

GVA per capita Trends: Is Wales Bridging the Divide?

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Other articles in this *Review* hint at the problems associated with gross value added as a measure of welfare, particularly when used to compare economies. This article accepts some of the problems inherent in focusing on gross value added as a measure of regional progress, but provides a consideration of how far Wales is converging with other parts of the UK on this measure. The article considers recent trends in regional income distribution and whether it has become more equitable over time. Examining regional income convergence enables us to better contextualise Wales's recent economic performance. At the outset the analysis was undertaken with historical data, and we are mindful that the GVA series for Wales is continually being updated and revised. Notwithstanding we believe that the paper provides a snapshot of the extent to which Wales is succeeding in 'bridging the divide'. The article has a further relevance in that when the *Review* was established 20 years ago gaps in economic prosperity between Wales and other parts of the UK were very much on

the policy agenda. However, the divergence between Wales and other parts of the UK on conventional economic measures has been very persistent, and with Wales still well down the economic prosperity league in the UK.

Great Britain: Regional Convergence post 1975

The literature on economic convergence considers two concepts. β -convergence is said to exist if poorer regions tend to grow more quickly than rich ones (Sala-i-Martin, 1996). The second concept, σ -convergence, applies where regions are converging in terms of the dispersion of per-capita income between them. This can be measured by the sample variance of the regions' incomes (Barro and Sala-i-Martin, 2004).

GVA per-capita statistics for eleven UK Government Office Regions (GORs) are available from the Office for National Statistics from 1989. This data is produced in nominal terms and has serious shortcomings for any analysis of convergence. One key issue is that

regional price differences are not accounted for (Henley, 2004). There has been some limited progress towards creating regional deflators (see Morris (2001) and Riefler (2006)), but there construction depends on numerous assumptions. Then in the analysis here the focus is on income convergence in *nominal* terms.

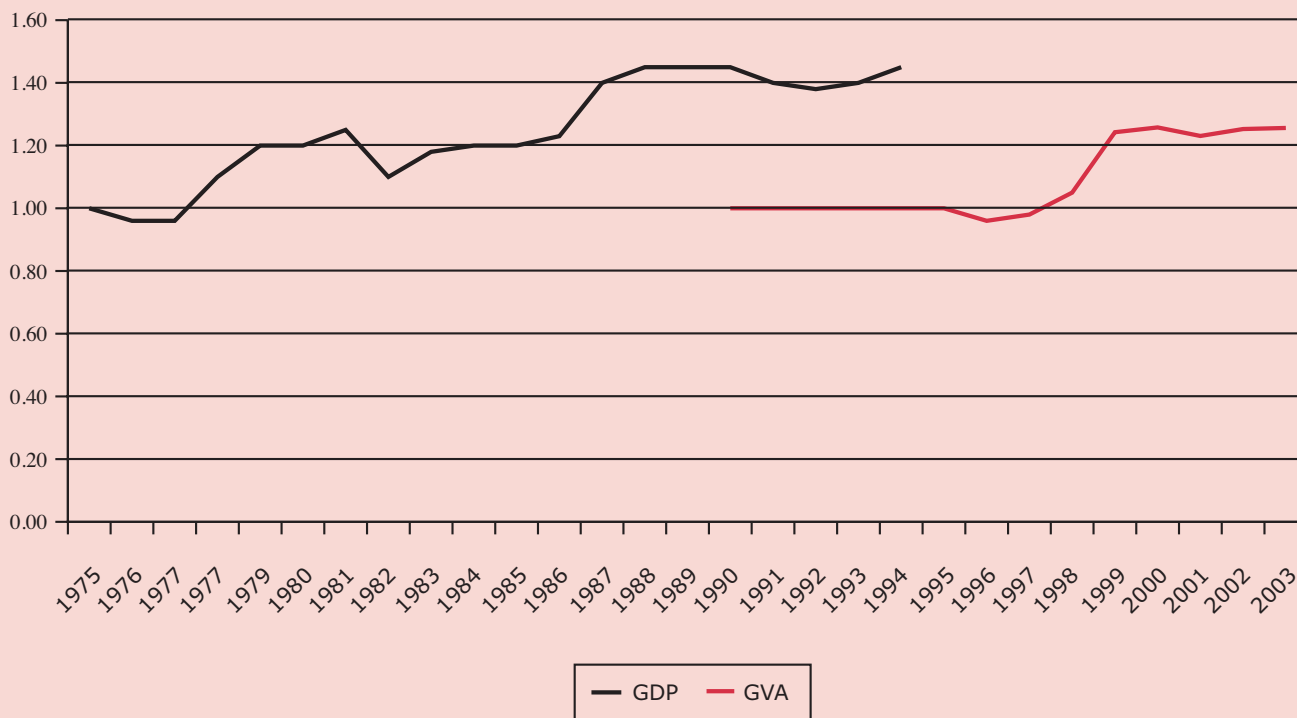
First β -convergence is considered. To consider this it necessary to use the regression:

$$\ln(y_{i,t+T} / y_{i,t}) \frac{1}{T} = \alpha + \beta \ln(y_{i,t}) + e_{i,t} \quad (1)$$

where $y_{i,t}$ is region i 's income per capita at time t and $e_{i,t}$ is an error term with the usual properties. If we find that $\beta < 0$ ($\beta > 0$), then there is a tendency for poorer regions to grow more quickly (slowly) than richer ones; the regions are considered to be β -converging (β -diverging). Since this model includes just one explanatory variable, β is interpreted as the rate of divergence with no other variables held constant.

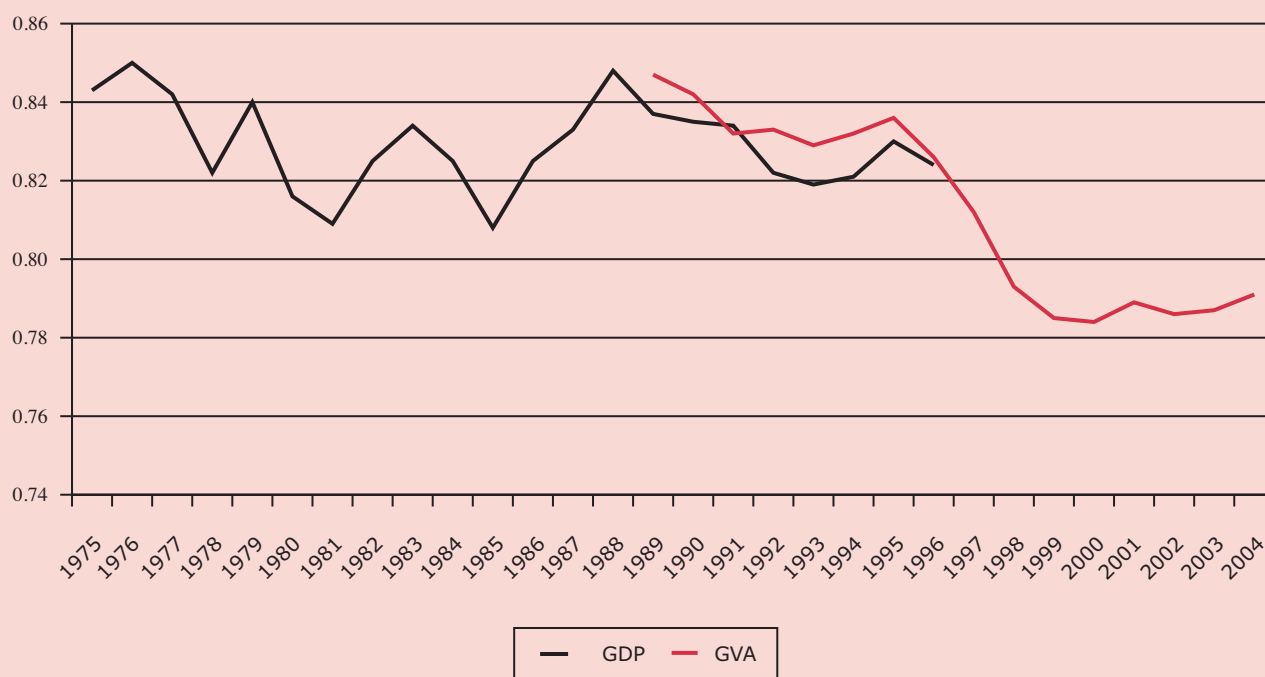
Equation 1 can be estimated by

Figure 1: Variance of regional GDP 1975-95/GVA 1989-2003 as a proportion of the UK average – 1975/1989=1.00



Note: The GDP measure changed to a GVA measure during the period shown in Figures 1 and 2, hence there is a break the series shown in these two figures

Figure 2: Welsh GDP/GVA per-capita as a proportion of the UK average, 1975-2004



Source: Derived from ONS sources.

Table 1: Estimate of β

Data Set	β	S.E.	t-statistic	R ²	S.E. Regression
GVA 1989-2004 (less Northern Ireland).	0.0053	0.0017	3.04	0.51	0.00071

regression with GVA per-head data for the period 1989 to 2004. The results for β are summarised in Table 1 and reveal that $\beta > 0$, which is statistically significant at the 1% level implying that there has been *divergence* amongst UK regions of around half a percentage point per-year since 1989.

In terms of the σ convergence, the UK has experienced income divergence since the middle 1970s. Here we use a longer term dataset which includes GDP per capita data back to 1975. Figure 1 shows summary information about the dispersion of GDP per-capita between 1975 and 1995. Whilst there were some brief interludes of σ -convergence, the general trend is clearly upwards, implying that the variance of regional income has become progressively larger. Figure 1 also reveals that there was further regional σ -divergence for the later period of 1989 to 2004. Most of the divergence in this period took place between 1996 and 1999. This means that the income distribution between UK regions has become less equal over time. In general, the wealthier regions enjoyed comparatively high economic growth, whilst poorer ones, including Wales, languished at the bottom of the regional growth league table.

The analysis summarised here should also be viewed against a backdrop of convergence, or at least no divergence, between regions of the EU (see for instance Armstrong (1995) and Neven and Gouyette (1995)).

What about Wales?

We now focus on Wales's economic performance in recent years, considering whether it has bucked the trend of regional divergence or whether in fact it has typified it. During the period 1989 to 2004 Wales was amongst the slowest growing regions of the UK. This growth profile is accentuated in Figure 2 showing how GVA per capita in Wales, as a percentage of the UK average, changed between 1989 and 2004. Many of the relatively poorer regions of the UK in the period 1989 to 2004 fell further behind in relation to the UK average (the notable exception being Northern Ireland). However, it was Wales that saw the largest fall. In other words, Wales 'diverged' more than any other region between 1989 and 2004.

Figure 2 also shows that while the period 1975 to 1988 saw relatively large

fluctuations in Wales's relative GDP, the mean remained broadly constant. However, from the late 1980s to the turn of the twenty-first century, Welsh GDP and subsequently GVA experienced a considerable fall in relation to the UK average.

We finally consider Wales's current position in terms of GVA per head. In 2006 provisional figures from the ONS suggest that Wales's GVA per capita was £14,400 or just 77% of the UK average. This if anything marks a continuation of the trends in Figure 2, and marks Wales out as the poorest UK region on conventional measures. In summary, by these measures of prosperity, Wales lags behind the rest of the UK. Moreover, over the last fifteen years or so, Wales has performed poorly not only in relation to the national average, but compared to every other region in the UK.

Some conclusions

Elements of WAG sponsored research have investigated the causes for the GVA per capita gap, and its development. A real issue has been falling productivity in Wales relative to the UK as a whole. In fact, whilst in the

late 1980s it was low levels of employment (relatively high levels of inactivity) that were a key determinant of Wales's low GVA per-capita, it is now Wales's comparatively low productivity. What explains Wales's falling productivity relative to the UK average? Particularly important are changes in the industrial structure of Wales compared to what has happened across the UK as a whole. The recent past has seen a movement in employment from more productive sectors, such as manufacturing and financial and business services, to relatively less productive sectors such as distribution and hotels and education and health. Importantly between 1995 and 2001 these changes have happened in Wales at a faster rate than has occurred in the

UK as a whole. The corollary of this is falling average productivity per worker in Wales relative to the UK.

While these trends continue, and an examination of the forecasts of the major regional forecasting groups supports this for Wales, then it is unlikely that the trend summarised in Figure 2 will improve. Indeed, in the context of current patterns of structural change, maintaining the gap between Welsh GVA per capita and the UK average could be a real regional economic challenge.

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