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Diben

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Cynnwys

Mae'r papur technegol yn Atodiad A yn tynnu sylw at y tueddiad diweddar o ran y Gwerth Crynswth Ychwanegol a'r Gwerth Crynswth Ychwanegol y pen, a'u cymharu, lle y bo hynny'n briodol ag ardaloedd eraill y DU. Tynnwyd sylw at y dulliau hynny o fesur Gwerth Crynswth Ychwanegol megis dulliau cyfrifo a'r cyd-destun lle bydd y data yn cael eu cyfleu yn y ffordd fwyaf ystyrlon.

Camau gweithredu ar gyfer y pwyllgor pwnc

Nodi'r wybodaeth a ddarparwyd.

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Regional and Sub-Regional Gross Value Added: Concepts, Methods and Recent Trends

Introduction

1. Regional and sub-regional Gross Value Added (GVA) estimates are compiled by the Office for National Statistics (ONS) using a top-down approach based on the UK national accounts. Total UK GVA, as published in the annual National Accounts (the Blue Book), is apportioned across the UK countries and English regions using a variety of methodologies.

2. GVA and GDP can be calculated using three different approaches: output, expenditure and income. At the UK level, these three different approaches are reconciled to produce a single, balanced GVA estimate. By contrast, the regional GVA estimates are only produced via the income approach. The components of GVA relating to the income approach are regionalised in different ways.

The Components of Income GVA

3. There are three main components of income GVA:
- Compensation of employees – gross wages and salaries and employers' pension and national insurance contributions (62 per cent of total).
 - Gross operating surplus – profits of incorporated businesses (31 per cent of total).
 - Mixed income – the operating surplus of non-incorporated enterprises owned by households, i.e. the self-employed (7 per cent of total).

NUTS1 Regionalisation of GVA Components

4. **Compensation of employees** - A one per cent sample of Pay As You Earn (PAYE) records from HM Revenue and Customs (HMRC) is used to calculate shares of UK compensation of employees for the NUTS1 devolved countries and English regions. The sample is regionalised using the employees' home address information. This component of regional GVA is therefore residence-based.

5. **Gross Operating Surplus** – Surpluses for the manufacturing sector are regionalised using profits data from the Annual Business Inquiry. For other industry sectors, regional shares are based on the product of employee jobs and average earnings in each region. This part of regional GVA is workplace based. Gross operating surplus also includes imputed rent for owner-occupier households (around 6 per cent of total GVA). It is regionalised using estimates of dwelling stock and house price data.

6. **Mixed income** – Regionalised via the Survey of Personal Incomes, based on HM Revenue and Customs self-assessment returns for non-agricultural sectors. Directly collected income data are used for the agricultural sector.

Residence Versus Workplace GVA Estimates

7. As noted above, nearly two thirds of GVA is apportioned to NUTS1 regions using residence-based earnings information. For this reason, the headline regional GVA estimates are described as residence-based. This is conceptually weak, as GVA is clearly a workplace-based concept (the majority of employees do not contribute to GVA at home). However, given that GVA estimates are usually divided by the resident population in order to make comparisons between different areas, this approach may actually be the most appropriate.

8. The ONS also produces workplace-based NUTS1 estimates. However, these only differ from the headline measure for London, the South East and the East of England. There is an assumption of zero net commuting flows for the other English regions and the devolved countries.

9. In fact, there are established net commuting flows between the NUTS1 regions outside the South Eastern corner of England. The East Midlands in particular has a substantial net out-commuting flow. Wales has a net out-commuting flow, which has generally varied between 35,000 and 40,000 in recent years, but fell to a little over 20,000 in 2005.

Sub-regional, NUTS2 and NUTS3 Estimates

10. The same methodology is used to calculate both the NUTS2 and NUTS3 GVA estimates, but this differs somewhat from that described above for NUTS1 areas. Most importantly, all of the sub-regional estimates are calculated on a workplace basis. (Although these are constrained to add up to the NUTS1 totals which, as noted above, are largely residence-based except for London, the South East and the East of England.)

11. The HMRC PAYE data is not used for NUTS2 and NUTS3 estimates. Instead, both of the main GVA components are attributed to areas on the basis of employee numbers multiplied by average earnings in each industry.

12. As the NUTS2 and NUTS3 estimates are calculated on a workplace basis but still divided by the resident population in order to compare with other areas, peculiar results can arise from inter-area commuting patterns and from the presence of large pensioner populations. (See section on Local Area GVA per head below for further discussion).

Quality Issues

13. There have been a number of long running issues with the quality and scope of the regional GVA estimates. Both the Allsopp Review of Statistics for Economic Policymaking (Mar 04) and the National Statistics Quality Review of UK Regional Accounts (Aug 05) noted a number of concerns with the existing regional GVA estimates and with the absence of real terms or constant price regional GVA estimates.

14. The concerns with the current estimates, particularly regarding the quality of the address information in the PAYE dataset, have been largely addressed through a matching exercise with earnings data and quality control work by HMRC. However the reliance of the regional estimates on a limited set of data sources must always leave them vulnerable to administrative changes or changes in the main drivers of GVA growth.

15. The quality of the estimates is undoubtedly lower for smaller areas, with calculations based on small samples of data. As a result there is more volatility in these estimates.

16. In recognition of year-on-year volatility arising from sampling and estimation error, all headline regional accounts estimates are smoothed, at NUTS1, NUTS2, and NUTS3 level. The unsmoothed estimates are also published.

Developments in GDP/GVA in Wales

17. The current regional GVA series is available back to 1989. Figures 1 and 2 show developments in GVA and GVA per head since 1989.

18. Total GVA in Wales exceeded £40 billion for the first time, standing at £40.9 billion, in 2005. Since 1999, GVA has increased by 34%. GVA per head has increased by 31%.

Figure 1 - GVA in Wales

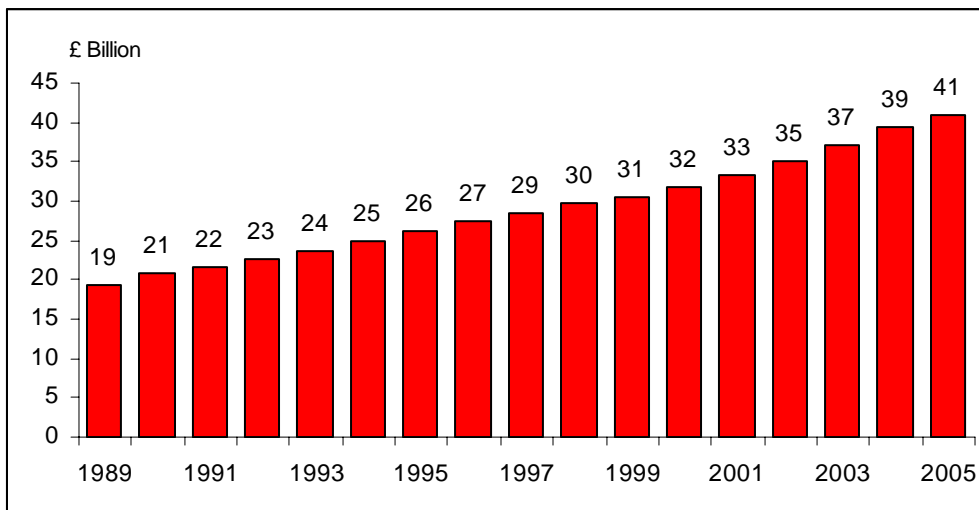
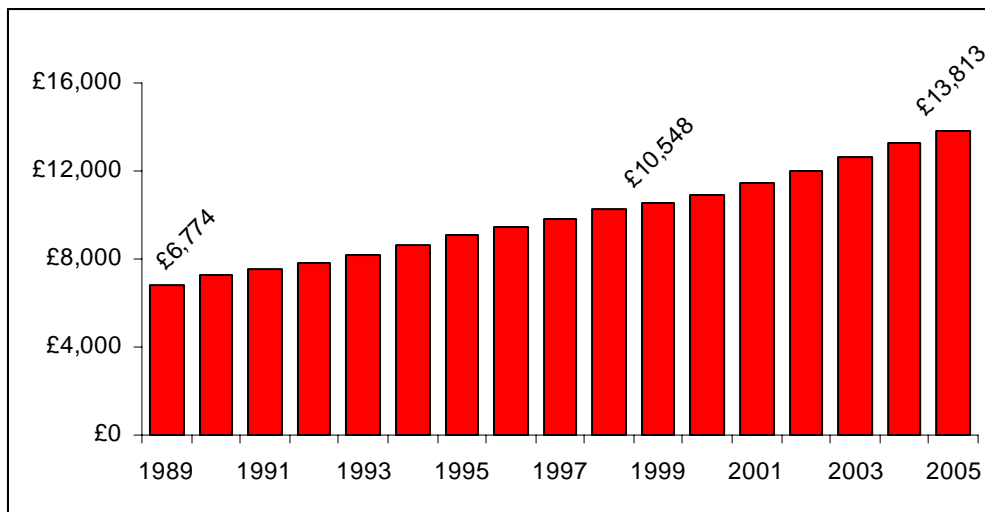


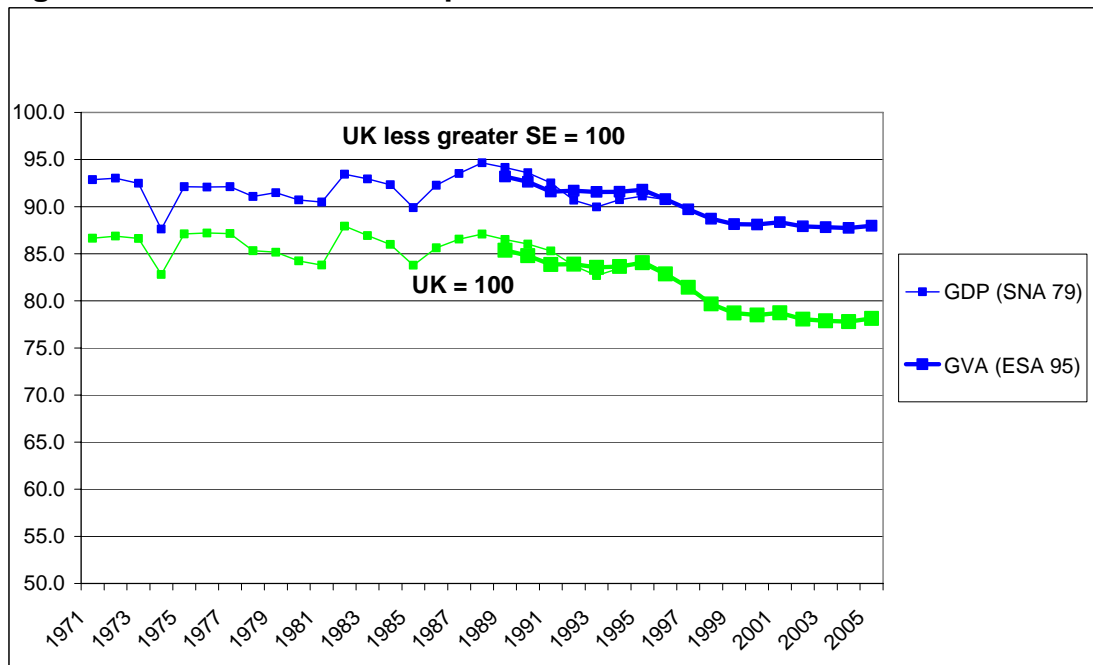
Figure 2 - GVA per head in Wales



Long Term Trends in GDP/GVA per head in Wales

19. As mentioned in para 17, the GVA data are available back to 1989 only. Previously regional GDP data were published. The two series overlapped between 1989 and 1996. There are conceptual and measurement differences between the two series. However, as shown in Figure 3 below, the period of overlap between the two series suggests that these differences are not significant for the purpose of comparison.

Figure 3 - Relative GDP/GVA per head in Wales



20. It is evident from Figure 3 that the GDP/GVA data could be categorised into three distinct phases:

- The 1970s and 1980s were volatile without any clear trend emerging. Relative GDP per head at the end of the 1980s was little changed as compared with the early 1970s. This is true if the comparison includes or excludes the Greater South East.
- From the late 1980s to the late 1990s there was a steep decline in relative GVA per head. Including the Greater South East, the relative decline was close to 8%, while excluding the Greater South East, the relative decline was more than 5%.
- Since devolution, relative GVA per head has broadly stabilised compared with the UK excluding the Greater South East (a decline of just -0.2%). The steep relative decline against the UK, including the Greater South East that had been in train in the 1990s was also effectively arrested with a marginal decline of -0.7%.

Recent Trends in Components of NUTS1 GVA Estimates

21. Table 1 shows GVA per head of the population relative to the UK average for 1999 and 2005, with a breakdown into compensation of employees and the rest (i.e. gross operating surplus and mixed income). The ranking of the UK countries and English regions in terms of GVA per head was the same in 2005 as in 1999, with the exception of the two Midlands regions, which swapped positions.

22. As mentioned above, the steep decline in relative GVA per head in Wales was largely arrested between 1999 and 2005. Moreover, this picture masks a relative improvement in compensation of employees per head in Wales. Indeed, in this period, Wales was one of just four regions (excluding London) to experience a relative increase in compensation of employees (see Table 1). The improvement in compensation is consistent with labour market improvements in Wales in recent years (see section on Measuring Economic Progress below). The compensation component of GVA most directly affects the residents of Wales.

23. Over the same period, a relative reduction in gross operating surplus/mixed income was recorded. It is not clear why this occurred. It is likely related to re-structuring of the economy away from highly capital-intensive heavy manufacturing industries in Wales. These industries require large operating surpluses in order to finance the capital investment. Lighter manufacturing and service sector enterprises tend to require less capital investment and can operate on smaller surpluses.

Table 1 - GVA per head by component, UK less extra regio = 100

	Compensation of Employees			Operating surplus/mixed income			Total GVA		
	1999	2005	Change	1999	2005	Change	1999	2005	Change
North East	84.9	82.8	-2.0	70.0	73.4	3.4	79.4	79.5	0.1
North West	89.4	88.9	-0.6	88.4	85.6	-2.8	89.1	87.7	-1.4
Yorks and the Humber	90.3	89.0	-1.4	84.4	84.1	-0.3	88.1	87.2	-0.9
East Midlands	91.5	94.1	2.6	92.9	91.2	-1.6	92.0	93.1	1.1
West Midlands	92.8	89.9	-3.0	90.7	88.7	-2.0	92.1	89.4	-2.6
East	108.6	107.5	-1.0	107.3	106.3	-1.0	108.1	107.1	-1.0
London	134.1	136.4	2.3	131.3	135.8	4.5	133.1	136.2	3.1
South East	115.1	113.3	-1.8	118.3	118.8	0.5	116.3	115.3	-1.0
South West	89.3	90.1	0.8	99.6	102.0	2.4	93.1	94.4	1.3
Wales	78.4	79.1	0.7	79.3	76.5	-2.8	78.7	78.1	-0.6
Scotland	95.4	97.1	1.7	96.0	93.6	-2.5	95.6	95.9	0.2
Northern Ireland	76.0	75.9	-0.1	90.5	88.2	-2.3	81.4	80.3	-1.1

Source: ONS Regional Accounts

International Perspective

24. It is also worth noting that, according to Eurostat, between 1999 and 2005, GDP per head in the UK increased from 11 per cent to 17 per cent above the EU average, at purchasing power parities (see Table 2). Over the same period, there were relative declines in France Germany, Italy, the USA, and Japan. So growth in GDP per head in Wales has out-paced growth in some of the world's major economies.

Table 2 - GDP per head relative to EU 25 average (at purchasing power parities)

	1999	2005	Change 1999 to 2005
Germany	113.4	110.0	-3.4
France	113.4	108.2	-5.2
Italy	113.7	100.4	-13.3
United Kingdom	111.4	117.5	6.1
United States	154.1	150.1	-4.0
Japan	112.6	110.0	-2.6
EU (25 countries)	100.0	100.0	0.0

Source: Eurostat

Local Area GVA per head

25. Figure 5 at the end of this paper shows a breakdown of the difference in GVA per head in the NUTS2 and NUTS3 areas of Wales compared to the Wales average. There are four elements to the breakdown, covering:

- Working age to overall population ratio – shows the impact of GVA per head of smaller or larger pensioner and children populations.
- Employment to working age population ratio – the effect of higher or lower employment rates in each area.
- Jobs to employment ratio – illustrates the commuting impact on GVA per head, as jobs are workplace-based while employment is residence-based.

- GVA per job – or labour productivity.

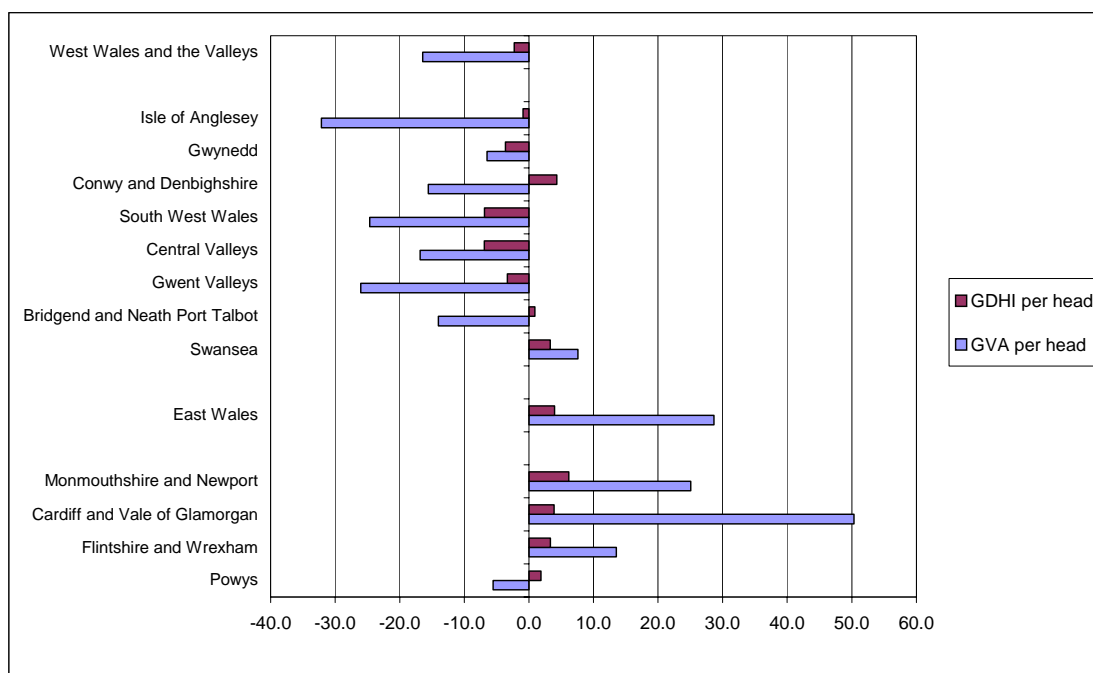
26. As an example, GVA per head in West Wales and the Valleys was around £2,000 lower than the Wales average over the period 2002 to 2004. A little over half of this gap was due to lower GVA per job compared to the Wales average. A quarter of the gap was due to net out-commuting and most of the rest was down to the lower employment rate. The relative size of the pensioner population is little different between the two NUTS2 areas in Wales.

27. Figure 4 illustrates the impact of commuting between Anglesey and Gwynedd. Without this, GVA per head would be much the same in the two areas. In fact, Figure 3 shows that commuting has a major impact on GVA per head in 9 of the 12 NUTS3 areas. The only areas where it is not an important factor are Conwy & Denbighshire, South West Wales, and Powys.

28. Because of the commuting effect on GVA per head at NUTS3 level, the overall relative results need to be interpreted with caution. In any case, GVA per head should not be regarded as a good measure of relative living standards. For these purposes, the Gross Disposable Household Income (GDHI) estimates are a more appropriate measure. A comparison of the two measures is shown in the chart below. There are much smaller differences between the GDHI per head estimates for different areas in Wales. This is partly because the GDHI estimates are residence-based and so are better suited to comparisons per head of the population. The GDHI estimates also include transfer payments such as pensions and social security benefits and are net of direct taxes.

Figure 4

GVA and GDHI per head, difference from Wales average (per cent) 2004



Measuring Economic Progress

29. GDHI is one of a set of tracking indicators used in W:AVE to monitor progress in the Welsh economy. Indeed, W:AVE acknowledged the quality issues with GVA estimates and focused on employment and earnings which also directly impact on the quality of life of individuals in Wales. Moreover, these labour market measures have the advantage of timeliness and are published on a monthly basis.

30. The latest labour market data show that the employment rate in the three months to November 2006, was 71.8%, an increase of 3.3 percentage points since devolution. The employment rate in the UK rose by 0.7 percentage points over the same period, although the employment rate is still higher in the UK. Wales is maintaining an employment rate well above its historical average, with the level up over 130,000 since the start of the Assembly.

31. The current rate of unemployment is 5.2%, compared with 7.7% at devolution. At the time of devolution the Welsh rate was 1.8 percentage points above the UK rate; according to the latest figures, it is now 0.2 percentage points below.

32. As mentioned above (see paras 18 and 19), improved labour market conditions are consistent with the absolute and relative increase in the compensation of employees component of GVA.

33. In addition to monitoring GVA, GDHI and labour market data as part of the WAVE framework, we also measure a range of economic and broader sustainable development indicators such as levels of net migration, income, skills and levels of exports. These indicators taken together provide a robust, balanced and accurate picture of the Welsh economy, much better than any one single indicator such as GVA does, considered in isolation.

Figure 5

