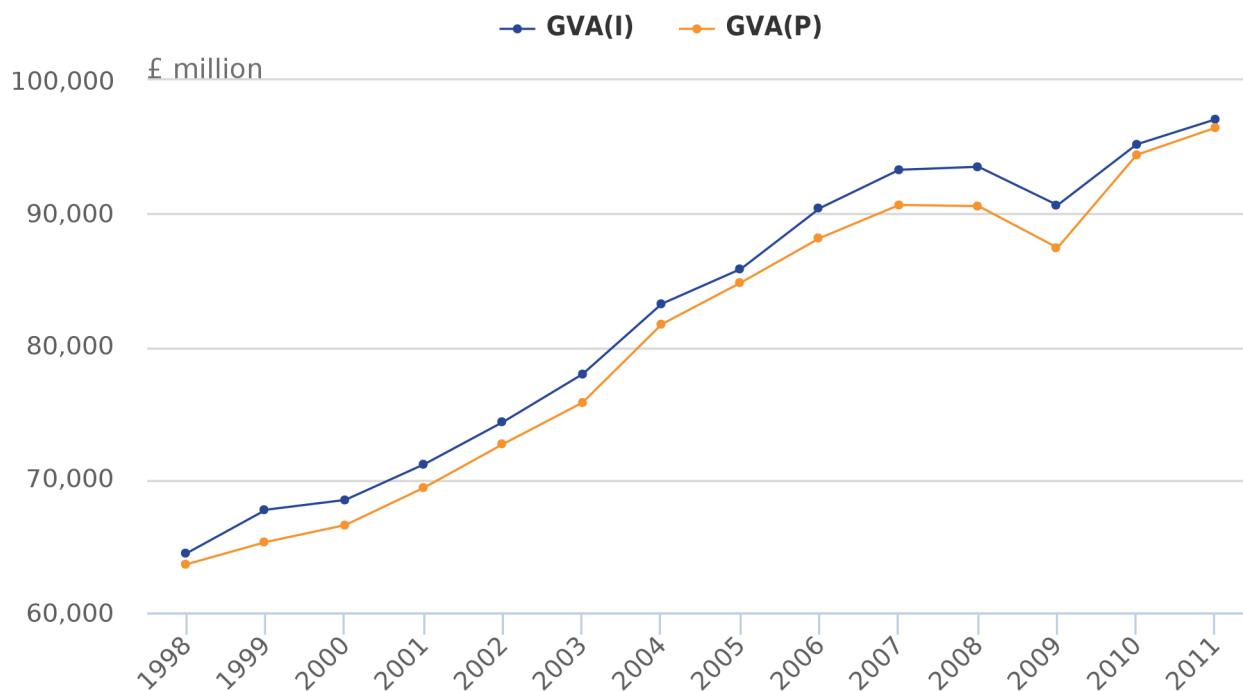
Source: Office for National Statistics

In the East Midlands between 1998 and 2004, GVA(I) and GVA(P) are very similar. From 2005 GVA(I) is higher, and this becomes more prominent from 2008 onwards. This can be seen within the following industries:

- Section G (wholesale and retail trade; repair of motor vehicles). The gap between GVA(I) and GVA(P) noticeably widens from 2006 onwards.
- Section L (real estate activities).

West Midlands

Figure 17: Comparison of GVA(I) and Current price GVA(P) all industries totals for the West Midlands, 1998 to 2011



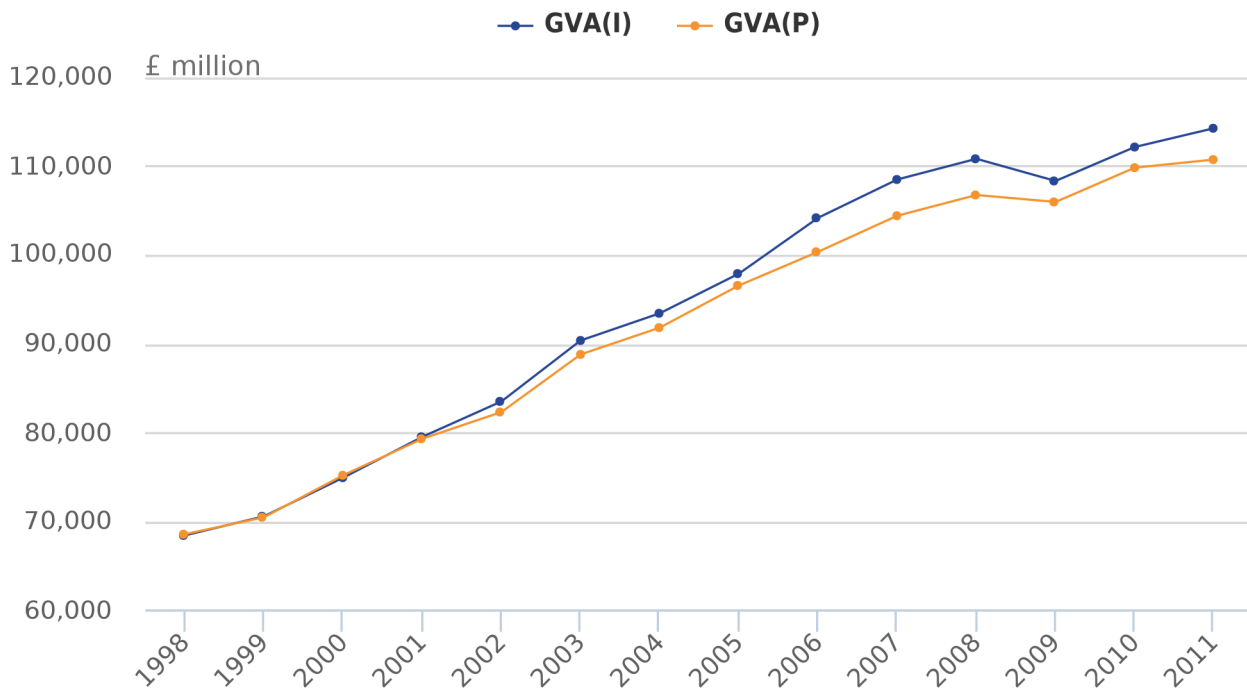
Source: Office for National Statistics

In the West Midlands, throughout the period of comparison, GVA(I) is higher than GVA(P) for all years. This is most noticeable between 2007 and 2010. The difference is mainly due to the following industry:

- Section G (wholesale and retail trade; repair of motor vehicles). The gap between GVA(I) and GVA(P) widens between 2005 and 2010.

East of England

Figure 18: Comparison of GVA(I) and Current price GVA(P) all industries totals for the East of England, 1998 to 2011



Source: Office for National Statistics

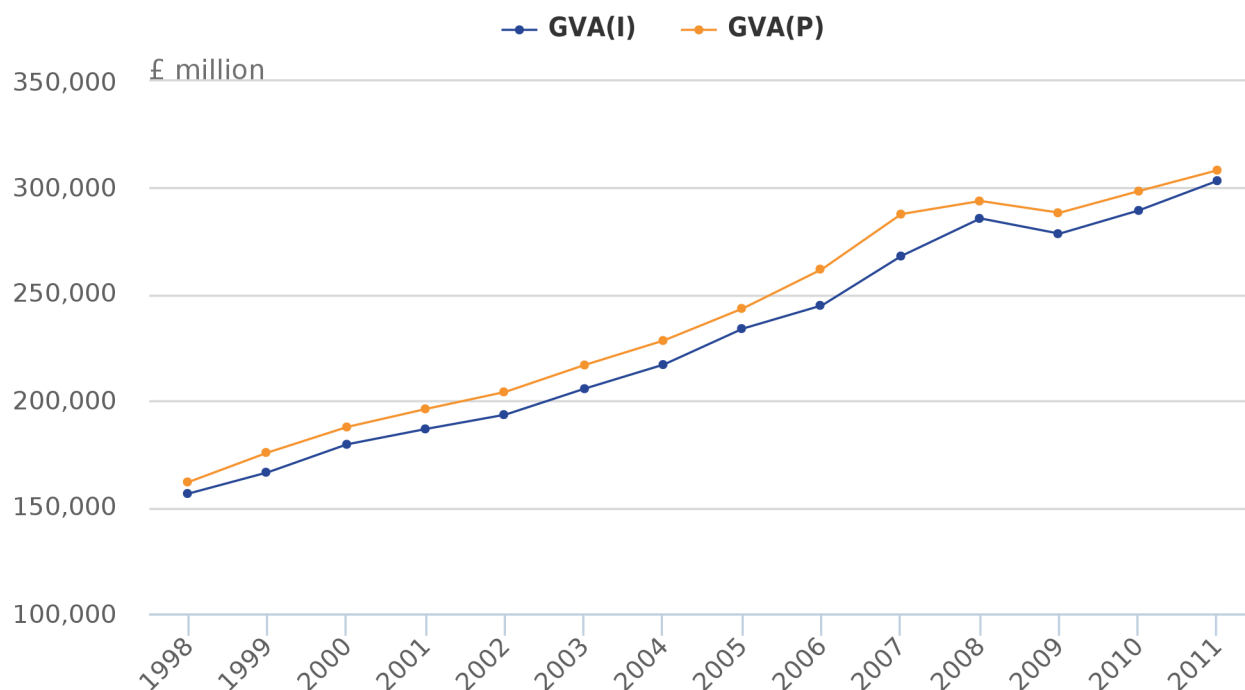
In the East of England from 2002 onwards, GVA(I) becomes noticeably higher than GVA(P). The difference is greatest between 2006 and 2008, mainly due to a large rise in the GVA(I) series for industry section J (information and communication) during this period. The following industries saw GVA(I) higher than GVA(P) for all years:

- Section L (real estate activities).
- Section M (professional, scientific and technical activities).

These industries were offset between 1998 and 2001 by section R (arts, entertainment and recreation) having a much higher GVA(P) series.

London

Figure 19: Comparison of GVA(I) and Current price GVA(P) all industries totals for London, 1998 to 2011



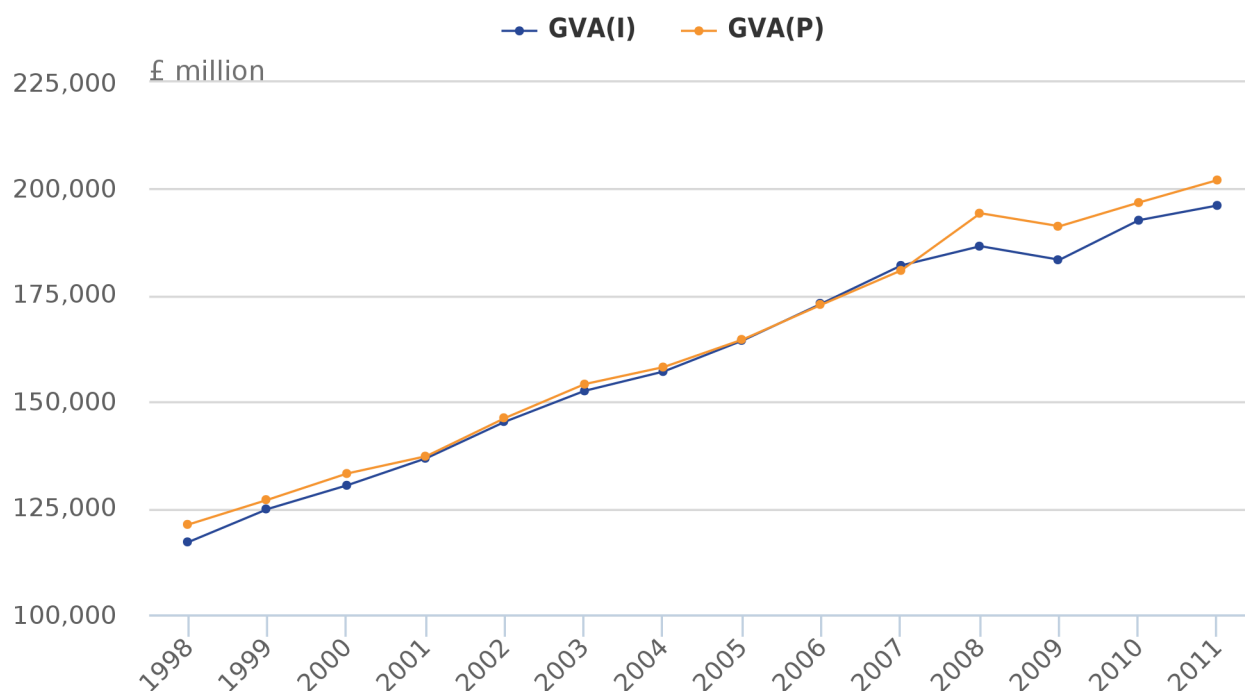
Source: Office for National Statistics

In London GVA(P) is noticeably higher than GVA(I) for all years. This is caused by GVA(P) being higher than GVA (I) in the following industries:

- Section G (wholesale and retail trade; repair of motor vehicles), from 1998 to 2010.
- Section H (transportation and storage).
- Section L (real estate activities), for all years. This section sees the largest gap between GVA(I) and GVA (P) of all industries in London.
- Section N (administrative and support service activities), for all years.
- Section P (education), for all years.
- Section S (other service activities), for all years.

South East

Figure 20: Comparison of GVA(I) and Current price GVA(P) all industries totals for the South East, 1998 to 2011



Source: Office for National Statistics

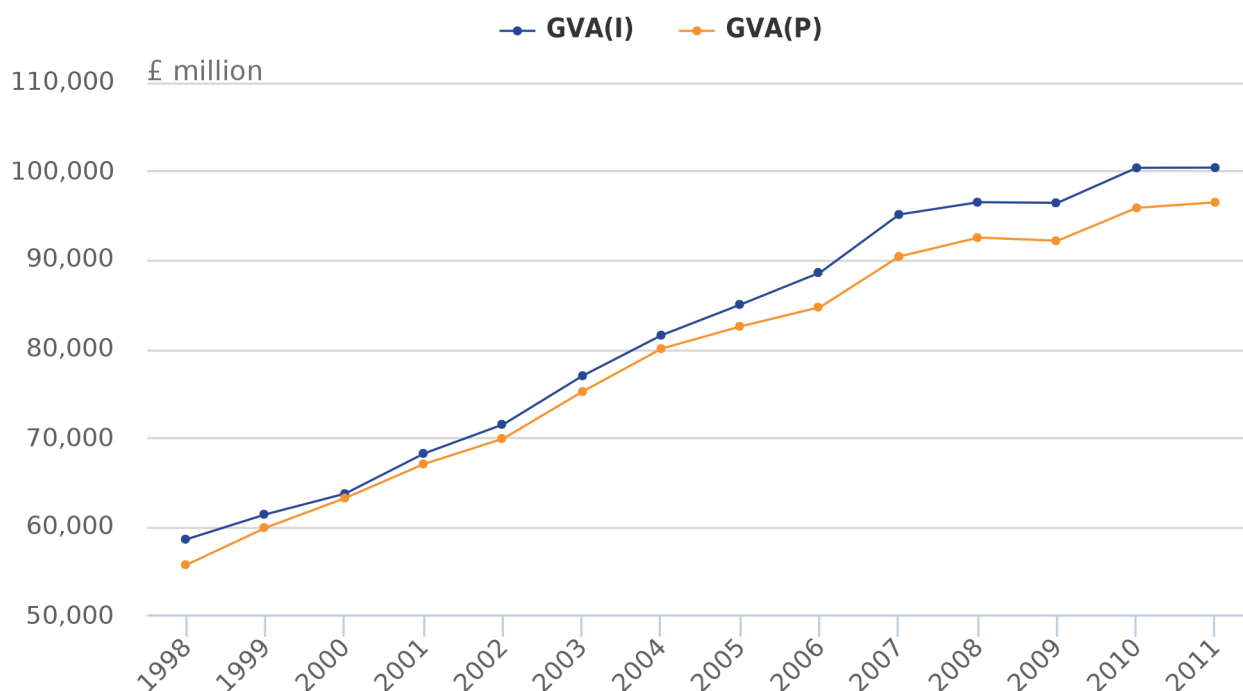
In the South East GVA(P) increased notably in 2008 and remained higher than GVA(I) thereafter.

GVA(P) was higher than GVA(I) in the following industries:

- Section G (wholesale and retail trade; repair of motor vehicles). While GVA(P) was higher for all years, the gap widened from 2009 onwards.
- Section P (education), for all years. From 2008 onwards, the gap between GVA(P) and GVA(I) widened most notably in the following industries:
- Section O (public administration and defence; compulsory social security).
- Section Q (human health and social work activities).

South West

Figure 21: Comparison of GVA(I) and Current price GVA(P) all industries totals for the South West, 1998 to 2011



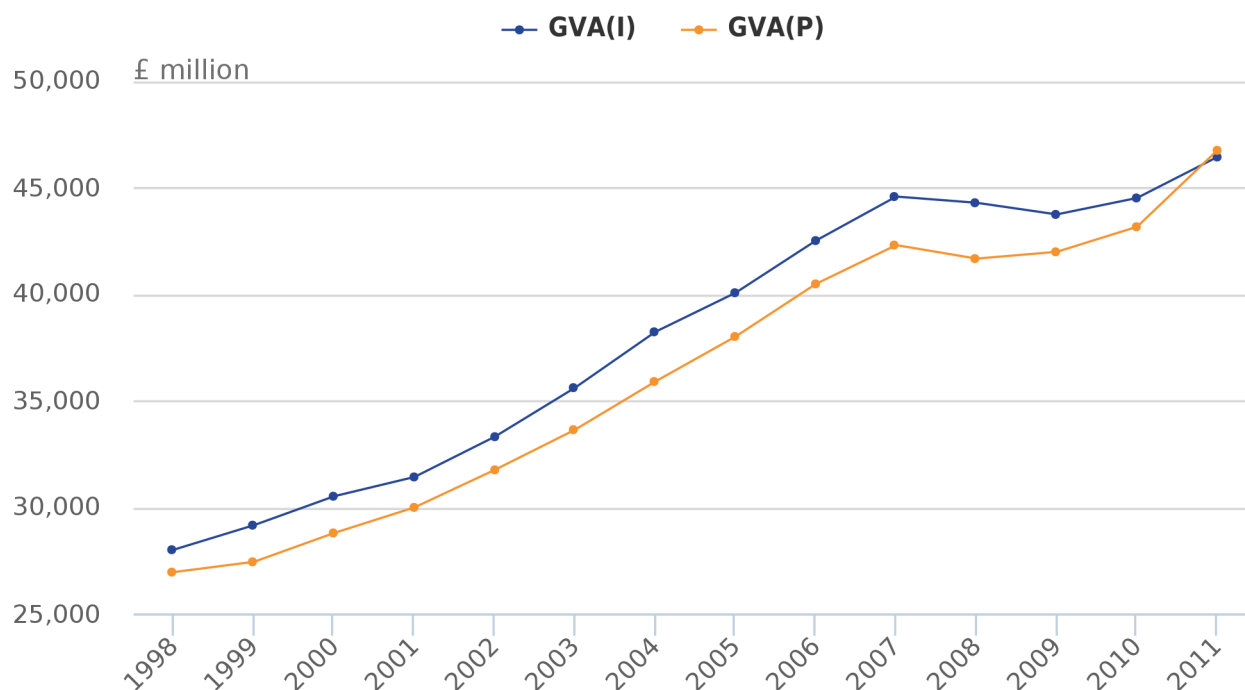
Source: Office for National Statistics

In the South West GVA(I) was higher than GVA(P) across the entire time series. From 2005 onwards this difference became noticeably higher. This can be seen in the following industries:

- Section O (public administration and defence; compulsory social security).
- Section S (other service activities). In section P (education) the GVA(P) series was higher than GVA(I) for all years.

Wales

Figure 22: Comparison of GVA(I) and Current price GVA(P) all industries totals for Wales, 1998 to 2011



Source: Office for National Statistics

In Wales GVA(P) became higher than GVA(I) in 2011. This was due to a large increase in section G (wholesale and retail trade; repair of motor vehicles).

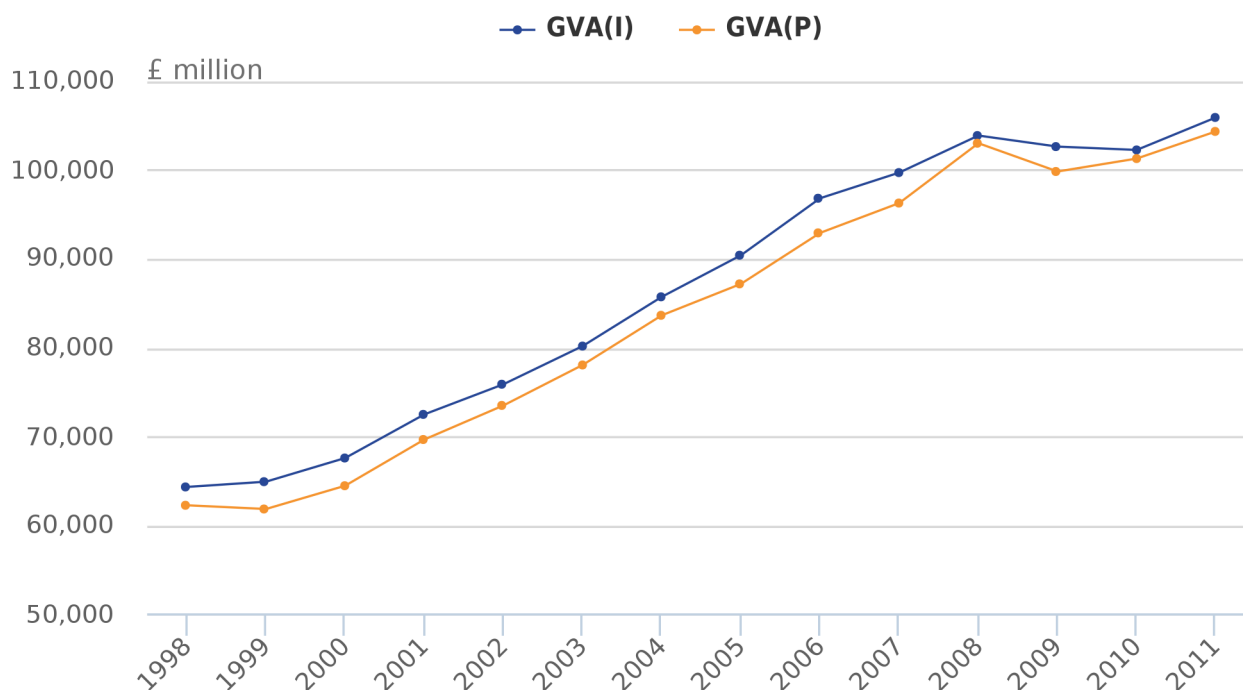
From 1998 to 2010 GVA(I) was higher than GVA(P). This was seen in the following sections:

- Section L (real estate activities).
- Section P (education).

Due to the difference between GVA(I) and GVA(P) current price series for Wales, users are advised to refer also to constant price series produced by the Welsh Government when considering the use of the experimental GVA (P) constant price data. These are established constant price series, which are quarterly estimates and are therefore more current than annual regional GVA(P) estimates. The Welsh Government (in conjunction with the Office for National Statistics) produces quarterly series for short term output indices covering most of the private sector economy in Wales, the [Indices of Production and Construction](#) and the [Index of Market Services](#). These show quarterly growth in output in real terms from 1998.

Scotland

Figure 23: Comparison of GVA(I) and Current price GVA(P) all industries totals for Scotland, 1998 to 2011



Source: Office for National Statistics

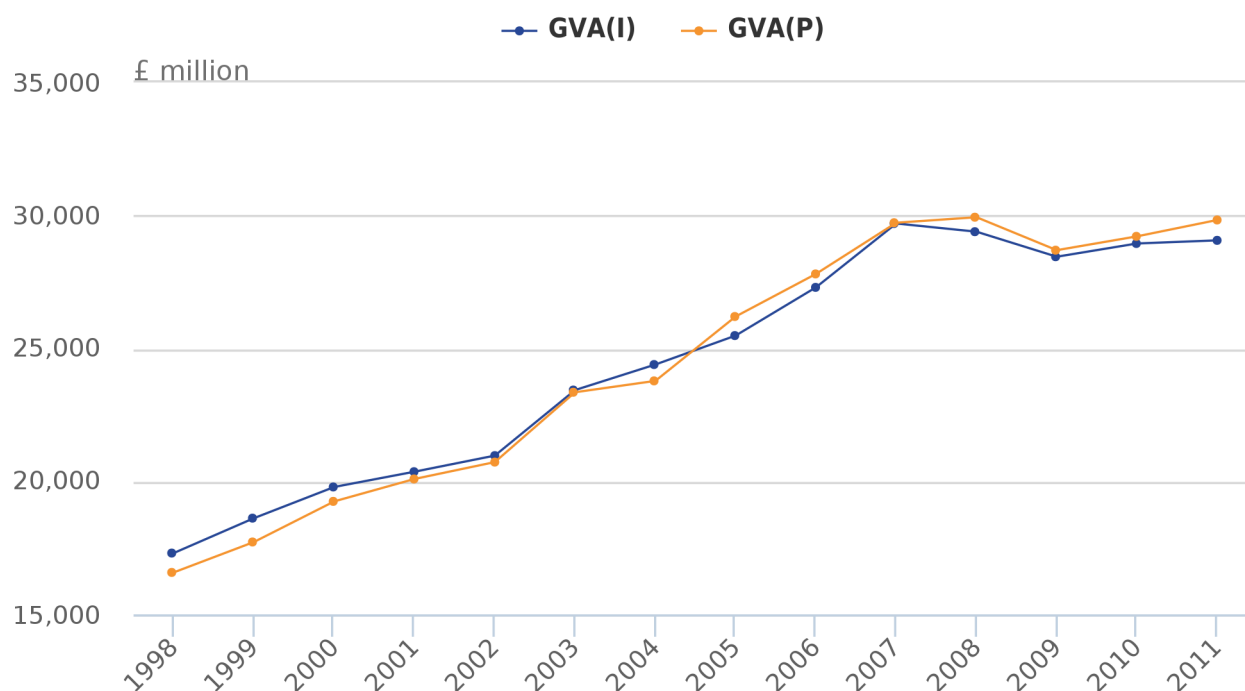
In Scotland, throughout the period of comparison, GVA(I) was higher than GVA(P) for all years, although the gap narrows in 2008. This can be seen within the following industries:

- Section F (construction).
- Section L (real estate activities).
- Section P (education).

Due to the difference between GVA(I) and GVA(P) current price series for Scotland, users are advised to refer also to constant price series produced by the Scottish Government when considering the use of the experimental GVA(P) constant price data. These are established constant price series, which are quarterly estimates and are therefore more current than annual regional GVA(P) estimates. [Gross Domestic Product \(GDP\) for Scotland](#) – chained volume measures of GVA at basic prices are produced by The Scottish Government. This release uses similar sources and methods to ONS UK GDP at basic prices and is designated as a National Statistic.

Northern Ireland

Figure 24: Comparison of GVA(I) and Current price GVA(P) all industries totals for Northern Ireland, 1998 to 2011



Source: Office for National Statistics

In Northern Ireland, from 1998 to 2004 GVA(I) was higher than GVA(P). This was mainly due to industry sections O (public administration and defence; compulsory social security) and L (real estate activities). From 2005 onwards GVA(P) was higher than GVA(I). This was due to section L.

Due to the difference between GVA(I) and GVA(P) current price series for Northern Ireland, users are advised to refer also to constant price series produced by the Northern Ireland Statistics and Research Agency when considering the use of the experimental GVA(P) constant price data. These are established constant price series, which are quarterly estimates and are therefore more current than annual regional GVA(P) estimates. [The Northern Ireland Composite Economic Index \(NICEI\)](#) is an experimental quarterly measure of the performance of the Northern Ireland economy based on official statistics. The NICEI provides an appropriate short term indicator for the Northern Ireland economy in advance of more complete figures such as the annual Regional Accounts information for Northern Ireland from ONS.

Extra-Regio

Extra-Regio in current prices is the same in both GVA(I) and GVA(P) measures.

8. Future plans

- ONS plans to publish experimental estimates of regional real Gross Value Added Production Approach (GVA(P)) for 1998 to 2012 in December 2014.
- In December 2014 ONS will deliver estimates of GVA(P) to Eurostat in accordance with a legal requirement that requires EU Member States to provide real measures (making allowance for the effect of inflation) of annual regional GVA.
- ONS plans to publish estimates of regional Gross Value Added Income Approach (GVA(I)) for 1997 to 2013 in December 2014.
- The publication of Regional Gross Disposable Household Income (GDHI) estimates for the period 1997 to 2012 is currently planned for Spring 2014. This will use 2011 Census updated population counts.
- In 2014 a project will commence to develop a balancing process, similar in principle to that used to balance the three measures of UK GDP. This will aim to make use of the strengths of both GVA(I) and GVA(P) measures to produce a single balanced measure of regional GVA. This has never been attempted before at a regional level, so it is difficult to say exactly how long it will take. Our tentative aim is to have the single measure ready by December 2015.
- Relevant methodological changes arising from the introduction of the European System of National Accounts 2010 (ESA 2010) will be implemented in the regional accounts during the course of 2014, in step with the UK National Accounts.
- During 2014 the Open Data Project will improve access to Regional Accounts data on the ONS website and offer greater facility for users to customise datasets.
- A revised Regional Accounts methodology guide and GVA Inventory will be published in 2014.
- Changes in NUTS boundaries arising from the 2013 NUTS review will become active in January 2015. These changes will be implemented in the regional GDHI publication scheduled for Spring 2015 and the regional GVA(I) and GVA(P) publications scheduled for December 2015.

9. Background notes

1. The [Nomenclature of Units for Territorial Statistics \(NUTS\)](#) provides a single uniform breakdown for the production of regional statistics for the EU. These regional GVA estimates are compiled at two levels of NUTS geography:

- NUTS1: Wales, Scotland, Northern Ireland and the nine English regions.
- NUTS2: 37 areas – mainly groups of counties and unitary authorities; can be referred to as sub-regions.
- Some areas appear at more than one level, for example Northern Ireland appears at NUTS1 and NUTS2 level.

The NUTS classification was established by Eurostat in the early 1970s as a single, coherent system for dividing up European Union territory in order to produce regional statistics for the EU. Since 2003, any changes to boundaries to account for changes in, for instance, local authority boundaries, have needed to go through a formal process of application to the EU, with any changes being implemented at the end of pre-set periods of enforced stability.

The term Extra-Regio is applied to economic activity that cannot be assigned to any specific region within a country, for example the contribution of UK embassies abroad, UK forces stationed overseas and activities taking place on the continental shelf (North Sea oil and gas extraction) are treated as Extra-Regio.

2. GVA(P) is valued at basic prices, which reflect the amount received by the producer for a unit of goods or services excluding any taxes on products (for example Value Added Tax) and including any subsidies on products (for example import subsidies). The price includes only taxes on production (for example business rates) and excludes any subsidies on production (for example agricultural land set-aside).

3. Regional GVA(P) is a workplace-based measure, compiled using mostly output and intermediate consumption data from the Annual Business Survey (ABS). These estimates are provided at t-2 (where t is the current year) for NUTS1 and NUTS2 levels of geography.
4. The project to develop a measure of regional GVA using the production approach was initiated in response to the [Review of Economic Statistics for Policymaking by Christopher Allsopp in 2003](#). One of the recommendations of the review was for the development and publication of regional GVA at constant prices, which involves deflating annual data that are produced at current prices.

5. Quality

The principal data source for regionalising GVA(P) is the ONS Annual Business Survey (ABS). The ABS estimates represent approximately two thirds of the UK economy, but exclude public sector and financial sector activity (banking, finance and insurance auxiliaries, pension funding) and households with employees. For these industries, the closest corresponding GVA(I) data are used as proxy indicators to allocate the national total to regions. Public sector totals are regionalised using an estimate of regional public expenditure derived from regional public sector earnings from the Annual Survey of Hours and Earnings (ASHE) and regional public sector employees from the Business Register Employment Survey (BRES).

The ABS provides data for approximate GVA and total purchases (intermediate consumption) at both NUTS1 and NUTS2 levels. These data are then used to derive regional output (calculated as GVA plus intermediate consumption). The separate calculation of output in addition to intermediate consumption will facilitate a future change to accommodate double deflation (see 'About this release') should suitable input price indices become available.

6. Publication policy

National Statistics are produced to high professional standards set out in the [Code of Practice for Official Statistics](#). They undergo regular quality assurance reviews to ensure that they meet customer needs. They are produced free from any political interference.

7. Follow the Office for National Statistics on [Twitter](#) and [Facebook](#).
8. Details of the policy governing the release of new data are available by visiting www.statisticsauthority.gov.uk/assessment/code-of-practice/index.html or from the Media Relations Office email: media.relations@ons.gsi.gov.uk