

Use of Non-Official Data to Identify Locational Attractiveness
A report to the Welsh Assembly Government

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Executive Summary

This project considers the usefulness of non-official data for socio-economic analysis. In particular, non-official data has been used to compare four sample areas of Wales, Cardiff, Blaenau Gwent, Merthyr Tydfil, and Gwynedd, with comparable areas in England. The data has also been used to describe differences in local neighbourhoods within the areas. The analysis has covered factors such as household income, house prices, and the building of new housing. Official data sets cannot provide such information for such local neighbourhoods.

The analysis has identified possible socio-demographic patterns.

While levels of house building across all of Wales are comparable to the rest of the UK (excluding London and the South East) there has been much less housing development in the ex mining valleys than in comparable areas of England. The significance of this is that the building of new houses seems to be a possible driver of change in local neighbourhoods. Areas where new housing has been built have tended to experience greater increases in incomes than other areas.

The mechanism behind this change is not clear from the data, although it seems likely to be due to influx of more affluent people rather than the existing residents becoming wealthier. The new housing is shown to be of a more upmarket structure than the existing housing stock and thus perhaps more readily available to those with higher incomes.

However the analysis also shows that new housing is slightly more likely to be developed in the relatively wealthier parts of a local authority and in areas with access to good major roads.

There do not appear to be very dramatic differences between Welsh speaking areas and elsewhere in Gwynedd. In the past incomes appear to have been lower in these areas however, possibly as a result of higher rates of house building, incomes are now close to the non-welsh speaking areas.

Overall the non-official income and housing data appear able to indicate areas of increasing locational attractiveness and are suitable for analysing local neighbourhoods at a very detailed level.

Geodemographic classifications systems are built by mixing official and non-official data. They are widely used by commercial organisation to assess local neighbourhoods and target resources to the most appropriate consumers.

Such classifications suggests that

- a) Cardiff has a different style of affluence to Bristol, Cardiff being more traditional and Bristol more "urban", and that
- b) Bolsover is less similar to the ex-mining valleys than it was, having experienced gains in locational attractiveness

Non-official data will often measure consumer's interests, financial situation, and use of sales channels such as the Internet. The data is designed to identify where people with individual lifestyle attributes live. Patterns in the data suggest that it does so quite effectively.

Estimated levels of educational attainment for local areas show expected relationships with income levels. Estimates of financial provision, for example the

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numbers of people with/without pensions, current accounts, savings and loans also show patterns consistent with other data, giving some confidence that such factors have been robustly estimated in the report.

Consumer's lifestyles can also be measured indirectly. Shopping habits are served by retail outlets and centres and changes in retail provision indicates changes in the population, or at least in retailers assessment of the population. As a centre Cardiff is ranked 14th in the UK in terms of consumer spending. This is lower than Bristol (12th) or Newcastle-upon-Tyne (9th). Moreover Cardiff is growing less quickly than Bristol or Newcastle and there is no growth of "premium" retailers, Cardiff's growth is in the mass-market sector.

The total amount of retailing in the three other local authorities is relatively very small. There are (small) indications of some premium retailing starting in Blaenau Gwent and Gwynedd.

Generally, the analysis has identified a number of non-official data sources that may indicate changes in locational attractiveness, although not all of the areas of Wales examined exhibit an increase in locational attractiveness. The report also presents information about the lifestyle in local neighbourhoods that is not usually found in official data.

1. Introduction

This project explores the potential uses of non-official data for provide socio-economic analysis. The focus is on identifying factors associated with locational attractiveness, specifically to examine if there are indications of increasing attractiveness of parts of the ex-mining valleys and in Welsh speaking areas. A secondary objective is to generally assess the merits of non-official data sources

The approach is to consider four sample areas of Wales to demonstrate what non-official statistics can indicate about areas, using data tables of a manageable size for presentation. To give indications of the usefulness of non-official data in a wider context the areas are compared to other areas of the UK.

The four areas chosen were Cardiff, Blaenau Gwent, Merthyr Tydfil, and Gwynedd. The latter represent the ex-mining valleys and Welsh speaking areas.

Suitable comparators suggested by officials of the Welsh Assembly Government were the cities Bristol and Newcastle, the mining areas Bolsover and Easinginton, and the rural area North Cornwall. Rather than comparing to the whole of the UK comparisons are made to the UK excluding London and the South East.

The data is assessed for different geographic levels. These were Local Authority and Wards. Wards are usually grouped, either into groupings of similar income and house building, or to simulate Super Output Areas (level 1).

These groupings are used because there is always a trade-off between sampling error, temporal resolution and spatial resolution. Some sources of statistics may have sample size limitations and may only give reliable results for larger areas of the Country. Grouping by a factor rather than geographically highlights change and so makes indications of locational attractiveness easier to spot.

The non-official data is usually modelled based on commercially collected data and/or manipulations of published data. It covers

- House building,
- House prices,
- Incomes,
- Life styles,
- Commercial socio-economic groupings,
- Retail provision.

A set of recently published official data is also considered since a) it would not previously have been available, and b) illustrates potential for additional use of officially collected data.

The report firstly presents summary interpretations of the results indicating when the data appears to identify locational attractiveness. Secondly there is discussion of the accuracy of the non-official data.

2. Data on Housing and Incomes

Non-official data on Income seems to have potential to indicate when a location has attracted well-qualified individuals. Incomes for 2005 and 2001 are compared using the proportion of households with household income below 60% of the United Kingdom median. (Referred to here as "in poverty".)

- The proportion of households in poverty in Wales has reduced between 2001 and 2005. The reduction has been a little greater than for the UK (excluding London and the South East)
- Cardiff has a greater reduction in levels of poverty than Newcastle, but less than Bristol.
- Merthyr Tydfil is showing the greatest reduction in levels of poverty.
- In Gwynedd the proportion of households in poverty has reduced less than elsewhere in Wales and much less than in the 'comparable' area, of North Cornwall
- Incomes in the Welsh speaking areas of Gwynedd appear to have caught up with incomes elsewhere. There now appears to be little difference between Welsh speaking areas and elsewhere.

The building of new houses can be a source of change in an area. In areas where there has been some concentration of house building the non-official data suggests different groups of people have been attracted into the area.

While levels of building in Wales match the rest of the UK (excluding London and the SE) there is markedly less house building in the ex-mining valleys than in comparable areas. There is much less house building in Gwynedd than North Cornwall.

While there are exceptionally high levels of development in parts of Cardiff there are also concentrations of house building in local pockets elsewhere. Access to good major roads appears to be associated with these areas.

In the valleys the greatest reduction in levels of households in poverty occurs where there has been more house building. This may be as a result of more affluent people moving into an area, rather than as a result of raising incomes for existing residents. The effect is sufficiently marked in Blaenau Gwent to suggest a widening gap, new housing areas show reduced levels in poverty, the lack of housing development shows an increase in poverty.

Over the past 5 years house building has more often occurred in relatively wealthy areas of a local authority. The property being built is different from the existing housing stock. In the valleys new housing appears more upmarket than the existing housing and so may be more readily available to those with higher incomes.

Overall the data on both income and house building seems to indicate areas of increasing locational attractiveness. Both data sets are also suitable for use greater geographic detail than much official data

Data on house prices has also been examined since increasing house prices could indicate locational attractiveness. The housing market is complex, the mix of types of properties sold influences price changes. The data, as analysed here, does not give clear indications of locational attractiveness.

2.1 Income

Household income data comes from the commercial data set Paycheck. This is mathematical model calibrated nationally using income statistics from the Expenditure and Food survey, and with local input and corrections based on some 7 million lifestyle surveys from the period 2001 to 2004. (Full methodology in Supporting Information 1)

Broad comparisons provide a positive picture for Cardiff but are less encouraging for the other areas. Table 1 shows median income and the proportion of households 'in poverty' for the four local authorities and their comparable areas. The current picture on incomes is that;

- With the exception of Cardiff, all the areas in Wales have incomes below the median for Wales as a whole.
- Specifically the level of households in poverty is above the Welsh average in Merthyr Tydfil, Blaenau Gwent and Gwynedd.
- Cardiff and Bristol are comparable in terms of incomes and the proportion of households in poverty. Cardiff is noticeably better off than Newcastle.
- Gwynedd has lower incomes and more households in poverty than North Cornwall
- Incomes in Blaenau Gwent are similar to Easington but there are fewer households in poverty
- Merthyr Tydfil is broadly comparable to Bolsover.

	Income 2005	
	Median Income £000's	% Households below 60% of UK Median
Wales	£23.2	30.0%
Cardiff	£25.7	26.1%
Blaenau Gwent	£19.7	37.2%
Merthyr Tydfil	£21.1	34.0%
Gwynedd	£21.2	34.2%
UK excl. Lon & SE	£24.1	28.5%
Bristol	£25.5	26.1%
Newcastle	£20.9	35.8%
Bolsover	£21.1	34.3%
Easington	£19.0	39.3%
North Cornwall	£22.2	31.5%

Table 1. Household incomes in 2005

Differences across the complete income profile are shown in figures 1a) to 1c). These show that the comparisons of median incomes in Table 2 are consistent with the whole income profile of the areas.

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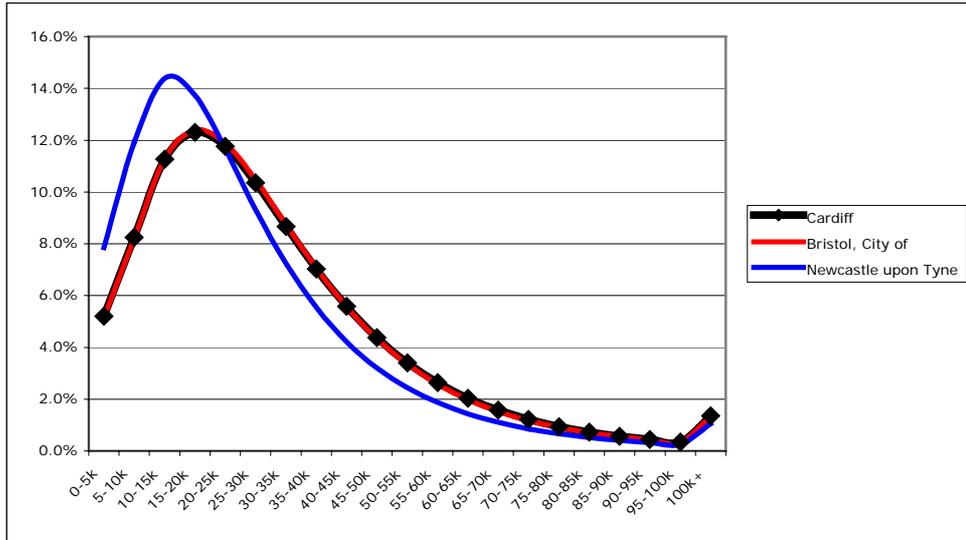


Figure 1a) Household income profiles

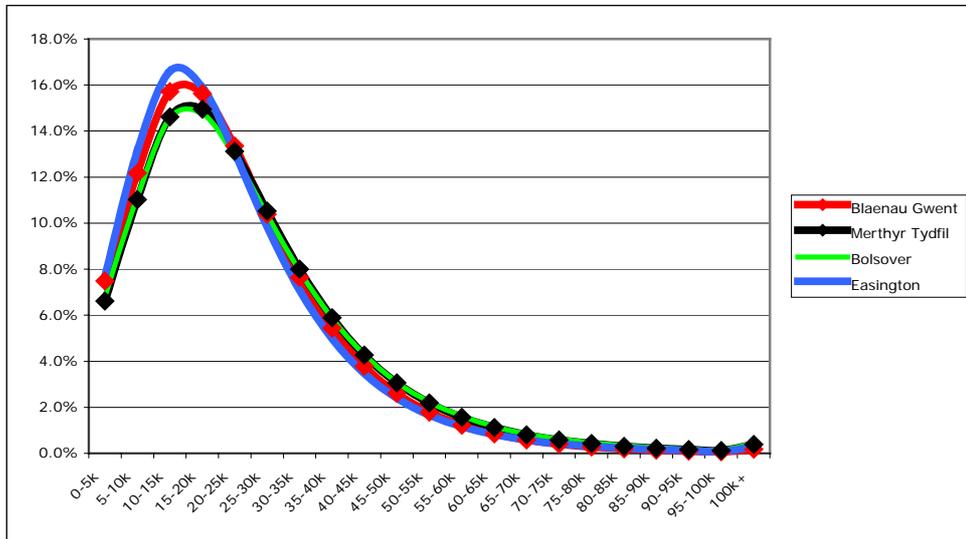


Figure 1b) Household income profiles

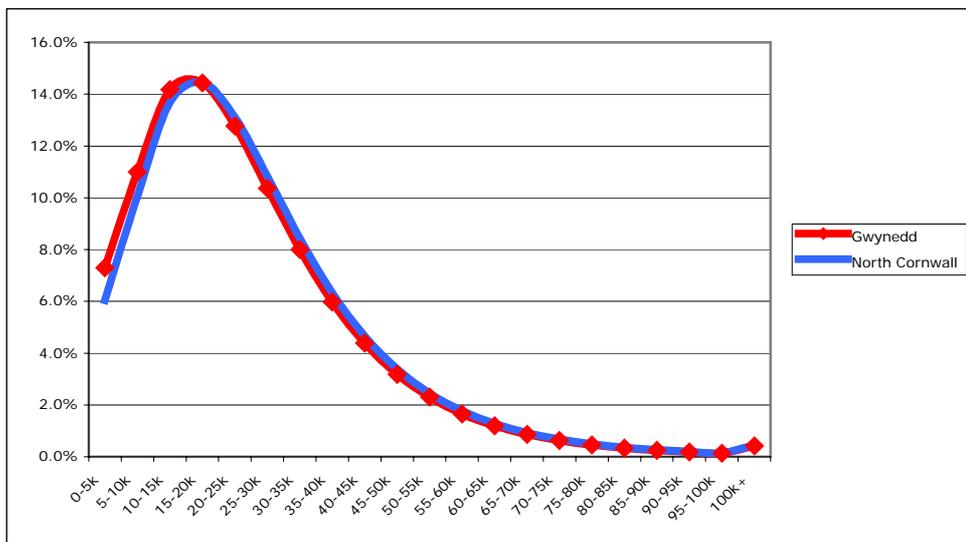


Figure 1c) Household income profiles

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Table 2 considers how incomes have changed¹. This shows that the picture has not been constant over the past five years.

- The proportion of households in poverty in Wales has reduced between 2001 and 2005. The reduction has been a little greater than for the UK (excluding London and the South East)
- Cardiff has a greater reduction in levels of poverty than Newcastle, but less than Bristol.
- Merthyr Tydfil is showing the greatest reduction in levels of poverty.
- In Gwynedd the proportion of households in poverty has reduced less than elsewhere in Wales and much less than in the 'comparable' area, of North Cornwall

	Change 2001 to 2005	
	Increase in Median household income £000's	% Households below 60% of UK Median
Wales	£8.0	-3.1%
Cardiff	£8.7	-3.7%
Blaenau Gwent	£7.1	-4.7%
Merthyr Tydfil	£8.2	-6.4%
Gwynedd	£7.3	-2.7%
UK excl. Lon & SE	£7.7	-2.1%
Bristol	£9.3	-4.9%
Newcastle	£7.0	-2.0%
Bolsover	£7.6	-4.6%
Easington	£6.5	-2.9%
North Cornwall	£8.4	-5.7%

Table 2. Income changes between 2001 and 2005

The model is designed to estimate income for very small areas, down to individual postcodes. This is significantly greater geographic precision than possible with data from a research survey. Figures 2a) to 2c) map incomes by Census Output Areas (OA's) across each of the four areas.

In each case the map shows areas of high, medium and low average income. These bands are the same in each map having been set by considering income relative to Wales as a whole, not the local area. It is therefore possible for a local authority to have no OA's in a particular band.

The bands of gross household income used for all maps are;

High	Over £40,000
Medium	£20,000 to £40,000
Low	Under £20,000

¹ Note that an increase in the proportion "in poverty" does not indicate that incomes have fallen. It is a relative measure: areas with poor income growth will have a growing level of households in poverty because incomes elsewhere in the country have risen faster.

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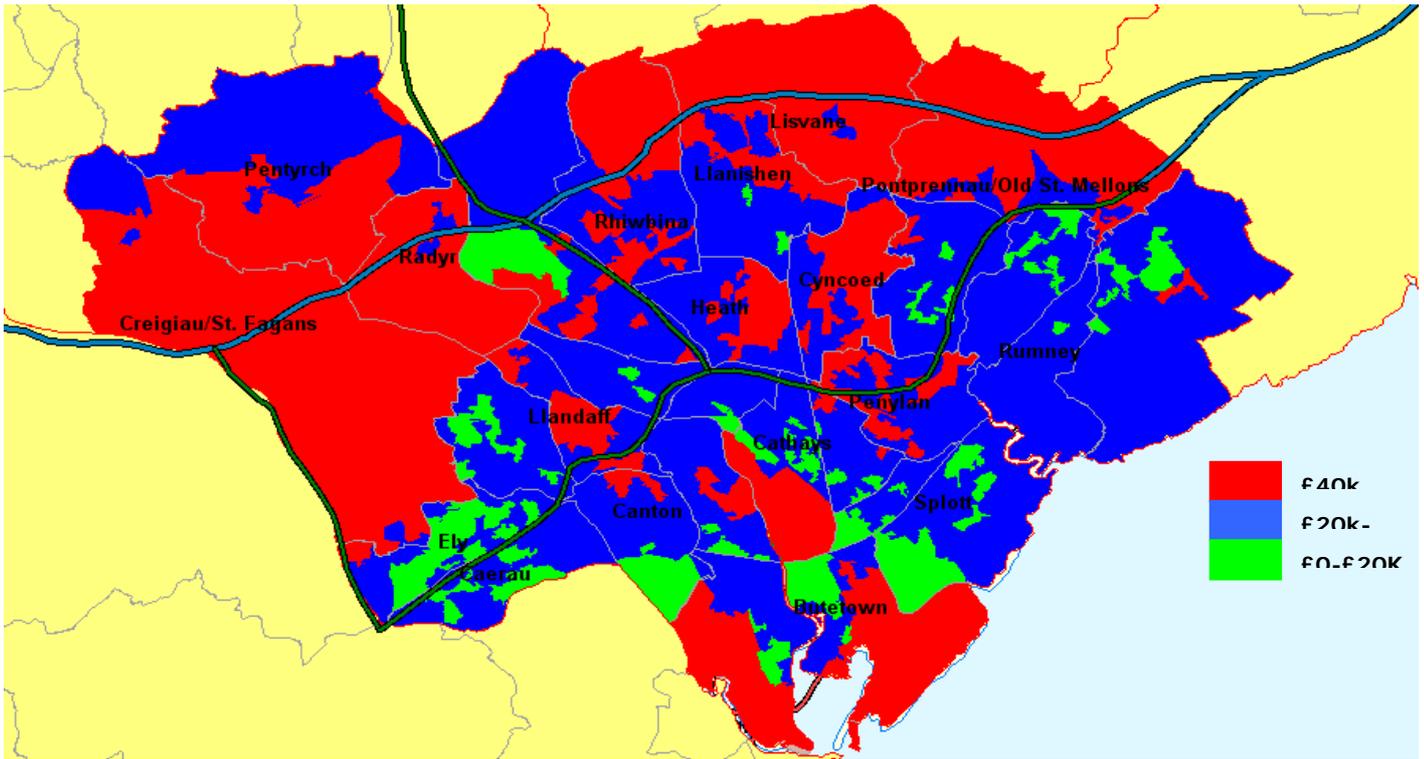


Figure 2a) Cardiff - Mean income by census output area

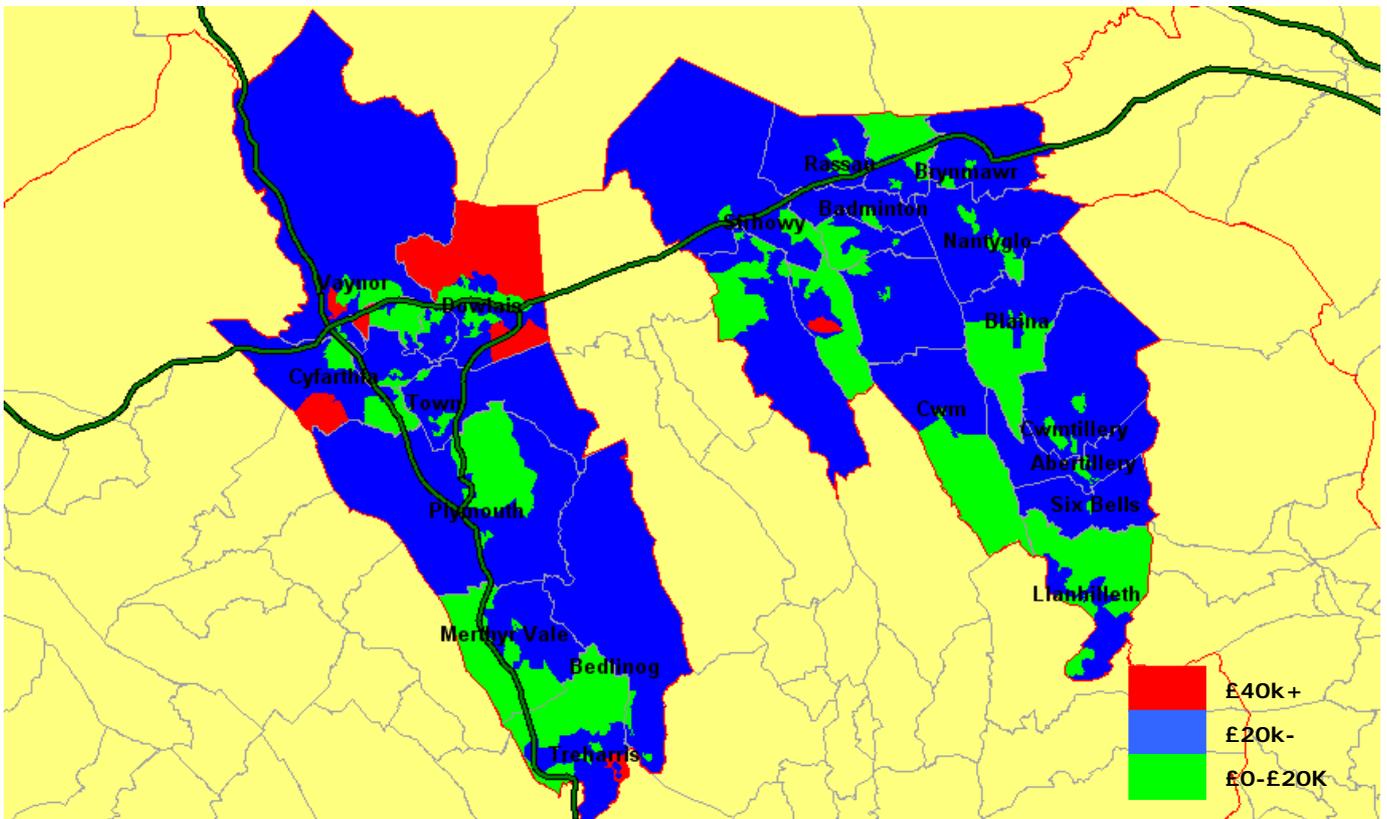


Figure 2b) Merthyr Tydfil and Blaenau Gwent - Mean income by census output area

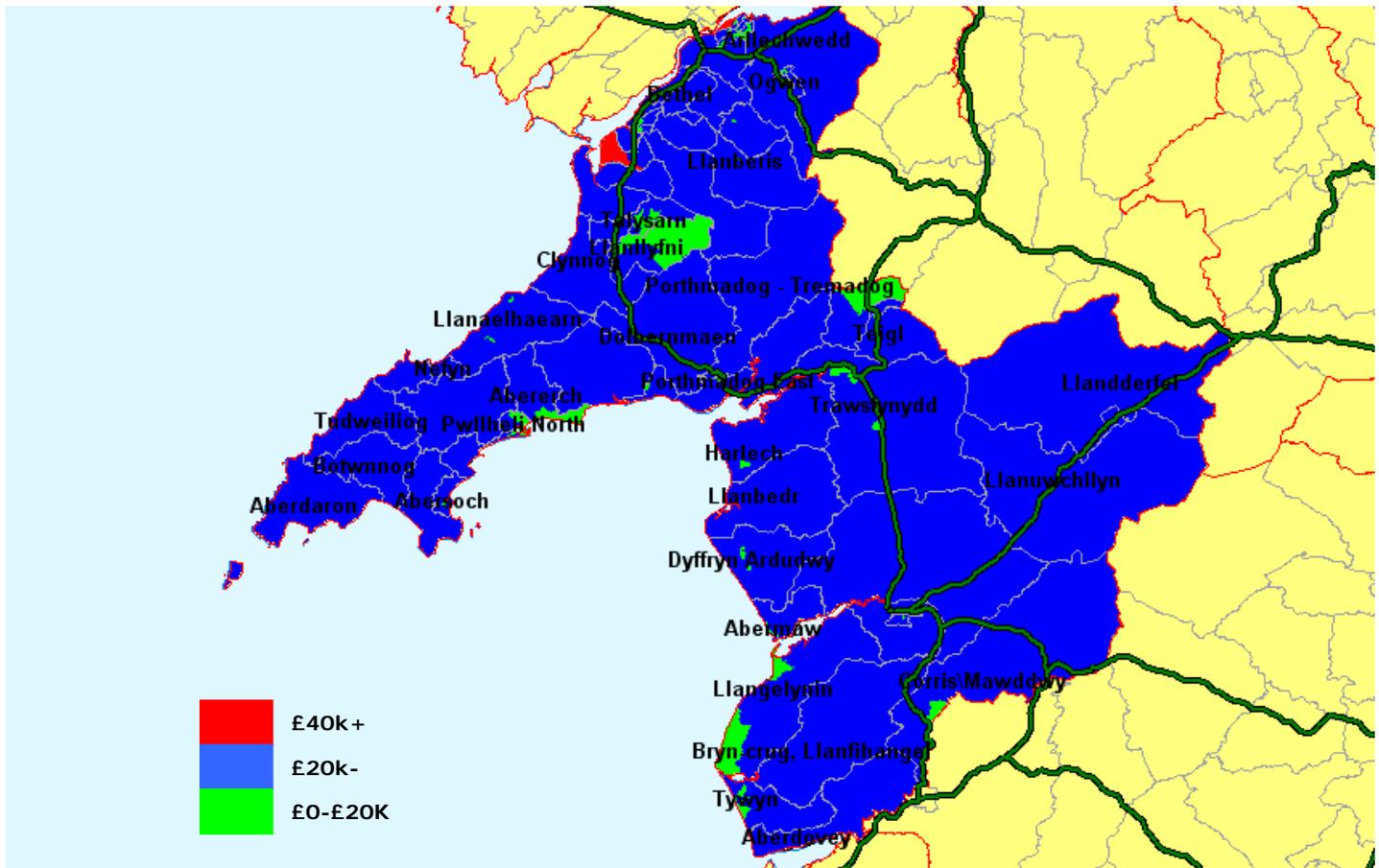


Figure 2c) Gwynedd - Mean income by census output area

It is not surprising that the maps show more areas of high income in Cardiff. There is the regional effect of the capital city. In addition, there are social effects. Couples with two incomes tend to have higher household incomes while retired people's pension income tends to be lower than that in their earlier employment.

Otherwise the ability to map for such small areas illustrates that one can find very local pockets of higher incomes.

2.2 House Building

Information to identify areas where new houses have been developed comes from the "New Homes Indicator", a commercial data set derived from analysis of the Post Office Postal Address File. (Supporting Information 2)

The level of house building in Wales is comparable to the rest of the UK. However with the exception of Cardiff any locational attractiveness is relying on the old housing stock more than in comparable areas of the UK. For example, house building in North Cornwall is roughly double that of Gwynedd.

Area	New build as % of area 2000-2003
Wales	5%
Cardiff	6%
Blaenau Gwent	2%
Merthyr Tydfil	2%
Gwynedd	4%
UK excl. Lon & SE	5%
Bristol	5%
Newcastle	5%
Bolsover	4%
Easington	4%
North Cornwall	8%

Table 3. Comparison of levels of house building

The 'model' is based upon the Post Office's recognition of the existence of a new address as housing is built. The differences in levels of new build shown in the table are well beyond any margin of error.

There are local pockets of new building in all four areas of Wales. Cardiff has one ward, Butetown, with exceptionally high levels of development. There are also above average levels of new housing across nearly half of Cardiff.

In the other three areas the peaks of house building are less marked, they only just exceed the average for Wales. These peaks are restricted to only a single ward in both Blaenau Gwent and Merthyr Tydfil. These wards are shown in figures 3a) to 3c)

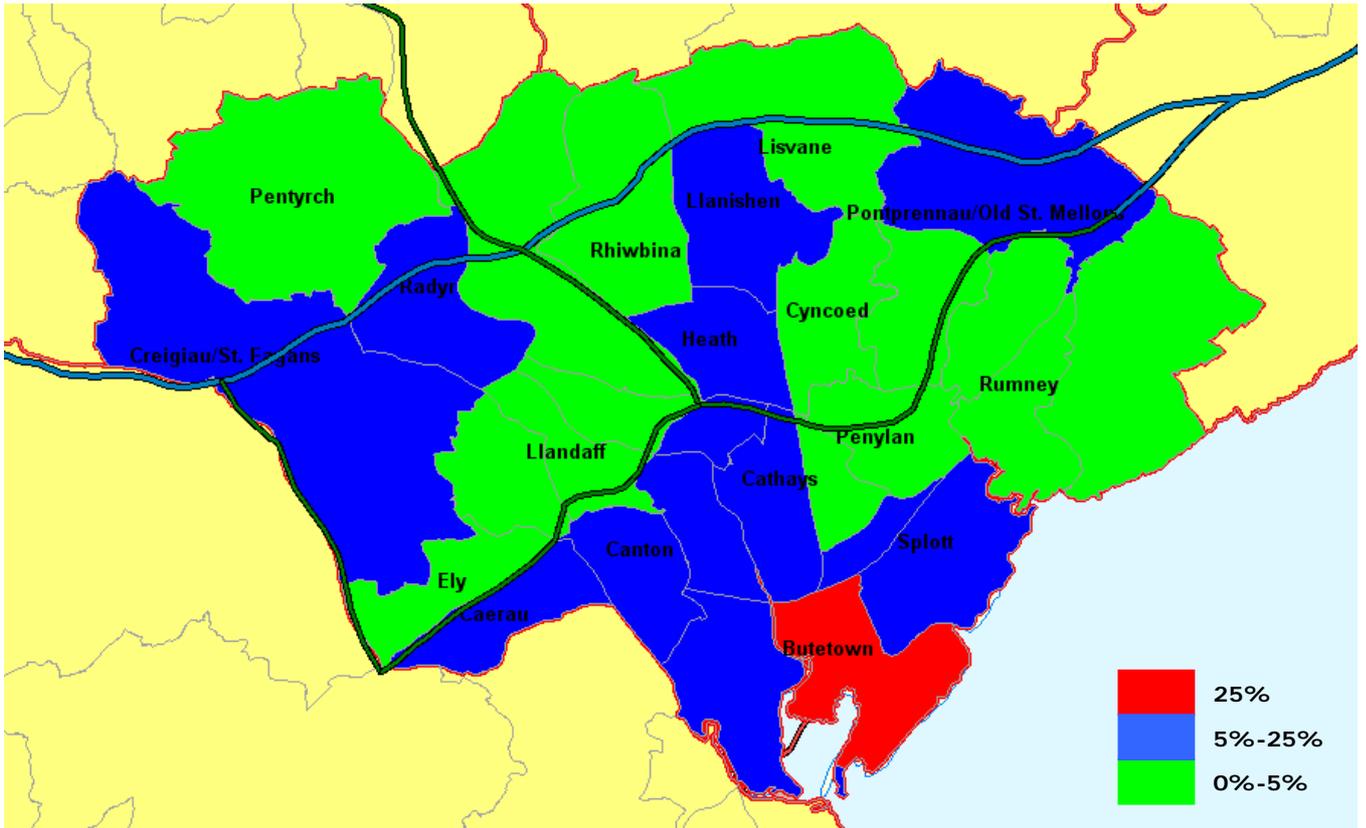


Figure 3a) Cardiff – levels of house building by ward

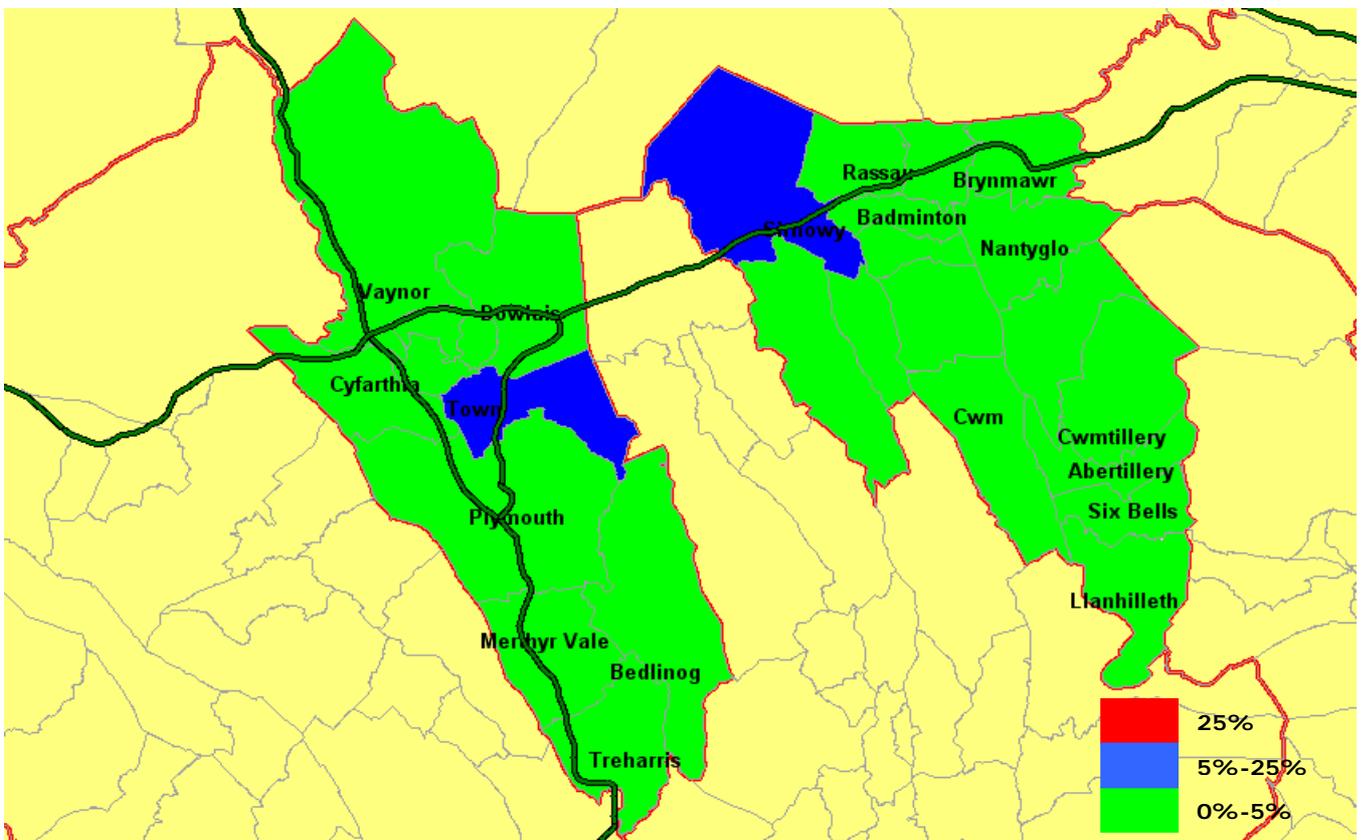


Figure 3b) Merthyr Tydfil and Blaenau Gwent - levels of house building by ward

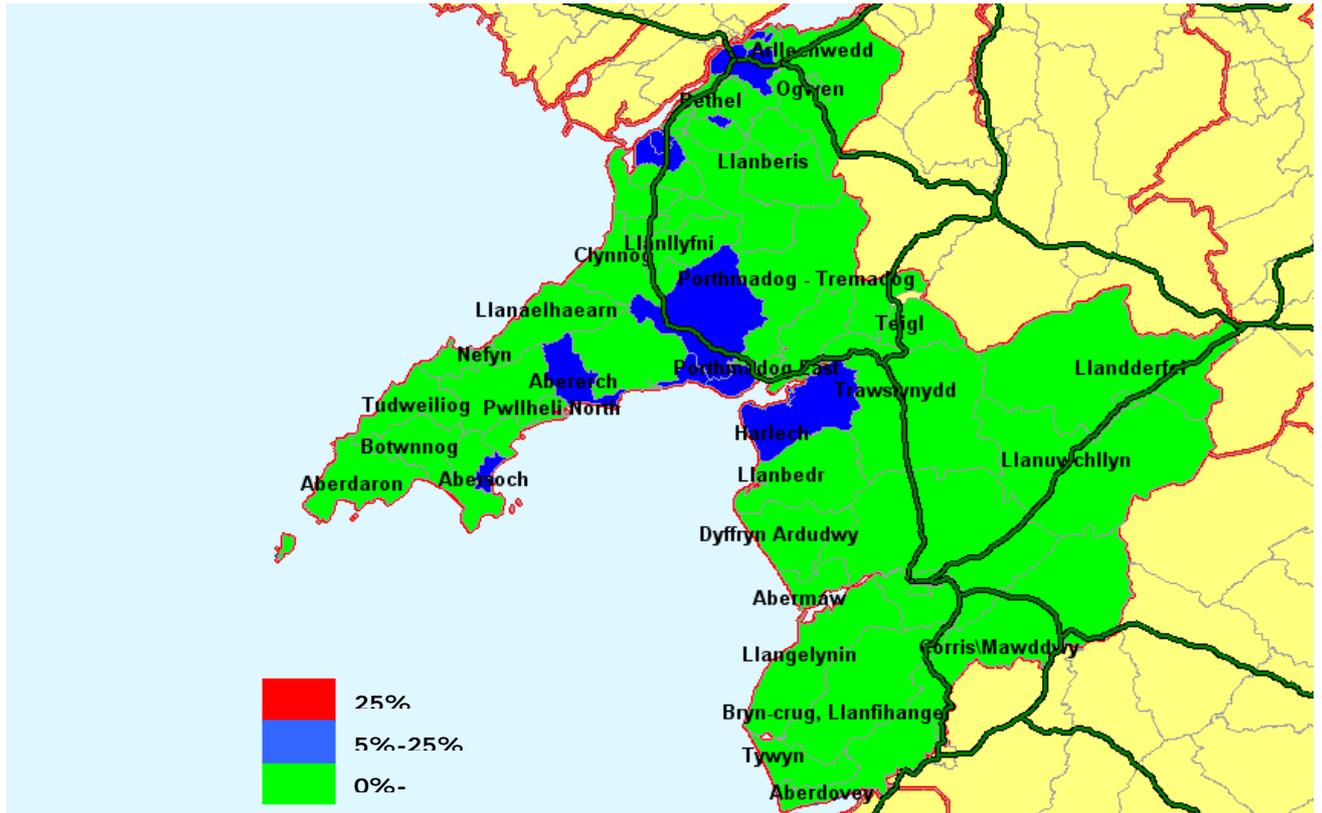


Figure 3c) Gwynedd – levels of house building by ward

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These variations are summarised in table 4 by grouping wards according to high medium and low levels of housing development. (Low is less than 5% new build, medium is 5% to 25% and high is over 25%.)

Area	Subdivision by density of new housing	Addresses	New build as % of area 2000-2003
Wales		1,304,354	5%
Cardiff		132,795	6%
	High	3,870	41%
	Medium	59,000	9%
	Low	69,925	2%
Blaenau Gwent		31,548	2%
	Medium	2,436	6%
	Low	29,112	2%
Merthyr Tydfil		25,275	2%
	Medium	3,207	6%
	Low	22,068	2%
Gwynedd		56,791	4%
	Medium	10,297	7%
	Low	46,494	3%

Table 4. Local peaks of house building

House building tends to occur in concentrations and small developments can be statistically swamped if reported for areas already containing many houses. To illustrate this each area is presented as a pair of maps, showing the level of new housing for wards and output areas.

The ward maps, above, show where a broader area has benefited from a number of developments. Output area maps (figures 4a to 4c) show where there have been individual housing developments. The high medium low scale is the same on all maps and the same as that used for Table 4

The detailed OA maps show that there are small areas in the valleys with (proportionally) similar densities of building to the bay area of Cardiff. The ward level maps suggest that in the valleys good road access appears to be associated with the wards with most house building. The more detailed OA map for Merthyr Tydfil reinforces this perception.

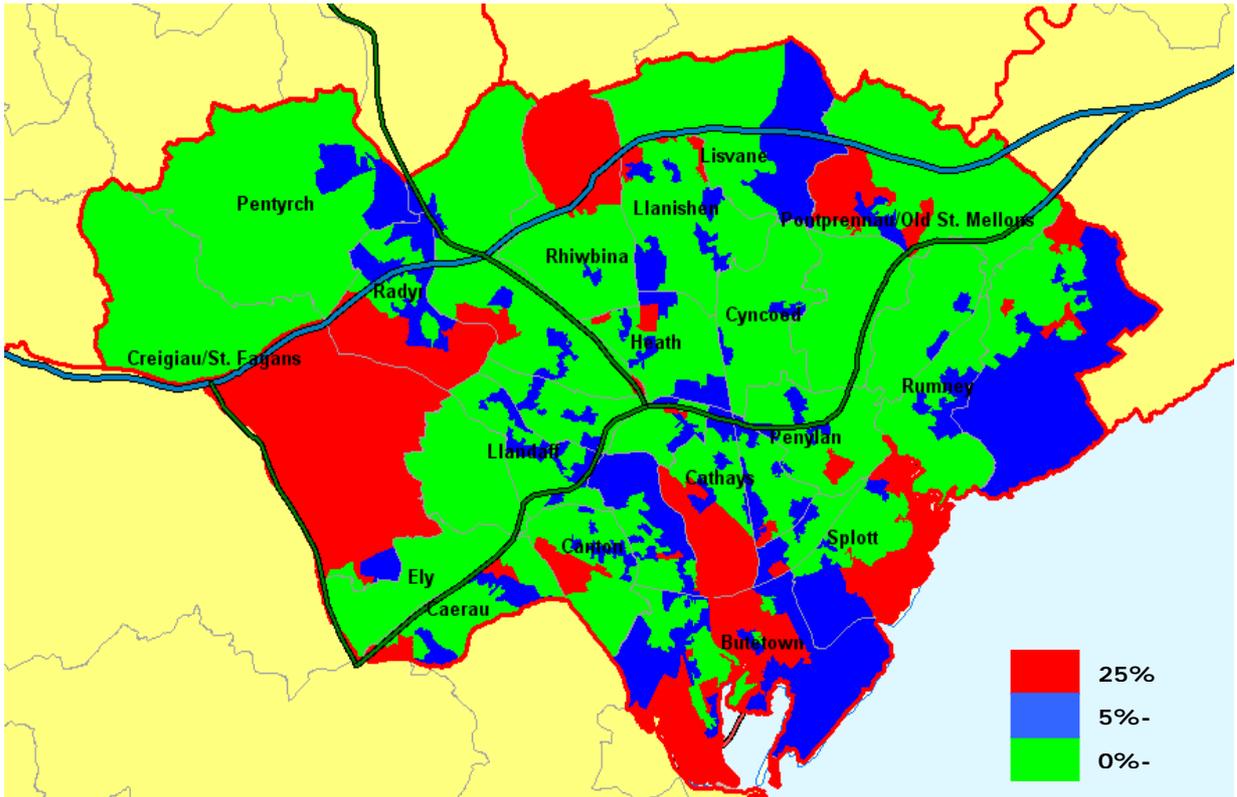


Figure 4a) Cardiff – levels of house building by output area

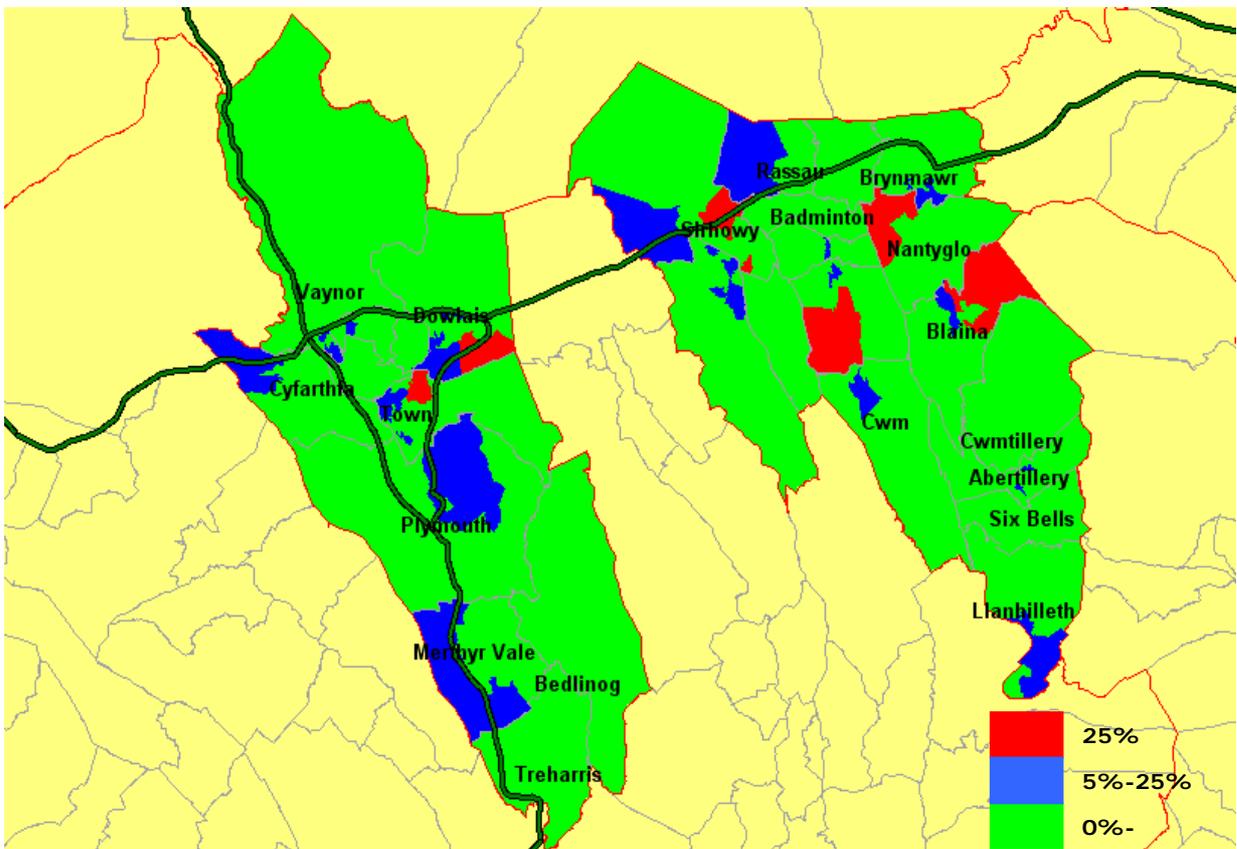


Figure 3b) Merthyr Tydfil and Blaenau Gwent - levels of house building by output area

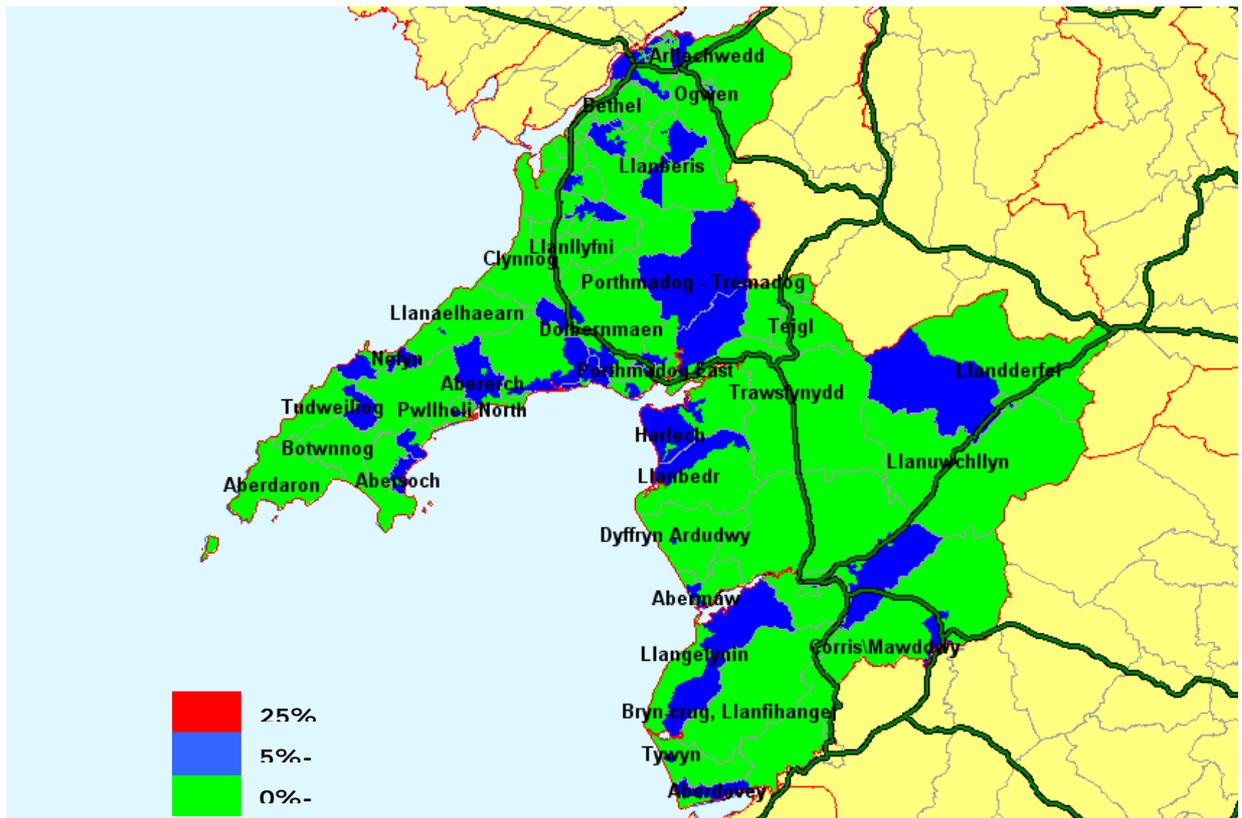


Figure 4c) Gwynedd – levels of house building by output area

2.3 Interaction of house building and income

Income is one way of measuring whether house building improves locational attractiveness. The effect of house building on incomes is shown in table 5. This table reports subdivisions of the local authorities by the level of house building and reports any change in household incomes that might be, in part, a result of the developments.

This suggests that new housing has a beneficial effect. Specifically, where the levels of new housing have been highest there tends to have been a greater reduction in levels in poverty².

This is most dramatically shown in Cardiff where the extensive development in the ward of Butetown is associated with a dramatic 15%+ drop in the levels of households 'in poverty'. As one would expect the development has changed the nature of the neighbourhood.

This effect is not limited to areas of major development in Cardiff. The same occurs in Merthyr Tydfil where higher levels of new build are associated with greater reductions in the level of households in poverty. The same occurs in Blaenau Gwent, where there is also a greater reduction in the level of households in poverty in areas of new build. However the pattern is not repeated in Gwynedd.

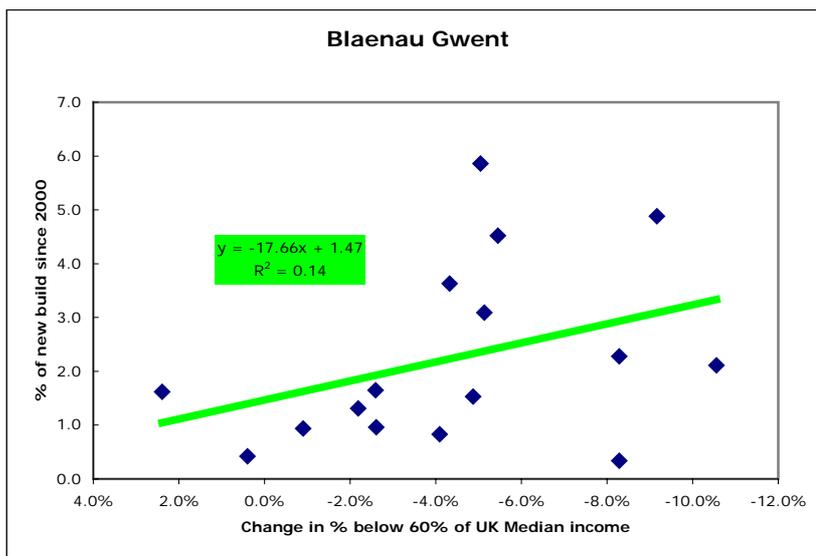
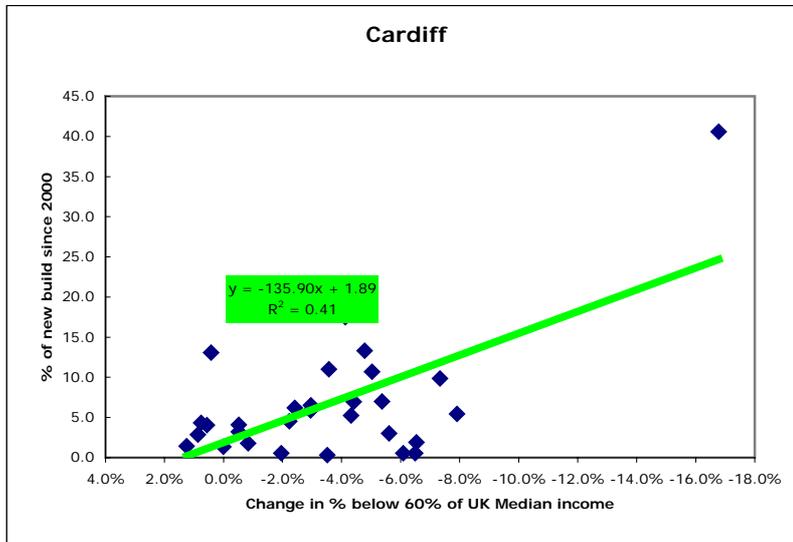
Change 2001 to 2005			
	Level of new house build	Increase in Median Household Income	% of households below 60% of UK Median
Cardiff	High	£14,610	-16.8%
	Medium	£5,902	-2.2%
	Low	£10,337	-1.9%
Blaenau Gwent	Medium	£7,452	-5.0%
	Low	£6,289	-4.4%
Merthyr Tydfil	Medium	£9,302	-8.0%
	Low	£8,709	-4.5%
Gwynedd	Medium	£9,081	-1.8%
	Low	£9,223	-2.2%

Table 5 The effect of housing development on incomes

² The data can not show if this effect is due to the existing residents get wealthier or because wealthier people move into the area as a result of the changing nature engendered by the new housing.

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So there is some indication that building new housing will result in lower levels of households in poverty. The relationship is not particularly strong, as shown in by the four scatter graphs in figure 5. The pattern applies to three of the four areas, Gwynedd being the exception.



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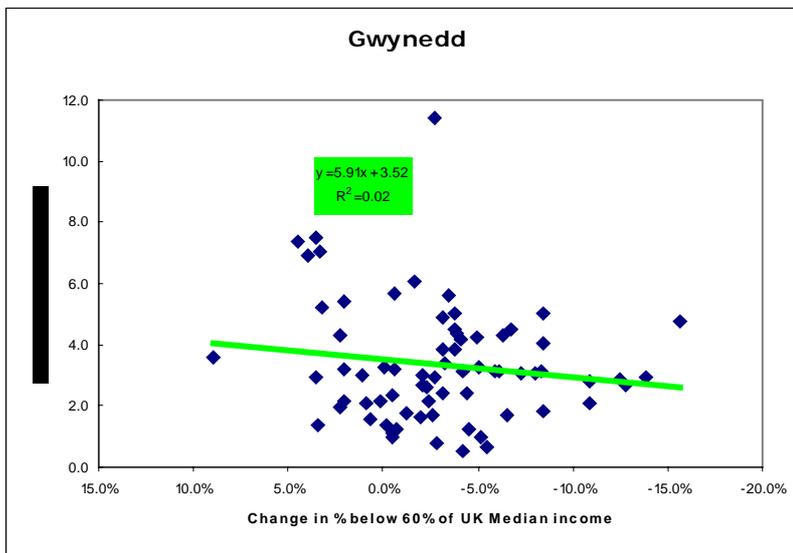
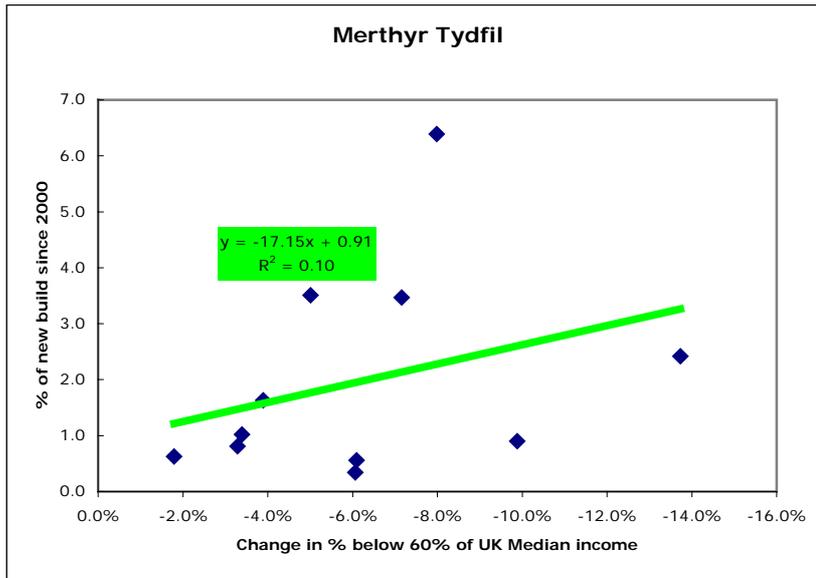


Figure 5 New build may tend to result in reduced levels in poverty

Income levels also appear to effect where housing development takes place. Table 6 divides wards according to high, medium or low levels of current income. In wards where incomes are low there has been little housing development. Where there are higher incomes, or are at least higher than elsewhere in the authority, there tends to have been more housing development.

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Area	Subdivision by income levels ³	Addresses	New build as % of area 2000-2003
Wales		1,304,354	5%
Cardiff		132,795	6.3%
	High	18,358	6.4%
Blaenau Gwent	Medium	114,437	6.3%
		31,548	2.5%
Merthyr Tydfil	Medium	31,548	2.5%
		25,275	2.2%
Gwynedd	Medium	23,029	2.4%
	Low	2,246	0.7%
		56,791	3.5%
	Medium	54,799	3.6%
	Low	1,992	1.2%

Table 6 The effect of income levels on housing development.

Again the relationship is not a strong one, as shown in figure 6. The scatter graph excludes one extreme ward in Cardiff, ButeTown.

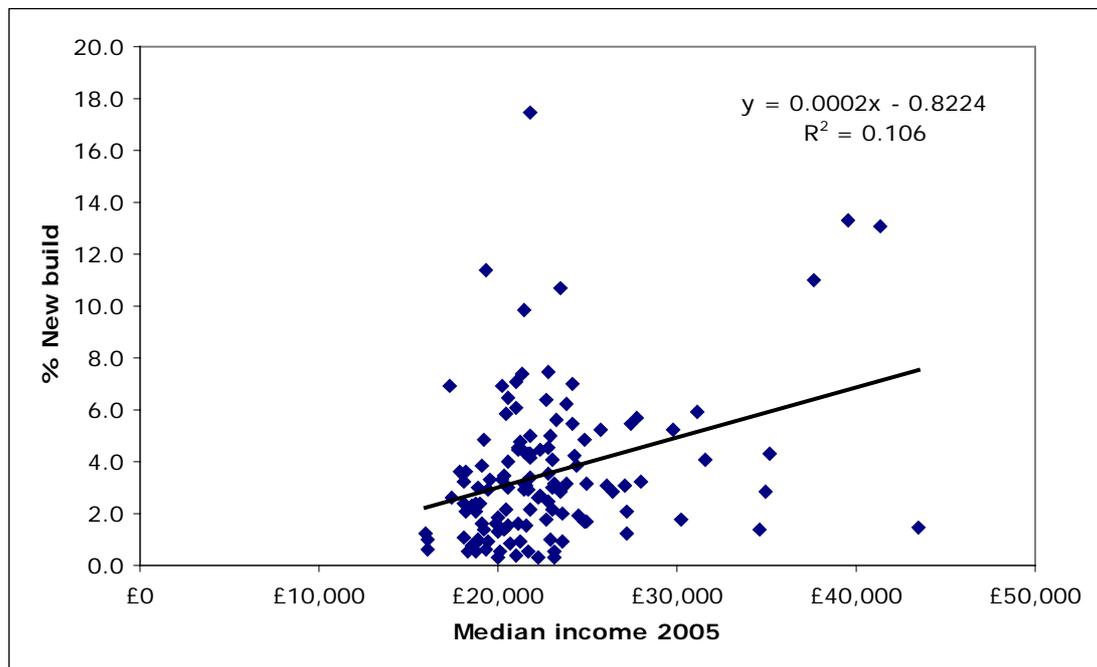


Figure 6 New build may be more likely to occur in areas of higher income

³ The income banding is; low under £20,000; medium £20,000 to £40,000 and high over £40,000

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The tentative conclusion is that new housing tends to result in greater increases in incomes, but that new housing is more likely to be developed in the relatively wealthier parts of a local authority.

Analysis of the types of housing being built may help to explain this. The Land registry has very recently begun to publish data for very local areas and for individual properties. (This data is discussed in more depth later.) Comparing the mix of new housing to the existing housing stock shows development is biased towards detached properties. Table 7 shows this is particularly marked in Merthyr Tydfil and Blaenau Gwent where the proportion of new build that is detached is seven times the proportion of detached housing in the existing housing stock. This bias is also true in Cardiff, although there the majority of development is in the form of flats.

The new housing thus appears more upmarket than the existing housing stock and so more readily available to those with higher incomes.

New building 2001 to 2004	Number	New Housing %	Housing Stock %	Ratio of new build to existing stock
Cardiff				
<i>Detached</i>	968	28%	14%	2.0
<i>Flats</i>	1,888	55%	19%	2.9
<i>Semi Detached</i>	402	12%	32%	0.4
<i>Terraced</i>	163	5%	35%	0.1
Blaenau Gwent				
<i>Detached</i>	121	72%	9%	7.7
<i>Flats</i>	1	1%	11%	0.1
<i>Semi Detached</i>	31	19%	25%	0.8
<i>Terraced</i>	14	8%	55%	0.2
Merthyr Tydfil				
<i>Detached</i>	178	86%	13%	6.6
<i>Flats</i>	1	0%	7%	0.1
<i>Semi Detached</i>	17	8%	27%	0.3
<i>Terraced</i>	10	5%	53%	0.1
Gwynedd				
<i>Detached</i>	127	50%	36%	1.4
<i>Flats</i>	33	13%	10%	1.3
<i>Semi Detached</i>	68	27%	22%	1.2
<i>Terraced</i>	28	11%	32%	0.3
	256			

Table 7 Why housing development influences local incomes

2.4 House Prices

Another possible indicator of the changing nature of an area is house prices. Locationally attractive areas might be presumed to generate higher demand and so a greater increase in price than surrounding areas. This report considers two different types of house price information. Since they measure slightly different things they can give different results.

StreetValue is a mathematical model of house values, intended to be applied to very local areas and even individual postcodes. It is designed to measure the value of housing as an asset and so considers the value of all housing in an area, whether recently sold or not. It is derived from data from mortgage lenders and is a model of price aggregating data across a number of years. (Supporting Information 3)

The Land registry very recently began to release house price data at very detailed geographical level and even for individual addresses. This directly measures sale price, but only for those houses that were actually sold.

Table 8 illustrates how these sources give different interpretations of house price change. (More details in Supporting Information 4.)

The mix of housing offered for sale is not the same as the housing stock. Terraces dominate the housing market, outweighing their proportion of the housing stock. Conversely compared to the housing stock fewer detached properties are offered for sale. This effect becomes stronger if newly built housing is excluded from the comparison. Therefore the two measures can be expected to give different values.

	Land Registry % house price change 2001 - 2004	Split of house sales %	Sales excluding newly built property	Mix of Housing stock %	Streetvalue % property value change 2001 - 2005
Gwynedd	94%				110%
Detached		31%	30%	36%	
Flats		4%	4%	10%	
Semi Detached		20%	20%	22%	
Terraced		45%	46%	32%	

Table 8 Different interpretations of change in house price

In addition the land registry information is actual data and presented up to 2004. The Streetvalue data is modelled estimates for 2005 so it is to be expected that there will be slightly higher price increases since 2001.

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The two measures give broadly comparable results given these differences in definition. There are some variations, but Table 9 shows that both data sources agree that

- House values have risen faster in Cardiff than in Bristol
- House values in Gwynedd have risen faster than average for Wales.
- House Values in Gwynedd have risen faster than North Cornwall
- House values in Merthyr Tydfil have risen less than the average for Wales

	StreetValue: Average Property Value 2005	% Increase 2001 to 2005	Land Registry: Average House Price 2004	% Increase 2001 – 2004
Wales	£136,430	97%	£128,058	77%
Cardiff	£184,082	99%	£160,724	70%
Blaenau Gwent	£76,084	49%	£67,750	88%
Merthyr Tydfil	£77,357	53%	£67,914	61%
Gwynedd	£134,231	110%	£126,508	94%
UK excl. Lon & SE	£139,717	78%	N/A	N/A
Bristol	£181,179	71%	£171,325	52%
Newcastle	£134,755	89%	£147,274	80%
Bolsover	£96,167	72%	£96,197	73%
Easington	£79,354	65%	£80,638	79%
North Cornwall	£186,731	70%	£206,525	84%

Table 9 House price/value comparisons

The difference between measuring house sales and house values shows up more clearly when looking at more local comparisons. Sub-dividing into areas of high medium and low income leads to mixed conclusions

Generally both equity value and the prices of houses sold increase more in areas of higher income. Broad patterns are consistent between the two measures.

The exception is in Cardiff. The areas of highest incomes exhibit a lower increase in house prices but higher equity increases. This could well be because the housing market in Cardiff has a significantly larger proportion of flats than any of the other areas.

Use of Non-Official Data to Identify Locational Attractiveness

	Subdivision by income levels ⁴	Streetvalue: Av. Value	% Increase 2001-2005	Land Registry: Av. Price	% Increase 2001 - 2004
Wales		£136,430	97%	£128,058	77%
Cardiff		£184,082	99%	£160,724	70%
	High	£283,910	108%	£217,971	60%
	Medium	£168,020	97%	£152,166	74%
Blaenau Gwent		£76,084	49%	£67,750	88%
	Medium	£75,978	49%	£67,750	88%
Merthyr Tydfil		£77,357	53%	£67,914	61%
	Medium	£79,428	54%	£68,769	62%
	Low	£55,614	40%	£45,772	21%
Gwynedd		£134,231	110%	£126,508	94%
	Medium	£136,247	111%	£127,521	95%
	Low	£83,344	82%	£76,070	52%

Table 10 Local house price/value comparisons

⁴ The income banding is; low under £20,000; medium £20,000 to £40,000 and high over £40,000

2.5 Welsh speaking areas

Of the four areas only Gwynedd has significant levels of Welsh speakers. Using the census wards within Gwynedd was split into high or low levels of Welsh speakers. (Figure 7)

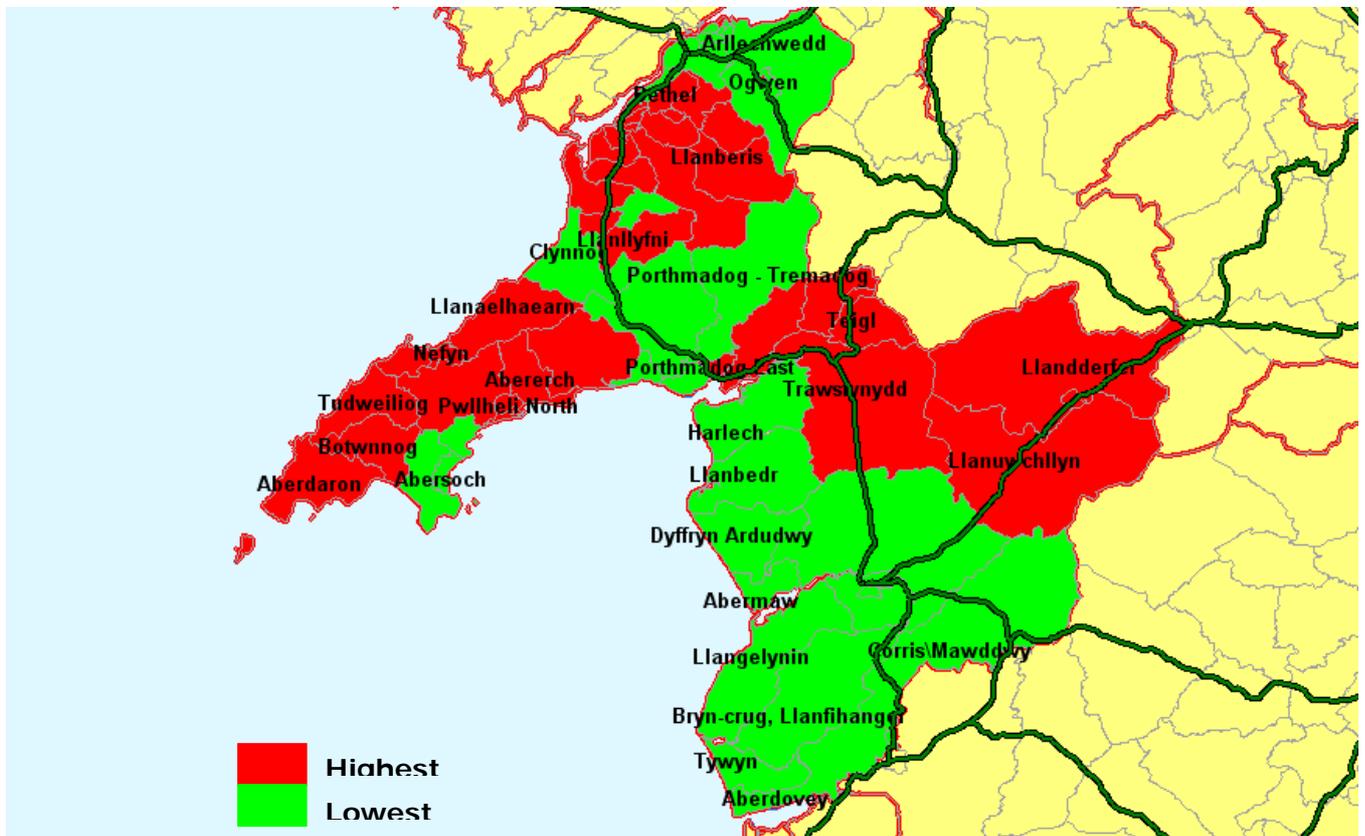


Figure 7 splitting Gwynedd into the higher and lower levels of Welsh speakers.

Use of Non-Official Data to Identify Locational Attractiveness

There do not appear to be very dramatic differences between Welsh speaking areas and elsewhere.

In 2001 the incomes in areas with higher levels of Welsh speakers were lower than elsewhere. However by 2005 incomes had increased to be nearly the same as in the non-welsh areas. There has been more new housing built in non-Welsh speaking areas. On the other hand house prices are slightly lower and increasing more slowly in Welsh-speaking areas.

Level of Welsh speaking	Median Income	2001 Percentage below 60% of UK Median	Median Income	2005 Percentage below 60% of UK Median
Gwynedd				
High	£13,700	37.7%	£21,100	34.2%
Low	£14,200	35.8%	£21,300	34.0%

Table 11 Income in Welsh-speaking areas

Level of Welsh speaking	New housing 2000-2003	Mean House Value	% Change House Value 2001 to 2005 price
Gwynedd			
High	3.0%	£121,915	102%
Low	4.1%	£148,344	118%

Table 12 Housing in Welsh-speaking areas

3 Life Styles

Multi-variate geodemographic classifications, systems built by mixing official and non-official data suggest that

- Bolsover is no longer similar to the ex-mining valleys
- There is greater evidence of improvement in Bolsover than any of the other areas considered.
- Cardiff has a different style of affluence to Bristol, Cardiff being more traditional and Bristol more "urban".

Geodemographic classifications appear to give good descriptions of small areas and to identify how areas have changed.

Non-official data will often focus on consumers' interests, financial situation, and use of sales channels such as the Internet. The data is designed to identify where people with individual lifestyle attributes live. Patterns in the data suggest that it does so quite effectively.

Estimated levels of educational attainment for local areas show expected relationships with income levels. Estimates of financial provision, for example the numbers of people with/without pensions, current accounts, savings and loans also show patterns consistent with other data, giving some confidence that other factors are also robustly estimated.

Although the data is used commercially to assess changes in the mix of lifestyle attributes for small areas it cannot support estimates of change in an individual lifestyle attribute for areas below the level of local authority.

Consumer's lifestyles can also be measured indirectly. Shopping habits are served by retail outlets and centres and changes in retail provision indicates changes in the population, or at least in retailers assessment of the population.

Cardiff is ranked 14th in the UK in terms of consumer spending. Cardiff is growing less quickly than cities such as Bristol or Newcastle. Unlike other cities there is no growth of "premium" retailers, Cardiff's growth is in the mass-market sector.

The total amount of retailing in the three other local authorities is relatively very small. There are (small) indications of some premium retailing starting in Blaenau Gwent and Gwynedd, which may indicate retailers believe these areas can now support their stores.

3.1 Lifestyle Data

Lifestyle surveys are collected by a mix of methods, including postal surveys, magazine inserts, guarantee cards, telephone and Internet surveys. The information presented here is derived from LifestylesUK. This suite of mathematical models uses 7 million consumer responses from within the past three years to estimate the probable behaviour of every individual in the country. (Supporting Information 5)

To consider local differences ward data has again been grouped according to income. The tables use bands of the median household income of wards. The bands are designed to be appropriate to all areas. One result of this is that there are no wards in Cardiff that fall into the Low band of median income⁵

High ⁶	Over £40,000
Medium	£20,000 to £40,000
Low	Under £20,000

Table 13 shows the estimated percentage of the adult population by levels of education. This shows expected patterns in educational attainments. Groups of wards with low incomes have a higher proportion of people with no qualifications, or only GCSE's. The group of wards with high income have higher proportions of people with degrees.

Although locally incomes are not so diverse the same pattern is observed. For example within Merthyr Tydfil wards are either low or medium income. The group of medium income wards has higher proportions of graduates and lower proportions of low qualifications than the group of low-income wards

	none or GCSE	NVQ level 2	NVQ A levels	NVQ level 3	NVQ level 4+	first degree	postgraduate
Cardiff							
High Income	31%	4%	22%	2%	5%	16%	20%
Medium Income	48%	5%	18%	2%	3%	9%	14%
Blaenau Gwent							
Medium income	61%	6%	10%	5%	3%	4%	11%
Merthyr Tydfil							
Medium income	59%	6%	12%	3%	3%	5%	12%
Low income	64%	9%	10%	2%	2%	4%	9%
Gwynedd							
Medium income	54%	4%	14%	4%	4%	6%	14%
Low income	64%	8%	10%	3%	3%	3%	9%

Table 13 Education levels by areas of high, medium, low income

⁵ Note that while no wards have a median income below £20,000 these are quite large geographic areas. Figure 1a) showed Output Areas with low median incomes illustrating that pockets of deprivation do exist in the city. This illustrates the way analysis of larger areas can "hide" important local details.

⁶ The high median income band is designed to highlight any differences in wealthier areas. It contains around 18,000 households. Although this is fewer than the other bands, it is equivalent in size to 70% of Merthyr Tydfil.

Use of Non-Official Data to Identify Locational Attractiveness

Financially patterns are much as one might expect. In less well-off neighbourhoods inhabitants are less likely to have savings or pensions. In addition, credit cards and bank accounts are markedly less common. Conversely all the indicators of wealth, credit cards, pensions and savings, plus loans, are more common in the (smaller) group of wealthier wards.

Financial provisions	Have a credit card	Have Private Health Care	Have Private Pension Plan	Have Company Pension Plan	Has a current/savings account	Has High Interest Accounts	Has personal loan
Cardiff							
High Income	81%	23%	25%	35%	73%	40%	32%
Medium Income	66%	13%	16%	23%	59%	21%	29%
Blaenau Gwent							
Medium income	58%	9%	15%	20%	53%	16%	28%
Merthyr Tydfil							
Medium income	61%	11%	16%	21%	56%	18%	29%
Low income	49%	7%	9%	13%	50%	13%	23%
Gwynedd							
Medium income	66%	14%	18%	19%	57%	25%	25%
Low Income	49%	10%	9%	12%	48%	13%	23%

Table 14 Financial circumstances by income levels.

Hobbies and interest are not always related to incomes. Some, such as bingo and betting are clearly enjoyed more in areas of lower incomes. Other activities such as reading books are enjoyed by a similar proportion of people irrespective of the wealth of their neighbourhood. Some activities appear more geographic than income driven - more people enjoy eating out in Cardiff than other areas, irrespective of the relative affluence of the areas.

Use of Non-Official Data to Identify Locational Attractiveness

Interests	betting on horseracing	bingo	crosswords / puzzles	DIY	eating out	exercise / sports	golf	hiking / walking	going to the pub	reading books	theatre / arts	
Cardiff												
High Income	7%	4%	12%	12%	32%	16%	9%	12%	18%	22%	11%	
Medium Income	11%	11%	16%	13%	28%	13%	5%	9%	25%	22%	8%	
Blaenau Gwent												
Medium income	11%	15%	19%	15%	24%	9%	5%	10%	25%	21%	5%	
Merthyr Tydfil												
Medium income	12%	15%	18%	15%	26%	10%	5%	10%	25%	21%	5%	
Low income	16%	22%	21%	17%	21%	8%	3%	7%	26%	22%	4%	
Gwynedd												
Medium income	10%	8%	17%	14%	24%	11%	5%	13%	22%	21%	6%	
Low income	15%	19%	19%	16%	21%	9%	4%	9%	28%	21%	4%	

Table 15 People's interests by income levels.

3.2 Retailing in Wales

The decision to site a store is made based on estimates of the potential market, the number of people and the type of people available in the catchment area. Assuming the retailers have assessed the consumer population correctly, a change in type of retailing is an indicator of increasing attractiveness.

The amount of consumer spending is determined by the size and attractiveness of a centre, the numbers of consumers within reach of the centre, and the number and attractiveness of alternative places for the consumers to spend their money.

The following information is derived from a spatial interaction model Retail Footprint, which takes into account these factors. Table 18 shows a ranking of retail centres according to how much money consumers spends in the centre.

Ranking	Centre Name	Weighted Expenditure £ million
1	London - West End	£4,016
2	Birmingham	£2,206
3	Glasgow	£2,198
4	Manchester	£1,402
5	Nottingham	£1,255
6	Leeds	£1,238
7	Bluewater	£1,223
8	Liverpool	£1,157
9	Newcastle-Upon-Tyne	£1,143
10	Leicester	£1,104
11	Reading	£1,098
12	Bristol	£1,076
13	Norwich	£1,049
14	Cardiff	£1,042
15	Trafford Centre	£1,015
16	Meadowhall	£977
17	Milton Keynes	£960
18	Sheffield	£953
19	Southampton	£952
20	Cambridge	£912
638	Cardiff - Valegate Retail Park	£34

Table 18. Retail centre ranking

The Retail Footprint model considers the mix of retailers within centres in order to monitor the changing nature of retailing. Changes can be due to changes of retailers occupying a centre, and to a lesser extent due to the changing nature of a retail chain.

The mix of retailing in areas of Wales is shown in Table 19. The breakdown is by premium retailers, mass-market retailers and value retailers. Examples of these would be Karen Millen, W H Smiths, and Primark respectively.

Use of Non-Official Data to Identify Locational Attractiveness

	2000 Mix			2005 Mix		
	Value	Mass	Premium	Value	Mass	Premium
Cardiff	24%	64%	11%	23%	66%	11%
Blaenau Gwent	58%	39%	3%	56%	40%	4%
Merthyr Tydfil	52%	48%	0%	49%	51%	0%
Gwynedd	42%	54%	4%	39%	56%	5%
Bristol, City of	26%	63%	11%	25%	63%	12%
Newcastle upon Tyne	26%	59%	15%	26%	61%	14%
Easington	45%	55%	0%	39%	55%	6%

Table 19 Mix of retailing by local authorities

Generally retailing is increasing everywhere. However Table 20 shows retailing in Cardiff has grown less than in Bristol or Newcastle. Bristol is growing in premium retailing while Cardiff more in mass-market retailing.

	% Score Growth			
	Total	Value	Mass	Premium
Cardiff	7%	2%	11%	0%
Blaenau Gwent	39%	33%	43%	100%
Merthyr Tydfil	37%	29%	46%	**
Gwynedd	22%	15%	25%	67%
Bristol, City of	17%	13%	18%	23%
Newcastle upon Tyne	17%	16%	20%	8%
Easington	132%	100%	133%	**

Table 20 Change of retailing by local authority

The figures need to be interpreted with caution for areas where there are fewer retail outlets. For example the 100% growth in premium retail in Blaenau Gwent is only due to the Festival Park Outlet Centre now having 2 premium stores. However it seems retailers now feel that the area can support such stores.

A similar comment applies to Easington where the Dalton Park Factory Outlet Centre has 3 designer discount stores.

3.3 ACORN

Since the late 1970's geodemographic classifications have been known to give more detailed discrimination of people than traditional research measures such as social class.

ACORN is a classification of areas in widespread use in the private sector, and is used by organisations such as the DfES, Home Office, ODPM and ONS. It distils a combination of many different demographic characteristics into a single number representing 56 distinct types of neighbourhood. These can be aggregated into 5 broad categories, which to aid understanding are very briefly summarised below

Category Name	Overview of the category
Affluent Achievers	Some of the more affluent people in the UK. They live in wealthy, high status, areas of the country tending to own larger detached houses.
Urban Prosperity	Well educated people with a cosmopolitan outlook and urban lifestyle. The wealthier will be in senior managerial careers often living in larger houses and are at least as wealthy as the Affluent Achievers. The younger or less affluent will be buying or renting flats.
Comfortably Off	This category contains much of the home-owning, stable and fairly comfortable backbone of modern Britain. They may not be wealthy but have few major financial worries
Moderate Means	This category contains much of what used to be the country's industrial heartlands. Many people are still employed in blue-collar occupations. Others have service and retail jobs as the employment landscape has changed.
Hard-Pressed	This category contains the poorest areas of the UK. Household incomes are low, levels of qualifications are low and unemployment is above average. These people are experiencing the most difficult social and economic conditions in the country.

Note that the category names are intended to give a rough 'feel' for the areas. Short names cannot describe the full mix of demographic factors used in categorising neighbourhood so should not be considered to give the complete picture or to imply value judgements. (The background to Acorn is discussed in Supporting Information section 6)

The ACORN profiles match broad perceptions of the different areas of Wales. More interestingly ACORN suggests that the other parts of the UK considered similar to areas of Wales are not always a close match. For example,

- Cardiff⁷ has more traditionally Affluent Achiever areas than Bristol, while Bristol has a larger element of urban prosperity.
- Bolsover includes pockets of affluence that make this area appear quite different to either Merthyr Tydfil or Blaenau Gwent.
- Easington, although less affluent than Bolsover, also has less in common with the ex-mining valleys.
- While Gwynedd has many traditionally affluent achievers North Cornwall has even more so⁸.

⁷ Note, this refers to Cardiff & Bristol as local authority districts not as cities

⁸ Acorn types covering wealthier retired people and better-off rural communities fall into the Affluent Achievers, which is why both these areas have high levels of this category but do not have particularly high levels of income

Use of Non-Official Data to Identify Locational Attractiveness

	1 Affluent Achievers	2 Urban Prosperity	3 Comfortably Off	4 Modest Means	5 Hard Pressed
Wales	27%	4%	26%	21%	22%
Cardiff	18%	16%	27%	16%	23%
Blaenau Gwent	4%	0%	7%	51%	38%
Merthyr Tydfil	7%	1%	14%	45%	34%
Gwynedd	37%	4%	24%	19%	15%
UK excl SE	24%	7%	28%	15%	26%
Bristol	5%	25%	23%	21%	25%
Newcastle	8%	22%	21%	6%	42%
Bolsover	17%	0%	36%	16%	31%
Easington	8%	0%	15%	30%	47%
North Cornwall	55%	3%	23%	7%	12%

Table 16 Acorn profiles of areas

In interpreting this table one should not think of Acorn as a simple scale of affluence. There are Acorn types within the Urban Prosperity category where incomes are significantly higher than much of the Affluent Achievers.

An example illustrates the multi-variate nature of the classification. Consider two colleagues, both well educated, equally affluent living in 4 bedroom houses. One lives in a village (or a "pleasant" edge of town estate) and commutes, the other lives in a city in a neighbourhood where some neighbours rent rather than own. One favours a "traditional" rural family lifestyle. The other favours a lifestyle built around the cultural activities of the city. Although their age income, occupation and education might be the same, one will be an "Affluent Achiever" while the other will be "Urban Prosperity".

ACORN is updated annually, however it is completely redesigned every decade following the census. Comparing two multi-variate classifications is particularly subjective. There were six rather than five categories in the earlier version. The demographic factors used are different and their interaction results in quite different types. There is some degree of comparability, as shown in table 17.

Category 5 (Hard Pressed) is quite likely to be areas classified as F (striving) or E (aspiring) in 1991. About half of category 1 (Affluent Achievers) was previously classified as A (Thriving).

Use of Non-Official Data to Identify Locational Attractiveness

ACORN 1991 Category	ACORN 2001 Category				
	1	2	3	4	5
A	52.4%	10.5%	16.2%	2.6%	2.2%
B	18.2%	2.3%	20.7%	7.3%	1.8%
C	1.4%	55.6%	4.4%	2.2%	2.5%
D	21.9%	6.5%	36.4%	40.6%	10.2%
E	3.8%	12.6%	14.9%	18.8%	19.5%
F	2.3%	12.6%	7.4%	28.4%	63.8%
	100.0%	100.0%	100.0%	100.0%	100.0%

Table 17 Comparisons between Acorn from 1991 and 2001

This illustrates that comparisons over time might be considered for areas with high proportions of category 5 since it partially corresponds to the 1991 E and F. The relative lack of correspondence for category 1 means that comparisons over time cannot always be made.

Comparing the Acorn classification of areas between 1991 and 2001 suggests Easington was reasonably similar to Merthyr Tydfil in 1991, however Bolsover does not seem to have been a particularly close comparison to the ex-mining valleys even in 1991. (The proportion of category F is very different)

	A Thriving	B Expanding	C Rising	D Settling	E Aspiring	F Striving
Cardiff	20%	10%	14%	16%	16%	24%
Blaenau Gwent	0%	2%	0%	29%	34%	35%
Merthyr Tydfil	1%	6%	0%	26%	24%	44%
Gwynedd	40%	2%	3%	26%	15%	14%
GB (Exc SE)	17%	11%	8%	25%	14%	25%
Bristol	8%	5%	17%	23%	26%	21%
Newcastle	6%	7%	18%	13%	16%	40%
Bolsover	1%	6%	0%	40%	40%	13%
Easington	0%	8%	0%	19%	30%	42%
North Cornwall	52%	2%	0%	27%	10%	8%

Table 18 Acorn profiles of areas a decade ago

4. Conclusion

Some specific observations have been made about locational attractiveness of the four areas of Wales

Building new housing tends to result in greater increases in income within an area. However new housing is more likely to be developed in the wealthier parts of a local authority. There has been markedly less house building in the ex-mining valleys than elsewhere, specifically less than in ex-mining areas of England used as comparisons.

A Geodemographic classification suggests that areas thought of as similar to the ex-mining valleys are not in fact so similar. In particular there are indications that Bolsover has changed more than other areas.

The analysis includes relatively limited areas with many Welsh speakers. There are not dramatic differences between Welsh speaking areas and elsewhere. On balance the areas with more Welsh speakers might be said to be improving slightly faster.

More generally, a feature of the non-official data is that it is designed for use at more detailed geographic precision than official data. Most of the patterns described would not have been apparent if presented using larger geographic areas. Grouping smaller areas according to some demographic factor has been key to identifying indications of locational attractiveness.

Non-official data on both income and house building appears effective in indicating areas of increasing locational attractiveness. Data on house prices does not give clear indications.

Geodemographic classifications appear to give good descriptions of small areas and to identify how areas have changed.

It is possible that modelled lifestyles data can be an effective measure for very local areas. Estimated levels of educational attainment show expected relationships with income levels. Estimates of financial provision also show patterns consistent with other data.

Overall the analysis shows good potential for the use of non-official data for socio-economic analysis.