

The use of ACORN classifications and the Index of Deprivation in British Crime Survey analysis

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In this talk – provide some form of summary of the ways that RDS in the Home Office has recently used ACORN and the index of deprivation within analyses of the British Crime Survey

This is intended simply as a summary of some of the published BCS figures using geographic variations – not intended as a new analysis...

I'm from University of Surrey – completed a PhD in collaboration with the Home Office – also worked on a range of BCS analyses over the last 3 years (maybe not).

Also – important that this is NOT OAC – this is really intended to demonstrate how area classifications (ACORN/IMD) have been used in the BCS.

All figures reported are taken from the latest crime in England and Wales (published in July).

Outline

- Differences in crime and perceptions across local areas from BCS data
- ACORN and the BCS
- IMD and the BCS

Just to outline what I'm intending to cover.

Start by outlining the range of different ways that BCS analyses incorporate information about local areas, or examine geographic variations in crime and perceptions about crime... Provide examples of different results.

Then more specifically think about ACORN and how this provides us with additional information about variations in crime and perceptions. Provide additional detail about variations that is not provided when simply charting geographic variations – helps pick out patterns – examples of this.

Then move on and talk a bit about how BCS/Crime in England and Wales has also successfully/usefully incorporated information from the index of multiple deprivation – along with some examples.

The British Crime Survey

- Public experience of victimisation
 - Alternative to recorded crime – ‘dark figure’
- Specific focus on victimisation – household and personal crimes
- From 2001, annual rolling survey of approx 46,000 aged 16+ in England and Wales
 - Soon to include under 16 in sample

Just to begin – a bit of background information/detail about the British Crime Survey...

The BCS is a victimisation survey, intended to provide an alternative count of crime to recorded crime.

Asking about people’s experience as victims, this enabled a count of crime that was unaffected by counting/recording/reporting practices...

The specific focus is on people’s experiences of victimisation, both household and individual...

But also various perceptions about crime and the CJS.

Survey was biennial, but now every year – additionally from 2001 the survey has been significantly expanded, with a much larger sample size of approx 46,000 (up from around 10,000). A rolling design asking people all year round.

Additionally, following the recent crime stats review and independent commission (check) the survey will soon be extended to under 16 year olds.

Geographic variations in crime and perceptions

- Patterns of crime and perceptions identified across various geographic units
 - Government Office Region – latterly PFA
 - Rural/urban areas
 - Level of disorder
 - ACORN
 - IMD areas

Along with basic counts of crime and perceptions, and variations based on individual demographics etc, Home Office publish figures detailing variations based on various geographic measures

Government office regions are regularly reported – and following the sample size extension similar data is now provided at Police Force area level...In general – as expected – find crime is higher in London and (where else). Similarly, fear and perceptions of ASB also generally higher than average in (where) and lower (where)

Additionally, along with these geographic variations – BCS also reports differences based on other geographic differences

Variations in crime and perceptions also regularly reported between urban and rural areas (how are rural and urban defined?)

Variations also based on the observed level of disorder in the local area – disorder measured using interviewer observations of the extent of vandalism, litter etc.. This area classification based on the sample rather than externally constructed... More disorder, higher crime, and fear..

Along with these measures – Variations in crime and perceptions also regularly reported based on ACORN classification and Index of Multiple Deprivation.

Government Office Region

Table 6b: BCS victimisation by English region and Wales 2007/08

English Region and Wales	Risk of household	Risk of personal	Rate of burglary	vehicle-related theft	Rate of violent crime
<i>Compared with England and Wales</i>					
North East	Higher	-	-	-	-
North West	Higher	-	-	-	-
Yorkshire and the Humber	Higher	-	-	-	-
East Midlands	-	-	-	-	-
West Midlands	-	-	-	-	-
England	Lower	-	Lower	Lower	Lower
London	-	Higher	-	Higher	-
South East	-	-	-	-	-
South West	Lower	Lower	-	Lower	-
Wales	Lower	Lower	-	Lower	-

This table provides details of different risks of victimisation based on government office region...

Table compares different regions against the overall estimate of crime across England and Wales.

Significant differences when compared against the overall level of crime are identified.

Evident that there are some clear differences...

Considering household crime – north east, north west and Yorkshire significantly higher than the overall average

Similarly east, south west and Wales less than average.

Less variability in personal crime – residents of London more at risk, and again those in south west and Wales significantly lower than average..

Similarly residents of London more at risk of vehicle related theft.... Residents of South west and Wales again less at risk

Government Office Region

Worry

6.02 Worry about crime by English region and Wales 2007/08

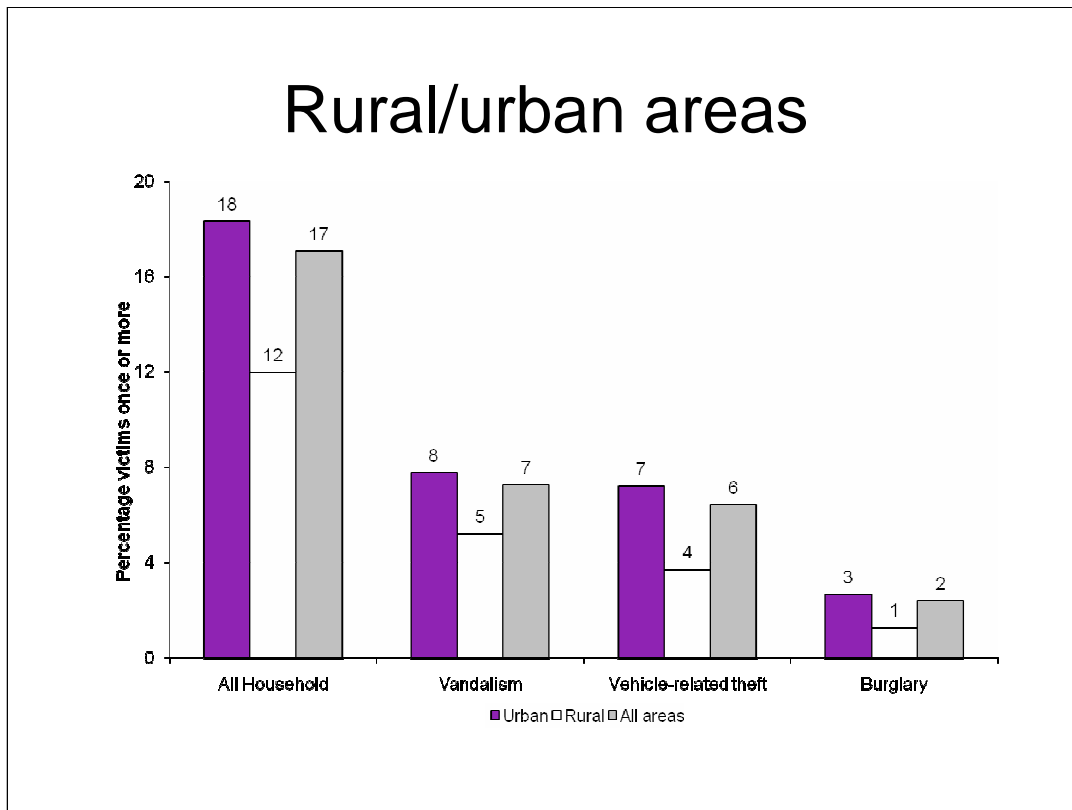
English Region and Wales	Worry about burglary (%)	Worry about car crime (%)	Worry about violent crime (%)
North East	10	12	25
North West and the Humber	13*	14*	17*
East Midlands	11	12	12*
West Midlands	13*	14*	16
East of England	14*	15*	19*
London	9*	9*	13*
South East	17*	16*	22*
South West	9*	10*	13*
Wales	7*	8*	8*
<i>England and Wales</i>	10	12	12*
	12	12	15

This table tells a similar story – may not be worth putting this in too..
TOO MUCH INFORMATION.

Significantly higher proportion of residents of London report being worried about burglary, car crime, and violence.

South west less worried...

Basically these tables show that there are variations in crime and perceptions across regions.



We can also/and it is regularly done/ distinguish between urban and rural areas.

Rural areas are those classified as 'small town and fringe – sparse', 'village – sparse', 'hamlet and isolated dwelling – sparse', 'small town and fringe – less sparse', 'village – less sparse' and 'hamlet and isolated dwellings – less sparse'.

Urban areas are those classified as 'urban – sparse' and 'urban – less sparse'.

Here we see clear differences in the proportion of households that have been a victim of crime between rural and urban areas...

Perhaps unexpectedly, crime is shown to be significantly lower in rural areas.

Level of Disorder

Crime by level of disorder, 2007/08

Level of disorder	Violence (%)	Burglary (%)	Vehicle theft (%)	Vandalism (%)
High	5.1	5.1	10.5	9.4
Not high	3.1	2.2	6.2	7.3

Perceptions by level of disorder, 2007/08

Level of disorder	ASB (%)	Worry about burglary (%)	Worry about car crime (%)	Worry about violent crime (%)
High	41	21	21	23
Not high	15	11	12	14

Considering the degree of disorder in the area – the proportion of victims is significantly higher in areas with higher levels of disorder than in areas with lower amounts of disorder – as measured by... Check BCS for how they write these things up.

Similarly fear of crime, and perceptions of anti-social behaviour are higher in areas where there are higher levels of observed disorder...

Unsurprising when considering ASB, as this is perceptions of disorder in the area – so in a way this is merely confirmation of the interviewer based measures of disorder...

ACORN and the BCS

- Alternative picture offered by ACORN (CACI Ltd)
 - Census and other sources
 - The social environment in which houses are located
- Further detail on area types that are prone to crime and fear
- Broad enough groupings to ensure sufficient samples in each
 - Particularly important when sample size much smaller

To provide further detail on variations in crime and perceptions, BCS incorporates data from ACORN into the survey each year.

This is a commercial tool for characterising the social environment in which houses are located – developed by CACI.

400 variables used to construct ACORN - Taken from the census, along with information from a range of lifestyle surveys.

125 demographics and 287 lifestyle measures...

Classifies households into one of 56 ACORN types according to demographic, employment and housing characteristics of the surrounding neighbourhood.

But also uses broader groupings, making it suitable for BCS analysis where sample size important – although this was even more important in earlier rounds when the sample size was much smaller (now we can look at PFA etc).

ACORN in detail

- **Wealthy achievers** – wealthy executives, affluent older people and well-off families
- **Urban prosperity** – prosperous professionals, young urban professionals and students living in town and city areas
- **Comfortably off** – young couples, secure families, older couples living in the suburbs and pensioners
- **Moderate means** – Asian communities, post-industrial families and skilled manual workers
- **Hard pressed** – low income families, residents in council areas, people living in high rise and inner city estates

Highest level of the ACORN hierarchy is used by the BCS... Although in previous waves, the more detailed descriptions have been used, but these are no more helpful, and present too complicated a picture? Provide details of broad differences between groups- give a bit more description about the areas in which people live
Not just basic geographic difference, more detailed descriptions about the character of the areas in which people live.
Go through the 5 geographic measures that are used by the BCS...

ACORN and crime

Crime by ACORN, 2007/08

ACORN group	Violence (%)	Burglary (%)	Vehicle theft (%)	Vandalism (%)
Wealth				
achievers	1.9	1.5	4.1	5.2
Urban				
prosperity	4.7	3.6	9.7	7.1
Comfortably off	2.7	1.9	5.6	6.8
Moderate				
means	3.7	2.7	9.3	10.1
Hard pressed	4.6	3.3	8.1	8.5

Looking first at levels of crime – partially similar picture... Crime higher in areas classified as urban

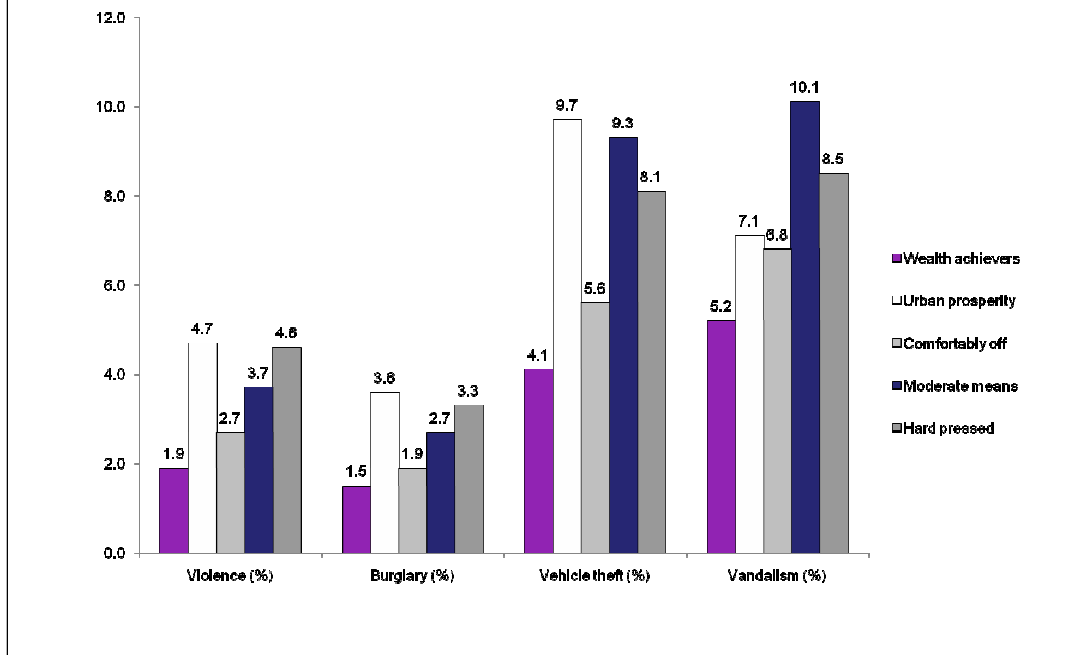
Also hard-pressed areas – help distinguish these, which otherwise many would fall within urban!

Additionally, vehicle theft and vandalism noticeably higher in areas of moderate means (what does this really tell us)

Similarly/conversely – noticeable lower in the two areas classified as more socio-economically advantaged...

Add in something about multivariate analyses here – if appropriate?

ACORN and crime



Generally see an increase in percentage victims and perceptions as you move through ACORN groups – separate out the different population groups well. Exception is urban areas, which also makes sense... these also have higher levels of crime and perceptions....

ACORN and perceptions

Perceptions by ACORN, 2007/08

ACORN group	ASB (%)	Worry		
		Worry about burglary (%)	Worry about car crime (%)	Worry about violent crime (%)
Wealth achievers	6	8	8	10
Urban prosperity	19	11	13	15
Comfortably off Moderate	12	10	11	14
means	25	14	15	19
Hard pressed	30	18	20	21

Similarly, if we look at fear of crime and perceptions of ASB, a lower proportion of residents from better off areas report high fear when compared to hard pressed and moderate means areas...

This is again confirmed by multivariate analysis (if appropriate)...

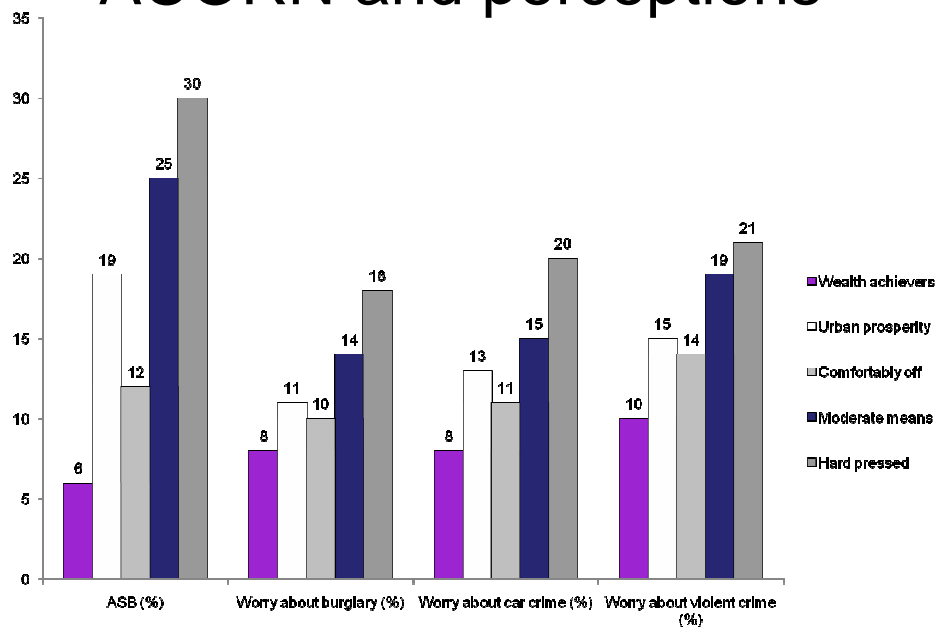
So, we are starting to see that using ACORN, additional detail about crime and fear of crime becomes apparent – is evident....

Beyond broad distinctions between different regions – which are not very descriptive/helpful to understand

Also, beyond the simple dichotomy between urban and rural areas, and the dichotomy between high and low disorder areas...

This starts to give us more information about the overall distribution of crime and perceptions...

ACORN and perceptions



IMD and the BCS

- Variations also reported based on indices of deprivation
- 7 domains combined to form general index
 - Income, employment, health, education, skills, housing, environment, crime
 - BCS uses employment
- Trends over time in IMD areas
 - Identify 20% most and least deprived LSOA
 - Link to BCS sample since 2001

Variations in levels of crime are also reported on the basis of the index of multiple deprivation...

This is based on 7 different domains of deprivation, constructed using a range of census measures and recorded crime and BCS data..

In particular, crime index includes BCS measures, so unsuitable for analyses of variations in crime...

Other indices are correlated with one another, so BCS uses employment deprivation

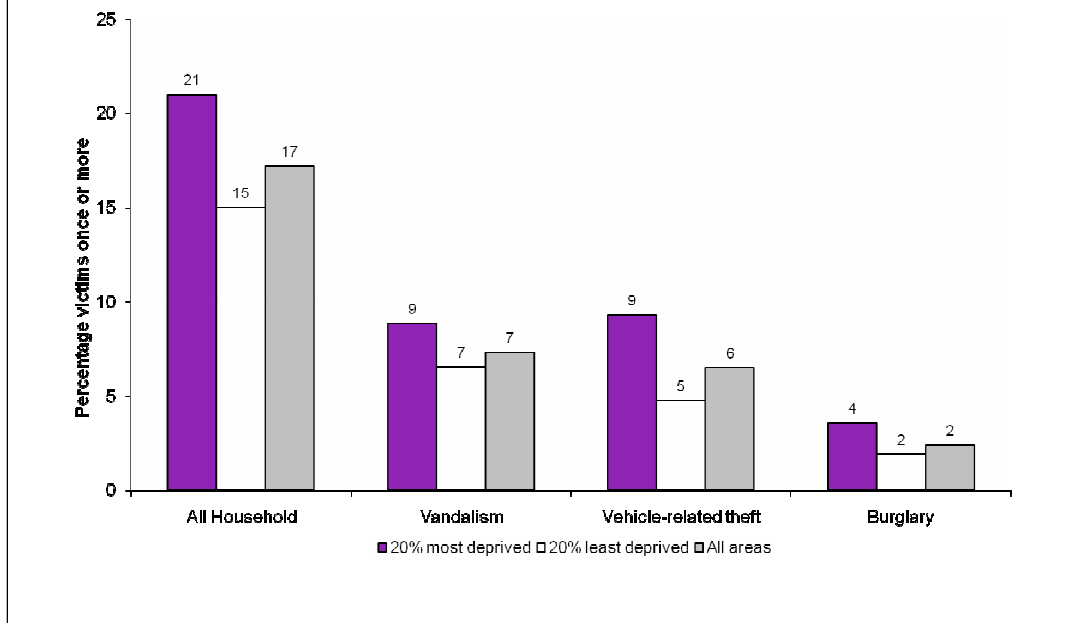
Similar findings when other deprivation indices used...

Looks at trends in crime over time, distinguishing between top and bottom 20% of areas based on employment deprivation...

To do this, the 20% most and least deprived areas (LSOA census geography) throughout England are first identified

Then this information is linked to the BCS sample each year, allowing us to track the levels of crime in these areas... Since 2001.

Variations in crime by level of deprivation



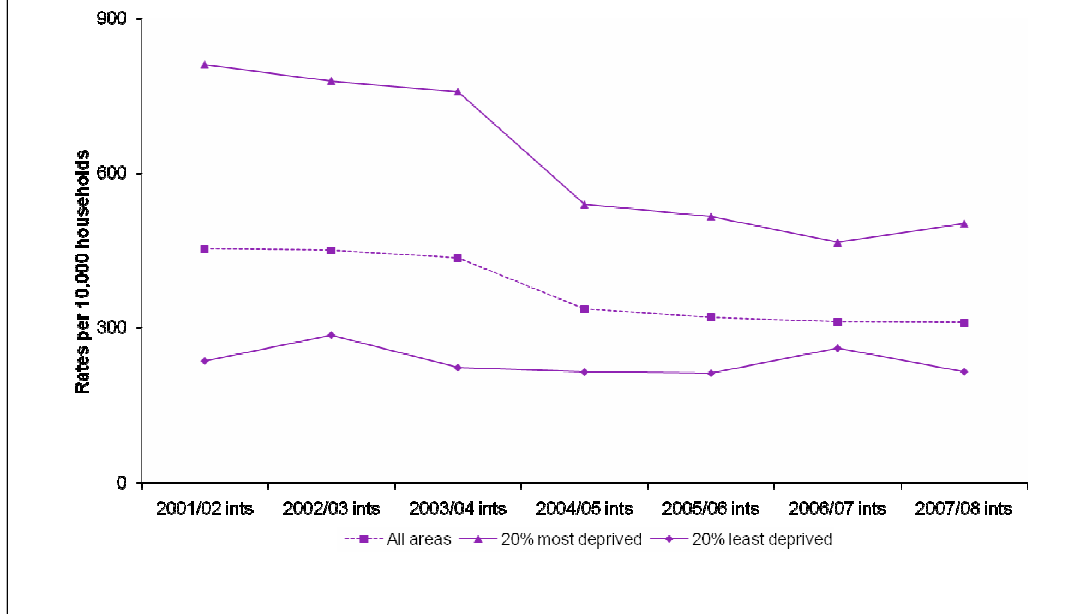
First, looking at basic differences in crime based on deprivation

As with other measures, there are some noticeable differences in crime between most and least deprived neighbourhoods.

With 21% of households in the 20% most deprived areas experiencing some form of household victimisation, compared to 15% of those living in the last deprived neighbourhoods

Same sort of picture when distinguish between vandalism, vehicle theft, and burglary..

Rate of burglary by level of deprivation (2001-2007)



If we look specifically at burglary for the last 7 years, we can get additional information...

Here we can still see the distinction between the most and least deprived areas in terms of the level of burglary (this time as a rate)...

But we also see that the differences between areas appear to be diminishing over time...

So the least deprived areas have experienced a largely stable level of crime over the years included – but in the most deprived areas there has been a clear drop in the burglary rate.... Any thoughts?

Summary

- Clear geographic variations regularly identified with the BCS
- ACORN used to provide additional detail
- Identifies similar pattern of variations
- IMD also identifies distinctions in levels of crime between most and least deprived

In summary then...

Clear geographic variations in crime and perceptions of crime are regularly identified with the British Crime Survey.

ACORN has been used to provide additional detail beyond simple geographic distinctions

See a similar pattern of variations using ACORN measures

The IMD has also been used, distinguishing the levels of crime between high and low deprivation areas.

- Kershaw, C., Nicholas, S., and Walker, A. (2008) 'Crime in England and Wales 2007/08. Findings from the British Crime Survey and Police Recorded Crime'. Home Office
- Rural/urban – <http://www.statistics.gov.uk/geography/nrudp.asp>
- ACORN - <http://www.caci.co.uk/acorn/>
- IMD - <http://www.communities.gov.uk>

Findings from Crime in England and Wales 2007/08

More information on rural vs urban from [statistics.gov.uk](http://www.statistics.gov.uk)

More information on ACORN from [caci.co.uk](http://www.caci.co.uk)

More information about IMD from [communities.gov.uk](http://www.communities.gov.uk)