

**National Assembly for Wales**  
Research paper

# Regional and Local Gross Value Added

December 2012

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**National Assembly for Wales**  
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## **Regional and Local Gross Value Added**

December 2012

Ben Stokes

This paper provides information on the regional and local area Gross Value Added (GVA) data released by the Office for National Statistics (ONS) on 12 December 2012.

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## Summary

This paper provides information on the regional and local area Gross Value Added (GVA) data released by the Office for National Statistics (ONS) on 12 December 2012. It includes the 2011 GVA figures for Wales, along with the 2010 and 2011 GVA figures for West Wales and the Valleys, and East Wales.<sup>1</sup> All the GVA figures in this paper are measured on a workplace basis. Regional GVA is an income-based measure of the economic output of an area, mainly composed of the wages and profits earned as a result of production.

The latest figures show that:

- Total headline GVA in Wales in 2011 was £47.3 billion, an increase of 2.2 per cent on 2010. Total GVA for the United Kingdom increased by 2.4 per cent over the same period.<sup>2</sup> The share of total UK GVA accounted for by Wales has remained constant at 3.5 per cent for the last four years;
- GVA per head in Wales in 2011 was £15,696 or 75.2 per cent of the UK average. GVA per head in Wales in 2011 was the lowest of all the devolved countries and English regions and has been the lowest for the entire time period 1997 to 2011;
- In 2011, the South East had the largest increase in GVA per head at 2.2 per cent, followed by Northern Ireland at 2.0 per cent and Wales at 1.9 per cent. The increase in GVA per head for the UK as a whole in 2011 was 1.4 per cent.
- In 2011, West Wales and the Valleys had the lowest GVA per head (£13,573) of all NUTS 2 regions in the UK. This figure equates to 65.0 per cent of the UK average of £20,873. East Wales had a GVA per head of £19,309 in 2011 (92.5 per cent of the UK average);
- The lowest levels of GVA per head in Wales were in the Gwent Valleys at 55.7 per cent and the Isle of Anglesey at 60.5 per cent of the UK average. These areas accounted for two of the five NUTS 3 regions throughout the UK with the lowest GVA per head relative to the UK average. The Gwent Valleys had the second lowest GVA per head in the UK in 2011.

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<sup>1</sup> 2011 data are provisional

<sup>2</sup> All UK GVA per head data used in this paper exclude what is known as 'Extra-Regio': off-shore contributions to UK GVA that cannot be assigned to any region. See technical annex for further information.



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# Regional and Local Gross Value Added

## 1. Regional Gross Value Added (GVA)<sup>3</sup>

Table 1.1: GVA (a), Wales and the UK, 1997 to 2011<sup>4</sup>

Year	Wales (£ per head)	UK (£ per head) (b)	Per Head GVA in Wales as a percentage of UK GVA
1997	9,809	12,557	78.1
1998	10,254	13,243	77.4
1999	10,630	13,816	76.9
2000	10,967	14,322	76.6
2001	11,448	15,000	76.3
2002	11,987	15,707	76.3
2003	12,680	16,685	76.0
2004	13,269	17,525	75.7
2005	13,805	18,306	75.4
2006	14,454	19,184	75.3
2007	15,097	20,190	74.8
2008	15,179	20,495	74.1
2009	14,794	20,048	73.8
2010	15,407	20,579	74.9
2011 <sup>c</sup>	15,696	20,873	75.2

(a) These headline regional GVA series have been calculated using a five-period moving average and are workplace-based.

(b) Excludes the GVA for Extra-Region that comprises compensation of employees and gross operating surplus which cannot be assigned to regions. Extra-region includes 'continental shelf' activity relating to offshore oil and gas extraction, UK embassies overseas and armed forces stationed abroad.

(c) Provisional.

Source: ONS

<sup>3</sup> The regional GVA estimates (NUTS 1) for 2011 have been released along with **revisions for the period 1997 to 2010, updating** those published in December 2011. At the more detailed level of geography (NUTS 2 and NUTS 3), the estimates for 2010 and 2011 have been released for the first time along with **revisions for the period 1997 to 2009**, updating those published in December 2011.

<sup>4</sup> Excluding extra-region GVA. All the statistics for GVA are not adjusted for inflation. GVA figures for NUTS 1 (Wales) in this paper are workplace-based, although the residence-based figures are the same. The figures for NUTS 2 and NUTS 3 regions are also workplace-based. **Points for consideration in interpreting data in this paper can be found in the Technical Annex.**

The latest workplace-based GVA estimates published by the Office for the National Statistics (ONS) show that: <sup>5</sup>

- Total headline GVA in Wales in 2011 was £47.3 billion, an increase of 2.2 per cent on 2010. Total GVA for the United Kingdom increased by 2.4 per cent over the same period. <sup>6</sup>
- The share of total UK GVA accounted for by Wales has remained constant at 3.5 per cent for the last four years;
- GVA per head in Wales in 2011 was £15,696 or 75.2 per cent of the UK average;
- GVA per head in Wales in 2011 was the lowest of all the devolved countries and English regions and has been the lowest for the entire time period 1997 to 2011;
- In 2011, the South East had the largest increase in GVA per head at 2.2 per cent, followed by Northern Ireland at 2.0 per cent and Wales at 1.9 per cent. The increase in GVA per head for the UK as a whole in 2011 was 1.4 per cent.
- During the period 1997 to 2011, GVA per head in Wales has increased relative to the UK average on only two occasions, in 2010 and 2011.
- In 2010 and 2011 positive growth occurred in every NUTS1 region of the UK. In 2011, the rate of annual growth decreased in every NUTS1 region when compared with the rate of growth in 2010. The rate of annual growth decreased most in Wales (from 4.1 per cent in 2010 to 1.9 per cent in 2011).
- In both London and the South East GVA per head in 2011 was above the UK average, whilst all other regions were below the UK average; and
- The average annual growth rate in GVA per head over the period 1997 to 2011 for the UK was 3.7 per cent. London had the highest average annual growth in GVA per head (4.4 per cent) followed by Scotland and the South East (3.9 per cent). Wales had the joint fourth lowest average annual growth rate over this period, along with the East of England and the North West (3.4 per cent).

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<sup>5</sup>[Regional Gross Value Added data](#), Office for National Statistics website [accessed 12 December 2012]

<sup>6</sup> 2011 data are provisional. All UK data used in this paper exclude what is known as 'Extra-Regio': off-shore contributions to UK GVA that cannot be assigned to any region. See technical annex for further information.

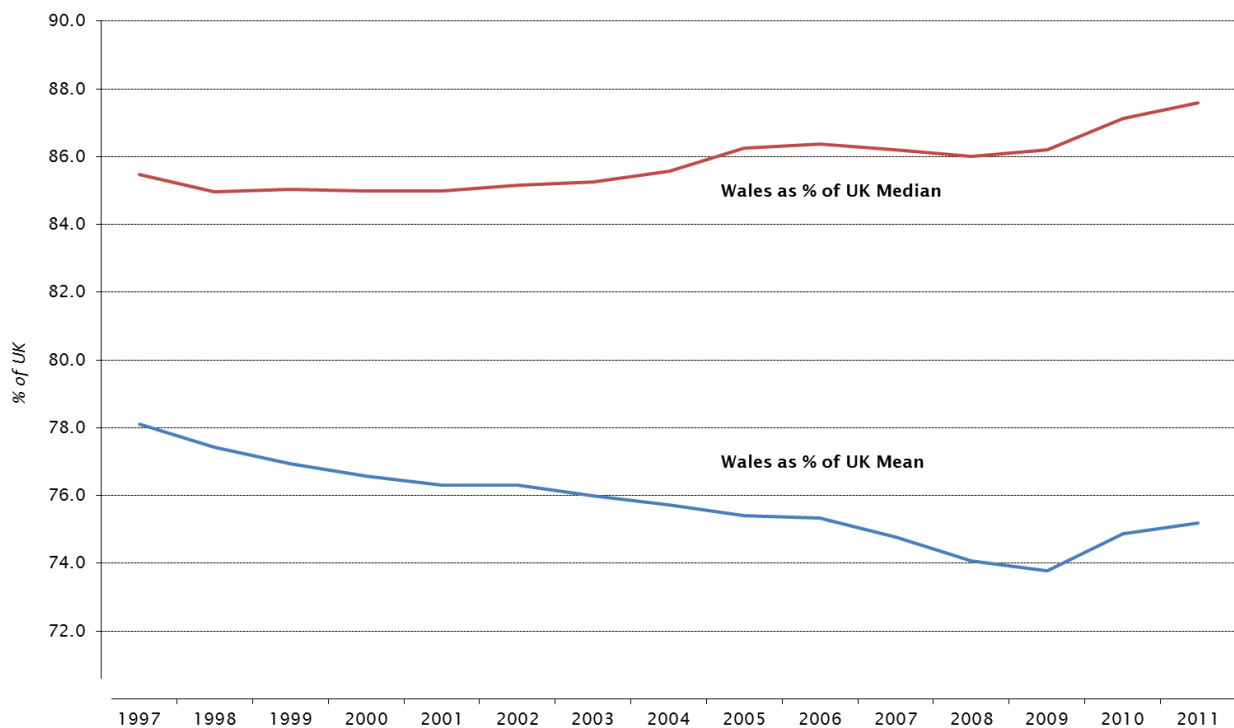
## 2. Relative GVA – The median measure

It is possible to compare GVA in Wales relative to other regions whilst making allowances for a relatively large increase or fall in GVA within a particular region which might skew the mean (average) measure. This is done using the median measure. The median represents the number that sits in the middle of a set of numbers, in this case the mean of the central two index numbers for UK relative GVA. GVA per head in Wales in 2011 was 87.6 per cent of the UK median.

Figure 2.1 shows workplace-based GVA per head in Wales as a percentage of GVA per head for the UK mean and median over the period 1997 to 2011. The data demonstrates that:

- The median measure fluctuated within a relatively narrow band around 85 and 86 per cent between 1997 and 2009, but has increased in both 2010 and 2011; and
- The mean measure has fallen each year between 1997 and 2009, with the exception of 2002 when there was no change from the previous year. 2010 and 2011 are the only years in which the mean measure has increased.

**Figure 2.1: GVA per head, Wales as a percentage of UK mean and median (UK=100)**

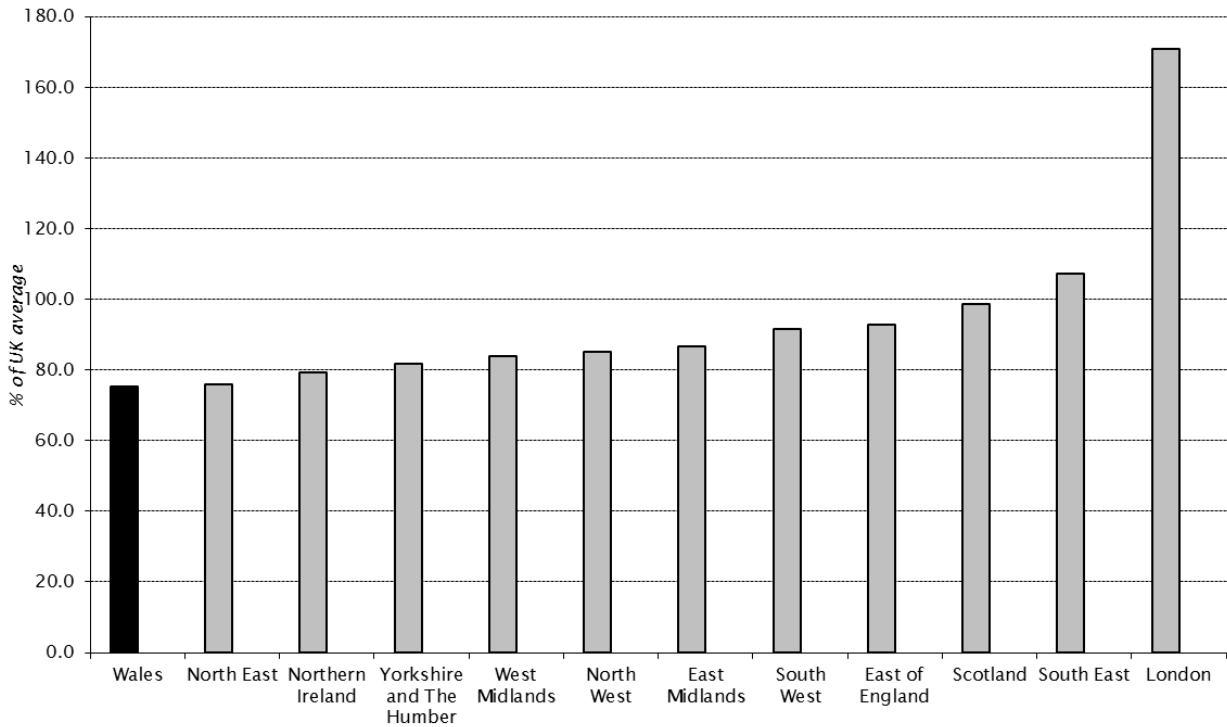


Source: ONS and Research Service calculations

### 3. Regional comparison

Figure 3.1 shows workplace-based GVA per head in the UK nations and regions as a percentage of GVA per head for the UK in 2011. In both London and the South East GVA per head in 2011 was above the UK average, while all of the other devolved countries and English regions were below the UK average

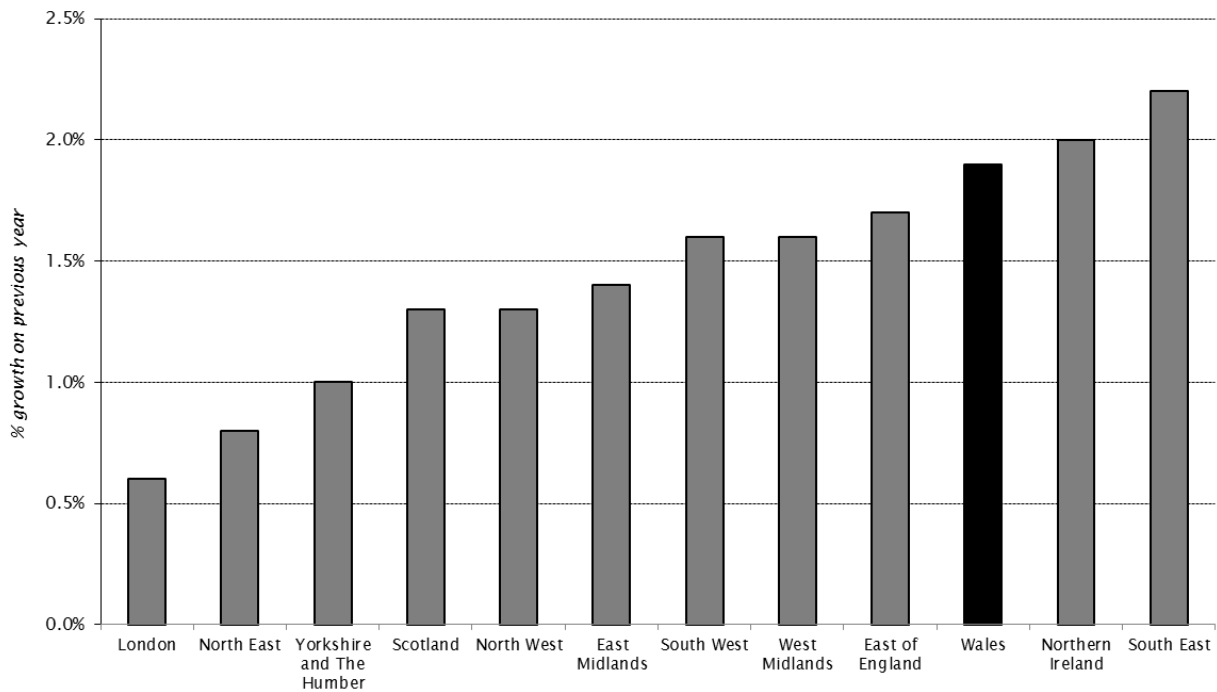
**Figure 3.1: GVA per head, by UK nations and regions, 2011 (UK=100)**



Source: ONS

Figure 3.2 charts change in workplace-based GVA per head in the UK nations and regions between 2010 and 2011. Wales had the third largest increase in GVA per head at 1.9 per cent. The increase in GVA per head for the UK as a whole was 1.4 per cent.

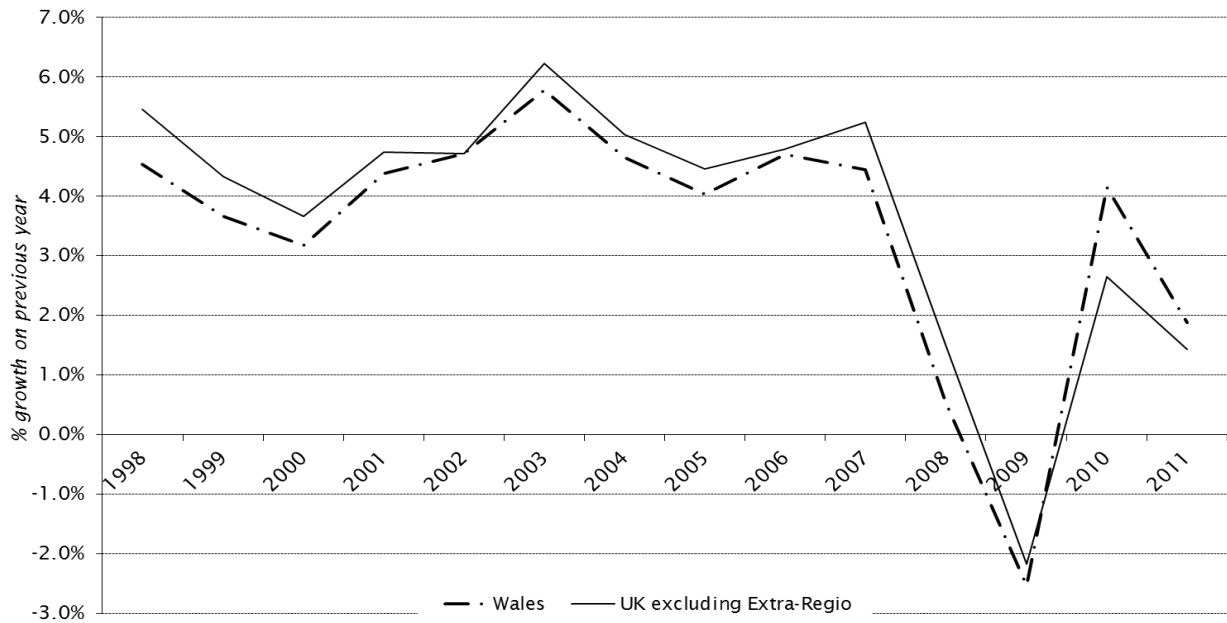
**Figure 3.2: Change in GVA per head, by UK nations and regions, 2010 to 2011**



Source: ONS

## 4. UK comparison

Figure 4.1: Annual percentage change in GVA per head, Wales and the UK, 1998 to 2011<sup>7</sup>



Source: ONS

Figure 4.1 shows that during the period 1997 to 2011 there has been a higher rate of growth in GVA per head in Wales compared to the UK on only two occasions (in 2010 and 2011). The gap between UK and Wales growth rates was particularly wide in the late 1990s, which explains the high rate of relative decline in Welsh GVA per head over that period.

<sup>7</sup> See GVA and inflation in the Technical Annex for points for consideration when interpreting GVA per head data.

## 5. Sub-regional and local GVA

Table 5.1: GVA per head, Wales, by NUTS 1, 2 and 3 areas, 2011 (a)(b)(c)(d) UK=100<sup>8</sup>

NUTS levels	GVA per head (£)	As a percentage of UK GVA per head (%)
<b>Wales</b>	15,696	75.2
<i>West Wales and the Valleys</i>	13,573	65.0
Isle of Anglesey	12,624	60.5
Gwynedd	14,379	68.9
Conwy and Denbighshire	13,116	62.8
South West Wales	13,097	62.7
Central Valleys	12,985	62.2
Gwent Valleys	11,626	55.7
Bridgend and Neath Port Talbot	15,440	74.0
Swansea	15,933	76.3
<i>East Wales</i>	19,309	92.5
Monmouthshire and Newport	20,355	97.5
Cardiff and the Vale of Glamorgan	21,366	102.4
Flintshire and Wrexham	17,820	85.4
Powys	13,329	63.9

(a) GVA at current basic prices.

(b) Estimates are on a workplace basis.

(c) Excluding extra-regio

(d) Data are provisional

Source: ONS

It should be noted that the GVA estimates compiled at the NUTS 2 and at NUTS 3 levels are also on a **workplace** basis. The estimates of NUTS 3 GVA per head are calculated by dividing the estimate of workplace GVA for an area by the resident population for that area.

Estimates of GVA per head will be **high in areas with high levels of inward commuting** and a low resident population, and will be **low in areas with significant levels of outward commuting** and high resident populations. Changes in commuting patterns between areas over time may result in changes in GVA per head in neighbouring NUTS 3 areas.

<sup>8</sup> The Nomenclature of Units for Territorial Statistics (NUTS) is a hierarchical classification of administrative areas, used across the European Union for statistical purposes. Wales is one of twelve NUTS 1 areas in the UK, whilst West Wales and the Valleys and East Wales are NUTS 2 areas.

Furthermore, as GVA estimates are partly based on sample surveys, the results for smaller (NUTS 3) regions are subject to a greater degree of uncertainty than those for larger regions.

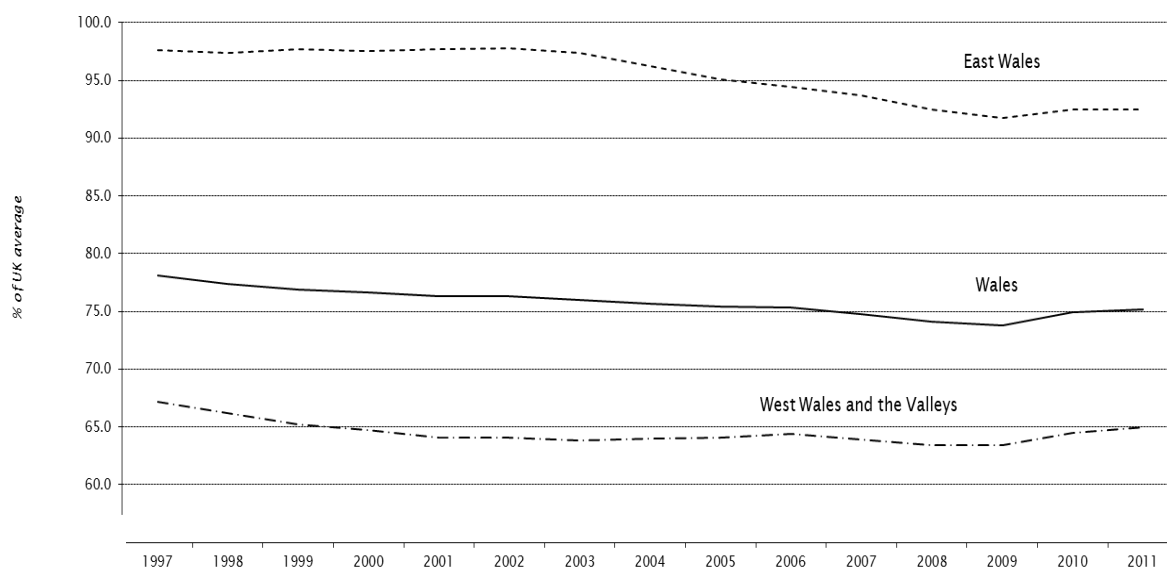
## NUTS 2

The latest estimates for Wales' NUTS 2 areas show that:

- In 2011, West Wales and the Valleys had the lowest GVA per head (£13,573) of all NUTS 2 regions in the UK. This figure equates to 65.0 per cent of the UK average of £20,873. East Wales had a GVA per head of £19,309 in 2011 (92.5 per cent of the UK average);
- The figures for 2010 and 2011 show an improvement in GVA per head in West Wales and the Valleys relative to the UK average. However, over the period 1997 to 2011 GVA per head in the region fell from 67.2 to 65.0 per cent of the UK average.
- Between 1997 and 2011 GVA per head in East Wales fell from 97.6 per cent to 92.5 per cent of the UK average.

Figure 5.1 graphs GVA per head for the period 1997 to 2011 for the Wales NUTS 1 and 2 regions relative to the UK average.

**Figure 5.1: GVA per head, NUTS 1 and 2 areas of Wales (UK=100)**



Source: ONS



## NUTS 3

- Of the twelve NUTS 3 regions in Wales, Cardiff & the Vale of Glamorgan had the highest level of GVA per head in 2011 at 102.4 per cent of the UK average. This is the only NUTS 3 area in Wales where GVA per head is above the UK average;
- The lowest levels of GVA per head in Wales were in the Gwent Valleys at 55.7 per cent and the Isle of Anglesey at 60.5 per cent of the UK average. These areas accounted for two of the five NUTS 3 regions throughout the UK with the lowest GVA per head relative to the UK average. The Gwent Valleys had the second lowest GVA per head in the UK in 2011;
- Between 1997 and 2011, the Isle of Anglesey, South West Wales, and Swansea were the only NUTS 3 areas in West Wales and the Valleys that saw increases in GVA per head relative to the UK. In the same period, only one NUTS 3 area in East Wales (Cardiff and the Vale of Glamorgan) showed an improvement in GVA per head relative to the UK.
- Between 1997 and 2011, the largest percentage point fall relative to the UK of all NUTS 3 areas in Wales was for Flintshire and Wrexham (99.4 per cent to 85.4 per cent). The largest percentage point increase was in the Isle of Anglesey (49.2 per cent to 60.5 per cent).

**Table 5.2: Change in GVA per head, Wales, by NUTS level 3 area, 1997-2011 (a)(b)(c) (UK=100)**

NUTS 3 levels	GVA per head as a percentage of UK average (1997)	GVA per head as a percentage of UK average (2011)(d)	Percentage point change (1997 - 2011)
Isle of Anglesey	49.2	60.5	11.3
Gwynedd	70.0	68.9	-1.1
Conwy and Denbighshire	66.1	62.8	-3.3
South West Wales	62.3	62.7	0.4
Central Valleys	64.0	62.2	-1.8
Gwent Valleys	60.7	55.7	-5.0
Bridgend and Neath Port Talbot	82.1	74.0	-8.1
Swansea	75.7	76.3	0.6
Monmouthshire and Newport	99.4	97.5	-1.9
Cardiff and the Vale of Glamorgan	101.5	102.4	0.9
Flintshire and Wrexham	99.4	85.4	-14.0
Powys	77.4	63.9	-13.5

(a) GVA at current basic prices.

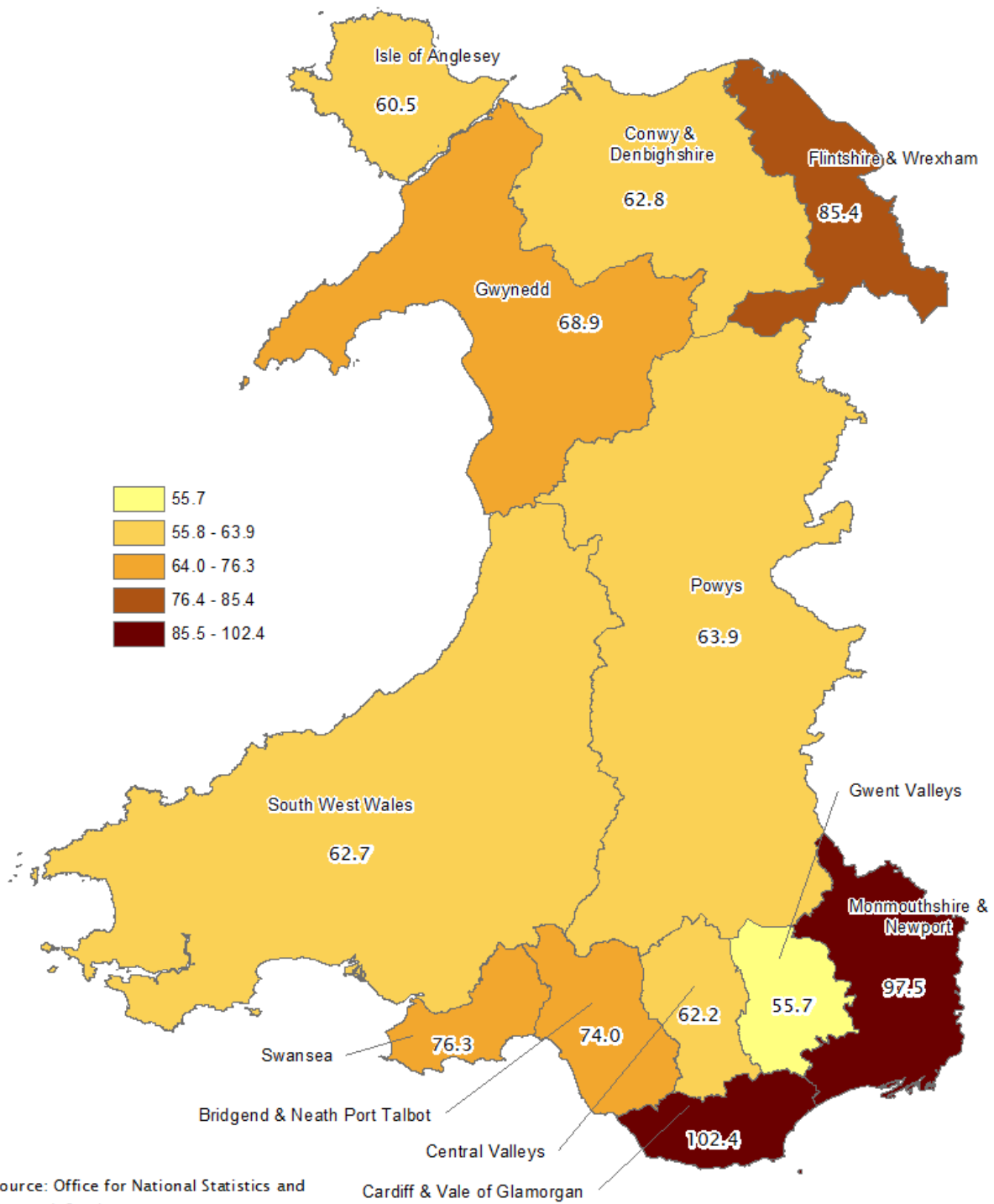
(b) Estimates are on a workplace basis.

(c) Excluding extra-regio and statistical discrepancy.

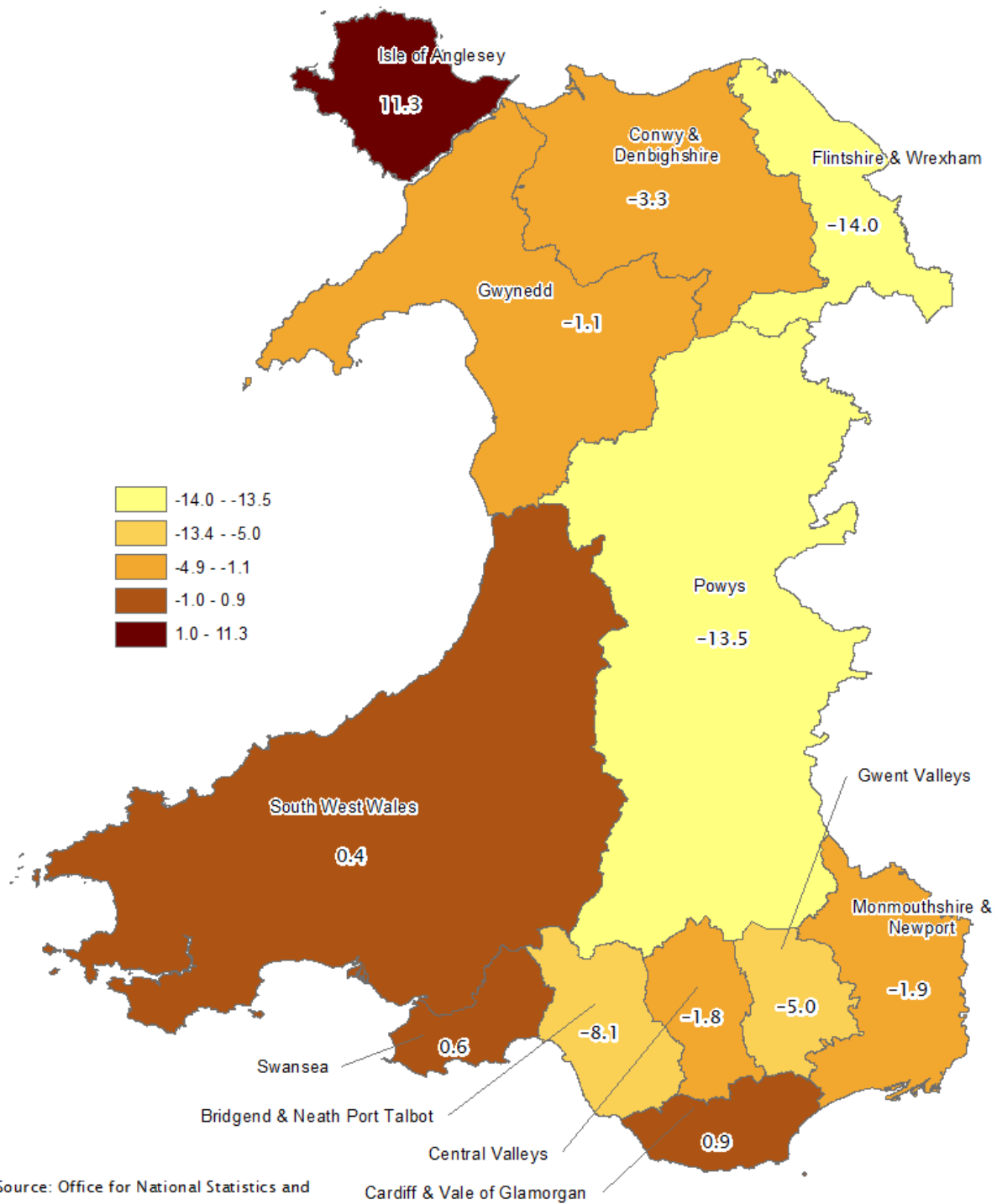
(d) Data are provisional

Source: ONS

Map 5.1: GVA per head as a percentage of UK GVA per head in 2011, by NUTS 3 area (UK=100)



Map 5.2: GVA per head as a percentage of UK GVA per head: Percentage point change between 1997 and 2011, by NUTS 3 areas



Source: Office for National Statistics and Research Service

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## 6. Technical Annex

Gross Value Added (GVA) measures the contribution to the economy of each individual producer, industry or sector in the United Kingdom. The GVA generated by any unit engaged in production activity can be calculated as the residual of the units' total output less intermediate consumption (that is, goods and services used up in the process of producing the output), or as the sum of the factor incomes generated by the production process. GVA also allows for regional analysis and productivity comparisons to be made.

Some technical issues to bear in mind when considering GVA estimates are outlined below.

- **Regional (NUTS 1) GVA is currently calculated on both a workplace and a residence basis** - Residence-based GVA allocates the incomes of commuters to where they live (and is done so due to the residence-based administrative underlying data), whereas workplace-based GVA allocates their incomes to where they work. **All the figures in this paper are for workplace-based GVA.**
- **NUTS 2 and NUTS 3 GVA are estimated on a workplace basis** - The estimates of NUTS 3 GVA per head are calculated by dividing the estimate of workplace GVA for an area by the resident population for that area. Estimates of GVA per head will be high in areas with high levels of inward commuting and a low resident population (such as Inner London and Edinburgh). Conversely, estimates of GVA per head will be low in areas with significant levels of outward commuting and high resident populations.
- **Gross Value Added (GVA) and Gross Domestic Product (GDP)** - Under the European System of Accounts 1995 (ESA95), the term GVA is used to denote estimates that were previously known as gross domestic product (GDP) at basic prices. Under ESA95 the term GDP denotes GVA plus taxes (less subsidies) on products, i.e. at market prices. Regional accounts are currently only published at basic prices, so the figures are now referred to as GVA rather than GDP as in previous publications.
- **Per Head Measurement** - The wide variation in the size of the regions of the UK makes it difficult to compare the regions' economic performance using cash totals; comparisons are therefore usually expressed in terms of amounts per head of the population. However, it is important to note that the growth in totals may be quite different to the growth per head in regions where the population has increased or decreased. Furthermore, the level per head is determined both by the average amount of cash of the working population and by the proportion of dependants. Ideally the age structure of

the population should therefore be taken into account when comparing figures on a per head basis.

- **GVA and Inflation** - All the items in regional accounts are measured in current prices. This means that increases over time reflect inflation as well as real growth. Trends in total GVA per head of population cannot be analysed easily without deflating the data. However, there are no regional price indices that could be used to remove the effect of inflation from the figures. Comparisons of trends can therefore be based either on the difference between regional increases at current prices or on movements in the amount relative to the UK average. Both approaches would be misleading if the rate of inflation in any region were different from the national average.
- **Extra-Regio** - The contribution to GVA of UK embassies abroad and UK forces stationed overseas is included in Extra-Regio, along with the elements relating to activities taking place on the continental shelf. As these cannot be assigned to specific regions they are assigned as "Extra-Regio GVA".
- **Accuracy** - GVA estimates are partly based on sample surveys and the quality of the results therefore varies according to sample size. This means that the results for smaller regions are subject to a greater degree of uncertainty than those for larger regions.