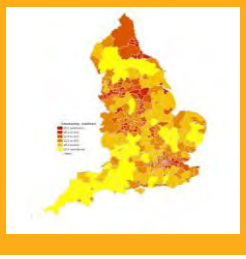
Research report

WHO IS READY FOR THE BIG SOCIETY?

Richard Sutcliffe
& Richard Holt

February 2011 Version 2



CONSULTING INPLACE

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17 February 2011

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TABLE OF CONTENTS

LIST OF FIGURES

LIST OF APPENDICES

1. Introduction

Will the Big Society succeed? The question has generated huge debate, some of it very technical, some of it very polemical, much of it generalising from small examples to large conclusions.

In this paper we take an approach grounded in statistics. Our focus is on England, partly because of data availability and partly because that is where the focus of Big Society policy initiatives is.

We ask two questions. The first is a simple one. Which local authority areas in England seem to be best prepared for the Big Society, and which the least prepared, ō l· ă Ŝ Ř ƨ y˝ f ƨ Ŏ l· f LJ Ŝ ƨ LJ f Ŝ Ω ă LJ l· NJ ű ǎ Ŏ ǎ LJ l· ű ǎ ƨ y˝ ǎ y˝ Ǿ ƨ decision making.

Our second question is not so straight forward. Are there any areas where the level of participation is surprisingly high or low, given the social and economic factors that are generally thought to explain participation? We think there are, and we call them the outriders and the unpersuaded. We suggest that their local circumstances may deserve close examination, to help understand not just who is ready for the Big Society, but also, why?

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2. Executive Summary

2.1 Who is ready for the Big Society?

In this paper we look to see which English local authorities appear to have communities which are already well placed to take up the challenges of the Big Society, and which are likely to need more support.

Our approach is essentially statistical, but informed by academic research and survey information on what drives people to participate in their local communities. We use indicators of the prevalence of volunteering, and whether people are involved in decision making in their local area, to identify the areas in England which are best set up to embark on the Big Society and which have catching up to do.

The evidence is that the five local authorities in England with the highest rates of volunteering are:

- West Devon
- Derbyshire Dales
- South Lakeland, Cumbria
- South Hams, Devon
- West Somerset

The five local authorities where people are most likely to feel they are involved in local decision making are very different. They are:

- Camden
- Tower Hamlets
- Kensington & Chelsea
- Hackney
- Chichester

So these may well be the 10 local authorities where members of local communities are best positioned to engage in the Big Society.

But in addition to these there are other English local authorities which do not score so highly, but where the degree to which local people participate is much higher than might be expected, given the main economic and social drivers that generally explain participation. We call these the outriders.

For volunteering, the main outriders are:

- Torridge, Devon
- Shropshire
- Chiltern, Buckinghamshire
- Bradford
- Erewash, Derbyshire

At a broader geographical level we find that much of Cornwall and Devon have rates of volunteering that are higher than would be expected, given their socio-economic

makeup. There is another significant cluster of outriders (i.e. better than expected performing districts) in West Yorkshire and bordering parts of Greater Manchester (Bradford, Rochdale, Oldham, Kirklees and Harrogate). We have also detected higher than predicted volunteering in districts such as Shropshire and Malvern Hills alongside Herefordshire.

For involvement in local decision making the main outriders are:

- Shropshire (as above)
- Malvern Hills, Worcestershire
- Chiltern, Buckinghamshire
- Stroud, Gloucestershire
- Bristol

More generally, in terms of involvement in local decisions we find better than predicted clusters of local authorities in much of the West Country, including Devon, Cornwall and Somerset, the Marches (Shropshire and Herefordshire), the Malvern Hills and Gloucestershire and in East Lancashire and West Yorkshire (Craven, Bradford, Kirklees, Calderdale, plus Rochdale and Oldham).

We think that all of these outriders deserve close attention, to understand why participation is higher in those places than our statistical models can explain. We suspect that in many cases the reasons are very local and it may not be possible to extrapolate them to other places, but if there are lessons to learn, then that would be potentially very valuable.

2.2 Who is lagging behind?

The 5 local authority areas in England where volunteering rates are, in contrast, lowest are:

- Hull
- Knowsley
- Sunderland
- South Tyneside
- Wandsworth

It therefore seems likely that these places would particularly benefit from support in raising their volunteering rates, to help them engage in the Big Society. The same is likely to be true for the five local authorities where local residents feel least involved in decision making. These are:

- Rochford, Essex
- Cannock Chase, Staffordshire
- Stockton-on-Tees
- Sunderland
- South Staffordshire

In addition to these, there are other local authority areas in England where participation rates may be a bit higher, but are nevertheless lower than we would expect, given local economic and social conditions. We call these the unpersuaded

and we think it would be useful to examine why participation in these areas is not higher. The five areas where volunteering rates are particularly low, compared with expectations, are:

- Wandsworth
- Eastleigh, Hampshire
- North Kesteven, Lincolnshire
- Spelthorne, Surrey
- Slough

At a broader level of geography, a number of areas in the east of the country, including places in Humberside, Lincolnshire, North West Norfolk and parts of Cambridgeshire, also seem to have populations which are unpersuaded of the benefits of volunteering, since these areas show lower than predicted levels of volunteering. Large parts of urban West Midlands fall into this category, including Birmingham, Lichfield, East Staffordshire and South Staffordshire. There are also clusters of communities on the South Coast with surprisingly low volunteering rates, including Eastleigh, Fareham and Portsmouth and Poole. There is a significant cluster of unpersuaded areas in the North East, notably Gateshead, Durham, North Tyneside and South Tyneside.

¢ K Ŝ Ŧ ƛ Ø Ŝ ŀ NJ Ŝ ŀ ă ǿ involvement in local decision making is Ŝ ſ ƛ ʃ Ǝ ƻ Ŧ particularly low, compared with what we would expect, are:

- Forest Heath, Suffolk
- North Kesteven, Lincolnshire
- Dacorum, Hertfordshire
- Fenland, Cambridgeshire
- West Lancashire

And we find other clusters with surprisingly low involvement in local decisions in the the Fens and South Lincolnshire; Essex; Tyneside, County Durham and Teesside; Leicestershire; Staffordshire & West Midlands metropolitan area; Merseyside, West Lancashire and parts of Greater Manchester; and West Cumbria . These unpersuaded areas are ones which we think would be particularly useful to study, to help understand what really needs to be done if people are to embrace the Big Society concept.

2.3 Explaining the patterns ςour methods

Our information on the extent to which people in England participate in the local community, either in terms of volunteering or in terms of involvement in local decision making, comes from official government statistical sources.

We have also found data on a variety of factors that academic researchers and others suggest are likely to explain variations in these measures of participation, and we have undertaken statistical analysis to identify which explanations have most credibility.

In this way we have been able to account for over two thirds of the variation in volunteering rates between different local authority areas. Amongst those

explanations that we tested, occupation and ethnicity appear to be particularly significant factors in explaining volunteering, as is the extent to which a local area is urban or rural.

Compared with volunteering, we cannot account for quite as much of the variation involvement in local decisions. But factors that do seem to be important Include age, ethnicity, and qualifications, so that people who live in areas with higher proportions of over 50s and with level 4 qualifications are more likely to be involved in local decision making than others. Living in the North East or the East of England also reduces the incidence of involvement across areas.

Our various outrider and unpersuaded local areas are ones that do not fit these standard patterns, in that their participation rates are (respectively) higher or lower than we are able to explain. This may be because of purely local factors, or it may be because of factors that we have not taken into consideration, because the existing academic research base does not suggest they are important. We therefore think it would be particularly valuable to study these places, to discover why they are distinctive, and what lessons can be learned from them with regard to preparedness to take on the challenges of the Big Society.

3. The Big Society and its critics

3.1 The government[illegible] ambition

[illegible] The Big Society [illegible] aims to move [illegible] [1] The rationale offered for this is that [illegible] that local [illegible] communities should take upon themselves greater responsibility for achieving fairness and opportunity for all. David Cameron, in a speech in June, sought to explain what the big society was, outlining three strands [illegible] social action, public service reform and community empowerment. He said that the new government would instigate a shift from "state action to social action".[2]

The Big Society idea comes hand in hand with plans to scale back the size of the state. On 20th October 2010 the Chancellor, George Osborne, confirmed that public expenditure will be reduced by 19 per cent in real terms over the term of the parliament. The government hopes that in place of public expenditure individuals, local communities and the voluntary and community sector (VCS) will respond by filling some of the gaps left in the wake of the largest deficit reduction programme of recent times.

Policy changes that the government intends to implement to deliver the Big Society include:

- Giving communities more powers [illegible] includes a radical transformation of the planning system to give neighbourhoods far more ability to determine the shape of their areas. New powers will be given to communities to save local facilities including the right to bid to takeover locally threatened services. A new generation of community organisers will also be trained, particularly in the most deprived areas of the UK.
- Encouraging people to take an active role in their communities [illegible] this policy area seeks to encourage volunteering and involvement in social action, through initiatives [illegible] philanthropy and a new National Citizen Service will be introduced.
- Transfering power from central to local government [illegible] promoting devolution of power and financial autonomy to local government including abolition of regional planning.
- Supporting co-ops, mutuals, charities and social enterprises [illegible] including the right for public sector employees to form co-operatives and bid to take over services they [illegible] dormant bank accounts.
- Publishing government data [illegible] the final policy area [illegible] where all governmental datasets can be requested and used by the public

[1] Cabinet Office (2010) *Building the Big Society* May 2010

[2] Asthana A (2010) *Coalition three months on: the big society* http://www.guardian.co.uk/politics/2010/jul/31/big-society-coalition-david-cameron

In addition to these broad policy areas, four flagship communities of the Big Society have been announced ςLiverpool, Eden, Windsor & Maidenhead and Sutton. These areas will be the recipients of extra powers from central government and will implement a range of initiatives from devolving budgets to communities, to developing local transport services, taking over local assets (such as pubs), piloting open-source planning, delivering broadband to local communities, generating energy and ςin Liverpool ϕbuilding a volunteer programme to keep local museums open for longer.[3]

3.2 Policy concerns

The Big Society initiative has helped to provoke a wider debate about the appropriate size of the state, the role of government, and the economic prospects for the UK. Leaving aside questions regarding the ability of the private sector to generate the jobs the UK economy needs, the Big Society has faced scepticism from a number of critics who suggest that its success as a policy may not materialise.

One initial area of concern is lack of resources. Even before the announcement of the Comprehensive Spending Review (CSR), there were criticisms from many quarters about an apparent disconnect between cutting voluntary and community sector (VCS) budgets through the CSR process and the long-term emphasis placed on their importance to the success of the Big Society. The CSR contained a £100m transition fund for VCS organisations most at risk from reductions in public sector funding. While this was welcomed in principle, some commentators have said that they fear it may not be enough to maintain the VCS infrastructure already in place in the UK.[4] It is thought that the fund is primarily intended for those charities with incomes between £50,000 and £10m, that rely on the state for more than 30% of their funding.[4] There is a concern however that those organisations below the threshold will not have the necessary support to survive through this challenging period. This may lead to a shift in power to larger organisations, reducing one of the advantages of delivering services through voluntary groups.

Some commentators also fear that many people will simply not have enough time to contribute to the Big Society. Success for the new policy depends in part on individuals having enough time available to engage in local action. But it has been suggested that low income workers with large family commitments may struggle to find time to contribute.[5] Contrarily, there are concerns that long working hours and long commutes mean that many full time, middle income workers may struggle to be able to contribute to the Big Society. In a 2007 survey, 41 per cent of people who had stopped volunteering said that they had done so because they did not have enough time. Similarly, a Hansard Society poll asked people who said they wanted to be involved in political decision making but who did not feel that they had any influence what the reasons were: around 40% gave lack of time as the main reason.[6]

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[3] Thelwell E (2010) *David Cameron launches Big Society scheme* http://www.channel4.com/news/articles/politics/domestic_politics/david+cameron+launches+big+society+scheme/3715737

[4] Curtis P (2010) *Axe on charities 'risks wrecking big society'* http://www.guardian.co.uk/politics/2010/oct/24/charities-axe-wreck-big-society-commission

[5] New Economics Foundation (2010) *Ten Big Questions about the Big Society and ten ways to make the best of it*

[6] Kelly J (2010) *How do you find time to build the Big Society?* http://www.bbc.co.uk/news/magazine-10701101

A further, but related, issue is the ability of all groups across society to be able to participate in the Big Society. Not all individuals have the same capacity to help themselves and others. Capabilities may depend on education and income, family circumstances and environment, knowledge, confidence and a sense of self-efficacy, and access to the places where decisions are taken and things get done.[7] Not all people have the same endowments of these qualities. This could mean that the most vulnerable in society may benefit least, with better endowed areas more able to take the opportunity to benefit from the Big Society ς widening social inequality in the process, rather than reducing them.

A fourth area of concern is that within the Big Society there are no plans to encourage collaboration between charities, social enterprise and local communities, and if anything increased pressure to bid for resources. This is particularly pertinent given the significantly reduced resources available. Some commentators argue that this could lead to further polarisation of opinions, competing agendas and eventually more social discord. All of which would violate a central tenet of the big ă ƨ Ŏ ƛ Ŝ ű è Ɩ Ǝ Ŝ ƴ Ř Ɩ ǘ K ǚ K Ɩ ǖ ƨ Ǝ Ŝ ű K Ŝ NJ Φ Ω[8] Ɩ ƭ ƭ ƛ ƴ

A final issue for some commentators is the involvement of the private sector (and professionalised charities to a certain extent) in bidding for and running local services. One concern is the influence of commercialisation, and the possibility that this will change the ethos of public service delivery, affecting outcomes in a framework of perhaps misaligned objectives.[9]

3.3 Rationale and structure of this research

Many of the key issues related to the Big Society manifest themselves as spatial inequalities. While individuals will to varying degrees be better placed to participate in the Big Society, it is the nature of how groups with shared characteristics, social norms and attitudes tend to cluster in geographical areas that will be a key dynamic for the ultimate success of this policy initiative. The New Economics Foundation claim that the Big Society:

> Ψ t Ɩ è ă ƴ ƨ Ɩ ű ű Ŝ ƴ ű ƛ ƨ ƴ ű ƨ Ŧ ƨ NJ Ŏ Ŝ ă ǿ ƛ ű K ƛ ƴ Ƴ ƨ Ř Ŝ NJ ƴ wealth and power in the hands of a few at the expense of others. Nor does it recognise that the current structure of the UK economy selectively restricts the ability of citizens to participate Φ[8] Ω

It must surely be true that some localities will be better placed to benefit from the Big Society, while others may be in danger of losing out as a result of the policy, unless their specific challenges are addressed. This observation forms the rationale for this research report. We aim to explore some of the spatial patterns which may affect differences in the success of the Big Society across different localities.

Chapter 2 presents our theoretical framework, where we draw on the Social Capital Literature and develop a framework to examine the spatial nature of the Big Society. Chapter 3 presents our estimation procedure while Chapter 4 examines data to benchmark the state of the Big Society at the local level. Chapter 5 looks at our results and Chapter 6 presents some implications. Finally, Chapter 7 concludes.

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7 New Economics Foundation (2010) *Ten Big Questions about the Big Society and ten ways to make the best of it*

8 New Economics Foundation (2010) */ dz ű ű ƛ ƴ Ǝ ƛ ű Y ¢ K Ŝ Ψ . ƛ Ǝ { ƨ Ŏ ƛ Ŝ ű è Ω Ɩ ƴ Ř ű K Ŝ ƴ Ŝ ǿ Ɩ dz ă ű Ŝ*

9 Ibid Footnote 8

4. Theoretical frameworks: existing & new research

4.1 Research into participation

To understand likely geographical differences in the implementation of the Big Society, we need to understand the economic and social factors that influence [illegible] involve.

A number of research programmes provide possible insight into this. For example, [illegible] Council for Voluntary Organisation (NCVO) in partnership with the Institute of Volunteering Research (IVR). The project, funded by the Big Lottery Fund, aims to explore how and why people get involved and stay involved in different forms of participation over the course of their lives. As part of the project, a literature review summarises the existing research on participation ςdefined in its broadest sense to include the act of taking part in a wide range of social and civic activities, from formal volunteering to purchasing fair trade goods. Figure 4.1 outlines the typologies of participation identified within the literature and provides a summary of the evidence on each.

Figure 4.1: Participation typology and summary characteristics

Type	Summary Characteristics
The voter / traditional public participant	Typically white, aged 65 and above, middle class, professional higher earners and both male and female
Local-level public participant	Vary according to activity but generally are more likely to be white, older, better educated, richer, middle-class males.
The online public participant	The typical online public participant is well educated, and from a marginally higher than average social grade, and both male and female
The formal volunteer	Typically women, of higher social grades, in managerial positions, degree educated and middle aged. Likely to volunteer formally but there are differences across the different types of formal volunteering
The charitable giver	The typical charitable giver is likely to be professional, white, female, aged over 24, religiously affiliated and living in a childless household. Higher earners are more likely to give, but not proportionately
The consumer activist	Inconclusive: initially it was thought that younger female adults were more likely to be ethical consumers but recent studies [illegible] people shop ethically are also being challenged

Source: Brodie E et al (2009) Understanding participation: A literature review *Pathways through Participation*

From this evidence, we conclude that appropriate explanatory factors to investigate as part of our modelling exercise are likely to include Age, Ethnicity, Occupation, Earnings, Qualifications and Gender.

4.2 Research into social capital

An alternative approach to that which stresses participation looks instead more ōNJ2 l Ř ƭ è l ű ű K Ŝ LJ2 ă ă Ŝ ă ă ⅄ 2 ȳ 2 Ŧ Ψ ă 2Ŏ ⅄ l ƭ Ŏ l LJ⅄ ű l with the American Sociologist, Robert Putnam.[10] Social capital is defined by the OECD to be:

ά b Ŝ ű ø 2NJ ʅ ă ű 2 Ǝ Ŝ ű K ŜNJ ø ⅄ ű K ă K l NJŜ Ř ȳ 2NJ Ŷ ă Ŧ operation ø l ƭ dz Ŝ ă l ȳ ø ⅄ ű K ⅄ ȳ 2NJ l Ƴ 2 ȳ Ǝ Ǝ NJ2 dzLJ ă Φ έ[11]

A set of mechanisms through which the Big Society is intended to operate is via the handing down of power to localities, with the objective of making decision making more accountable, and encouraging citizens to take a more active role in their local communities. Glaeser et al (2002) highlight the role that they say repeated social interaction can play in solving so-Ŏ l ƭ ƭ Ŝ Ř order Ψ ŦLJNJŜ 2 ō ƭ Ŝ Ƴ ă Σ ø K ŜNJŜ ⅄ ȳ Ř ⅄ out of responsibility for maintaining the local social fabric.[12] They and other writers argue that social connections can substitute for missing or expensive legal structures, in facilitating investment, co-operation and other transactions.[13]

L ű ⅄ ă Ŏ ƭ Ŝ l NJ ű K l ű ű K ⅄ ă Ŏ 2 ȳ Ŏ ŜLJ ű dz l ƭ ⅄ ă l ű ⅄ 2 ȳ ű l ƭ ambition to scale back the state, replacing it with a stronger civil society. Glaeser et al develop a model which they say links traditional concepts of investment in physical and human capital to the concept of social capital. Their model considers social capital to be a subset of human capital, and it generates a set of predictions that the authors suggest are supported by empirical evidence. These are:

- Social capital first rises and then falls with age
- Social capital declines with mobility
- Social capital is higher in occupations with greater returns to social skills
- Social capital is higher among homeowners
- Social connections fall sharply with physical distance
- People who invest in human capital also invest in social capital

4.3 Geographical variations

L ű ⅄ ă l ƭ ă 2 LJ2 ă ă ⅄ ō ƭ Ŝ ű K l ű ű K ŜNJŜ l NJŜ Ǝ Ŝ 2 ƎNJ l LJK the Big Society, over-and-above the factors that other researchers have used to explain participation rates and social capital.

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[10] Putnam R (2000) *Bowling Alone: The Collapse and Revival of American Community*

[11] OECD (2001) *The well being of nations: the role of human and social capital*

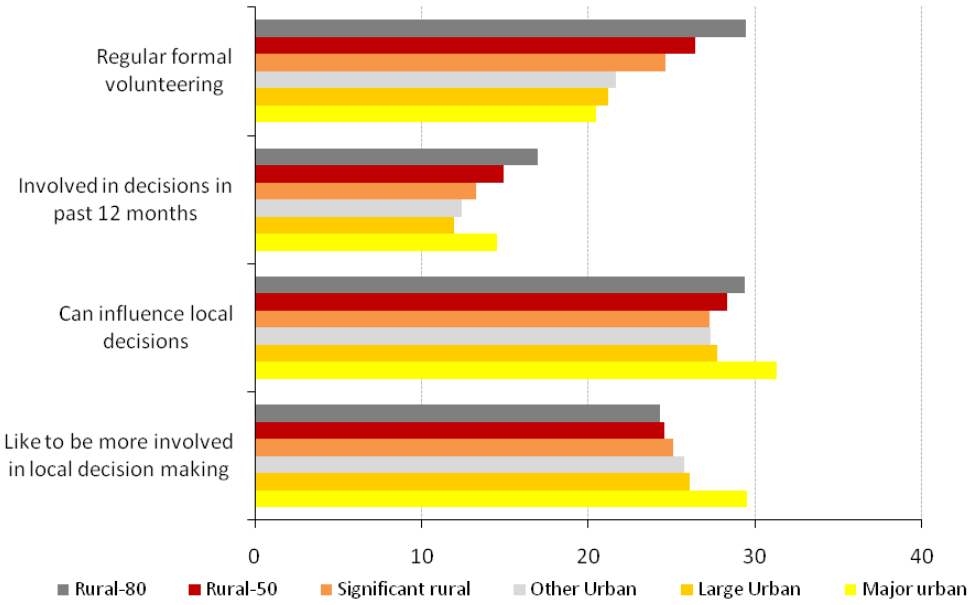
[12] D ƭ l Ŝ ă ŜNJ 9 Σ [l ⅄ ō ă 2 ȳ 5 l ȳ Ř { l Ŏ ŜNJŘ 2 ű Ŝ *The Economic Journal* (112) F437-458

[13] C 2NJ Ŝ È l ƳLJ ƭ Ŝ ă ă Ŝ Ŝ DNJ⅄ Ŝ Ŧ ! ó м ф ф о ú Ψ / 2 ȳ ű NJ Ŏ Ŝ ȳ Ŧ 2 Ŏ l ⅄ ű ⅄ / 2 l ƭ ⅄ ű ⅄ 2 *American Economic Review* (83-3) 525-48 and Arrow K (1972) Gifts and exchanges *Philosophy and Public Affairs* (1-4) 343-362

4.3.1 Rural-urban variations

The most obvious candidate here is a rural-urban split, reflecting the common perception that rural communities are more strongly bound together than urban ones. To investigate this Figure 4.2 presents mean values of four indicators of LJŜ ƨLJ ƭ ŜΩ ă ăŜ ƴ ă Ŝ ƨ Ŧ ƛ ƴØƨ ƭ ØŜƳŜ ƴ ű ƛ ƴ ƭ ƨŎł ƭ ł ŦŦ l and Urban area classification of local authority districts.[14] The six DEFRA classes run from most urban (1: Major Urban) to most rural (6: Rural-80) on a scale of 1 to 6.[15]

Figure 4.2: Big Society indicators by urban-rural classification



Source: National Audit Office (2008) *National Indicator dataset* © Crown Copyright. All rights reserved.

As the diagram illustrates, participation in regular formal volunteering tends to increase as an area becomes more rural, from just over 20 per cent of the adult population participating in major urban areas to nearly 30 per cent in the most rural communities.

Involvement in decisions generally follows the same trend of increasing involvement with degree of rurality, except for the case of major urban areas which are more alike to rural-50 areas as opposed to large urban areas in terms of their involvement. Indeed, when looking at whether people agree that they can influence local decisions, a greater proportion of individuals in major urban areas agree with the statement compared to all others.

The desire to be more involved however runs opposite to the general trends identified in previously discussed indicators. As an area becomes increasingly urban, its residents say they would like to be more involved in decisions in the local area.

[14] Department of Environment, Food and Rural Affairs (2009) *Defra Classification of Local Authority Districts and Unitary Authorities in England: An Introductory Guide* http://www.defra.gov.uk/evidence/statistics/rural/rural-definition.htm

[15] The *Significant Rural* group includes Local Authorities with more than 26 percent but less than 50 percent of their population in rural settlements and larger market towns. The *Rural-50* group includes Local Authorities with at least 50 percent but less than 80 percent of their population in rural settlements. The *Rural-80* group includes Local Authorities with over 80 percent of their population in rural settlements

This increases from 24 per cent in rural-80 areas to nearly 30 per cent in major urban areas.

4.3.2 Regional variations

Another possibility is that Big Society readiness varies across broader regional areas. There is for example a common perception that communities in the north of the country are stronger than in the south. In fact there is strong evidence of regional variations, but not necessarily in the manner commonly expected. As Figure 4.3 shows, evidence from the National Audit Office suggests that formal volunteering is highest in the South West (28.2 per cent) and by a relatively large margin, with the next closest region having a rate of 24.7 per cent (South East). Regular formal volunteering is lowest in the North East (18.1 per cent) followed by London (20.8 per cent). For each variable (in each row) the grey box indicates the minimum value while the orange box indicates the maximum value for that indicator.

Figure 4.3: Big Society indicators by region (% of the working age population)

	East Midlands	East of England	London	North East	North West	South East	South West	West Midlands	Yorkshire & Humber	Average
Regular formal volunteering	23.4	24.9	20.8	18.1	22.7	24.7	28.2	22.5	24.0	23.9
Involved in decisions in past 12 months	13.5	13.3	17.3	11.1	13.1	14.1	16.1	12.8	14.1	14.1
Can influence local decisions	28.2	28.6	35.2	28.7	27.5	28.1	27.8	27.3	27.8	28.7
Like to be more involved in local decision making	24.3	24.7	32.7	24.6	27.0	26.6	24.3	25.1	24.4	26.1

Source: National Audit Office (2008) *National Indicator dataset*

London local authority areas tend to illustrate why it is important to take both dimensions of participation into account. Many of them have amongst the lowest volunteering rates, but they also show some of the highest proportions of local population involved in decisions in the past 12 months, or who feel that they can influence decisions, or who would like to be more involved in local decision making.

There is low involvement in local decision making in the North East (11.1 per cent) and the West Midlands (12.8 per cent). The West Midlands also has the lowest proportion of individuals who feel that they can influence local decisions (27.3 per cent), followed by the North West (27.5 per cent), Yorkshire and the Humber and the South West (27.8).

Intentions about becoming more involved in local decisions are lowest in the East Midlands and the South West (24.3 per cent) and highest in London (32.7 per cent), the North West (27 per cent) and the South East (26.6 per cent).

Our conclusion is that both rural-urban splits and regional identities need to be taken into consideration in looking for explanations of Big Society readiness, but that in neither case do simple generalisations provide clear cut answers.

5. Data

5.1 Big Society indicators

In this paper we are interested in the readiness of different places to engage in, and create, the Big Society. We have therefore sought to identify some Big Society indicators, and also to identify factors, suggested by the theoretical models in Chapter 2, that may explain the distribution of Big Society readiness. In particular, we are interested in indicators at the district or local authority level, which restricts our choice.

Our four likely indicators of the Big Society are those already referenced in the previous chapter. These are listed in Figure 5.1.

Figure 5.1: Four Big Society indicators

Indicator	Variable	Source	Year
Regular formal volunteering	Proportion of the adult population participating in regular, formal volunteering	National Indicator dataset (NI6)	2008
Involved in decisions in past 12 months	Proportion of the adult population who say they have been involved in decisions that affect their local area in the past 12 months	National Indicator dataset (NI3)	2008
Can influence local decisions	Proportion of the adult population who agree they are able to influence decisions in their local area	National Indicator dataset (NI4)	2008
Like to be more involved in local decision making	Proportion of respondents who say they would like to be more involved in the decisions that affect their local area	Place Survey	2008

These indicators are chosen because they are available for local areas and they correspond to our prior conceptions of what Big Society readiness might comprise. In particular, we consider that *Volunteering* and *Involvement in local decisions* are indicators of participation, and that the *Ability to influence* and the *Desire to be more involved* are measures of social capital.

Figure 5.2 presents descriptive statistics for these indicators. On average, almost a quarter of the adult population say that they regularly volunteer. This ranges from 14 per cent in some areas to 36 per cent in others. On average, 14 per cent of individuals say they have been involved in decisions that affect their local area in the past 12 months, and 29 per cent say they can influence decisions in their local area. Just over a quarter of individuals on average in an area say they would like to be more involved in the decisions that affect their local areas.

Figure 5.2: Big Society indicators for 2008 - Descriptive statistics

Indicator	Observations	Minimum value (%)	Maximum value (%)	Mean value (%)
Regular formal volunteering	325	14.0	35.9	23.9
Involved in decisions in past 12 months	325	7.6	25.7	14.1
Can influence local decisions	325	19.8	45.7	28.7
Like to be more involved in local decision making	325	17.2	39.1	26.1

Source: National Audit Office (2008) *National Indicator dataset*

5.2 Explanatory factors

Based on the discussion in Chapter 2 we have identified a number of possible factors that may explain differences in participation and social capital. These are set out in Figures 5.3 and 5.4.

Figure 5.3: Explanatory factors: participation

Explanatory factor	Indicator: All data from 2009	Source
Occupation	% of all people in employment who are:	APS, ONS
	managers and senior officials	
	professionals	
	associate professional & technical	
	administrative and secretarial	
	skilled trades	
	personal services	
	sales and customer services	
	process, plant and machine operatives	
	elementary occupations	
Qualifications	People aged 16-64, % with NVQ levels:	APS, ONS
	4+	
	3+	
	2+	
	1+	
	other qualifications	
	no qualifications	
Ethnicity	% of population aged 16-64 who are	APS, ONS
	white	
	from ethnic minorities	
Age	% of all 16+ who are aged	APS, ONS
	16-24	
	25-49	
	50+	

Note: While we identify gender as an explanatory factor in the research literature, it does not serve as a useful explanatory variable in this context as there is little difference between local areas in the overall proportions of males and females ςhence we exclude from the analysis

Figure 5.4: Explanatory factors: social capital

Explanatory factor	Indicator	Source
Mobility	% population who are owner-occupiers	Census 2001, ONS
Mobility	% of population who are married	Census 2001, ONS
Human capital	% in employment working more than 45 hours	APS 2009, ONS
Human capital	Median weekly earnings	AHSE 2009, ONS
-	% who think that anti-social behaviour is a problem in their local area	Place Survey 2009, NAO

6. Estimation procedure

6.1 Introduction

Our approach has been to build a multivariate model to help explain the differences between areas as measured by our four identified Big Society indicators, and as explained by a range of alternative explanatory factors.

As is often the case, our modelling strategy is substantially determined by the data we have access to. In this study, the cross-sectional nature of our dependent variables, for only a single year, means that we cannot account for endogeneity or omitted variables bias using techniques such as fixed or random effects. Another strategy would have been to use Instrumental Variables, but in this case it is difficult to find variables that co-vary with the explanatory variables but are uncorrelated with error terms, for the wide range of socio-economic variables we seek to account for in this study - so this approach was not available to us. Instead, our strategy to minimise the possibly of endogenous variables has been to estimate separate models for each potential indicator of the Big Society, selecting variables on the basis of minimising co-variance using Pearson correlation coefficients. We use an Ordinary Least Squares (OLS) estimator.

6.2 Base model

The base equation we model is shown in (1). Our variables are expressed in rates, so we do not seek to estimate a log-linear model.

$$y = a + b_1.occ + b_2.qual + b_3.eth + b_3.age + e \quad (1)$$

Where *y* represents our measure of Big Society, *occ* is an indicator of occupations, *qual* is a measure of qualifications, *eth* represents a variable regarding the ethnicity of a local area and *age* captures the proportion of the population of a cert l· ǎ ƴ l· ∃ Ŝ Φ h ǎ ă l· Ŏ ƨ ƴ ă ű l· ƴ ű Σ j Ω ă l· NJŜ Ŏ ƨ Ŝ Ŧ Ŧ ǎ Ŏ ǎ Ŝ ƴ ű Ŝ ă ű ǎ Ƴ l· ű Ŝ

6.3 Expanding the model

We also account for regional effects and rural / urban area distinctions. We do so through dummy variables which equal 1, for example, if a local authority area is in the West Midlands, and 0 otherwise. We create the urban-rural dummy variables using a classification scheme by the Department for Food and Rural Affairs (DEFRA). We also add variables accounting for social capital within a local area in a variant of the above base specification. Our strategy is to pool all these variables together, and then remove insignificant correlates.

We test for the assumptions of a best linear unbiased estimator and build such considerations into our estimation procedure to best satisfy the following:

- Linearity – the relationship between the dependent and explanatory variables should be linear
- Independence – explanatory variables should be independent of one another
- Homoskedasticity – errors in the model should have constant variance
- Normality – the error terms in the model should fit a normal distribution

We select a single variable to represent each factor indentified as important by our literature review to maximise the independence of explanatory variables in the model (e.g. managerial and professional occupations are likely to have a high degree of correlation – leading to misleading results). We do this by examining a matrix of Pearson correlation coefficients and selecting a single variable with the highest levels of covariance between other potential indicators for that factor. This reduces the co-linearity (lack of independence) between our explanatory variables.

The results are shown in Chapter 7, with full outputs and test statistics in Appendix I and Appendix II.

7. Results

7.1 Introduction

In this chapter we present the results for four separate models for each of our indicators of the Big Society: volunteering, involvement in local decisions, influencing the local community and feelings toward future participation.

7.2 Volunteering

Figure 7.1: Volunteering regression models

	Base		Model 1		Model 2		Model 3		Model 4	
const	-6.64	**	20.55	***	1.54		20.17	***	19.38	***
Professionals	0.24	***	0.07		0.28	***	0.23	***	0.16	***
NVQ1	0.26	***	0.03		0.18	***	0.13	***	0.01	
Age50_over	0.32	***	0.23	***	0.29	***	0.10	***	0.10	***
White	-0.08	**	-0.10	***	-0.08	***	-0.10	***	0.27	*
Hours			0.00							
Emp_rate			0.14	***					0.04	
Owneroccupied			-0.12	***					-0.02	
ASB			-0.33	***					-0.46	***
Marriage			0.03							
East Midlands					-0.58		-1.12			
East of England					0.40		-0.08			
London					-2.69	**	-1.69	*	-1.30	*
North East					-5.46	***	-3.54	***	-2.93	***
North West					-1.49		-0.09			
South East					-0.89		0.02			
South West					1.99	**	2.08	***	2.70	***
West Midlands					-1.80	*	-0.96		-0.86	*
Major_urban							-8.04	***	-6.10	***
Large_urban							-7.09	***	-5.65	***
Other_urban							-6.77	***	-5.07	***
Sig_rural							-4.03	***	-3.09	***
Rural_50							-2.80	***	-1.97	***
sq_White									0.00	***
sq_ASB									0.01	***
Adj. R^2	0.35		0.51		0.44		0.67		0.70	
F	44.8		37.6		21.9		39.4		43.2	

Source: Consulting Inplace (2010). Note: Number of Observations: 324. *** Statistically significant at 99% level, ** 95% and *90% Dependent Variable: % of the adult population who formally volunteer on a regular basis. Note: Yorkshire &Humber and rural-80 dummy variables omitted because of co-linearity.

7.2.1 Base regression

In our base regression, our model explains 35 per cent of the variation in the rate of volunteering and represents a significant model fit as indicated by a high F value. The coefficient estimates (C.E.) show that all four variables are statistically significant at the 95 per cent level. The proportions of the working age population who work in professional occupations is positively correlated with volunteering, as the literature suggests. The coefficient estimate shows that for every 1 percentage point increase in the proportion of the working age population working in a professional occupation, the rate of volunteering rate increases by 0.24 per cent.

Similarly, the proportion of individuals with level 1 qualifications and above is positively related to the rate of volunteering, increasing the rate by 0.26 per cent at the margin (i.e. 1% increase in the proportion with NVQ1+, increases volunteering by 0.26 per cent). This is also statistically significant at the 95 per cent level. Our measure of Age is positively (as expected) correlated to volunteering and statistically significant.

Ethnicity as an explanatory factor in our model, however, does not behave as anticipated. As we noted in Chapter 2, the academic literature predicts that a higher proportion of white people in an area should be positively associated with volunteering. Our evidence suggests that the reverse is the case. This could be due to an omitted variables bias Ça ubiquitous problem in applied statistical analysis. For example, if the ethnicity of an area is strongly correlated with how urban the area is, then the statistic in this variable could be presenting a misleading correlation. I.e. implying that ethnicity strongly affects volunteering, whereas it is urbanisation that generates the result.

Strategies to minimise this type of bias include expanding the number of explanatory variables in our regression, instrumental variables, or using panel data (fixed and random effects). Expanding the regression model is the only strategy available to us because we only have a single cross-section of data, and because as we noted in the previous chapter, it is not possible to find good instrumental variables for the independent variables that we are using. We nevertheless believe that our result on ethnicity is likely to be robust.

Our base model regression diagnostics show that assumptions for linearity, homoskedasticity and colinearity are not violated. However, our residuals are not normally distributed. It is unlikely therefore that this specification is the best unbiased estimator of the volunteering rate. This further emphasises the need to expand the model to include wider variables.

7.2.2 Expanding the model

We expand the model using three sets of additional data:

- Social capital explanatory factors
- Dummy variables for regions
- Dummy variables for urban-rural classifications

In model 1, we expand the model to include social capital explanators. We enter variables for Home-ownership (*own-occ*), Marriage, Hours worked (*Hours*), and Employment Rate (*Emp_rate*) and Anti-social behaviour (*ASB*). Three of our five additional explanatory variables entering into the model are significantly correlated with the rate of volunteering. The adjusted R^2 increases from 0.35 in the base specification to 0.51 in model 1, indicating a better model fit.

The three significant variables entering are those related to the employment rate, proportion of the population who are owner-occupiers, and perceptions of anti-social behaviour.

In model 2 we also include the effects of regional dummy variables on the base specification. Four of these dummy variables enter significantly but at differing f ŝ Ø Ŝ f ă ƨ Ŧ ă ƛ ∃ ƴ ƛ Ŧ ƛ Ŏ ǀ ƴ Ŏ Ŝ Φ ¢ Ƙ Ŝ Ƴ ƨ Ř Ŝ f Ω ă ∃ ƨ ƨ Ř ƴ Ŝ ă improves although with a lower F-statistic. The North East dummy has a negative association with volunteering, which is significant at the 95 per cent level of confidence, while the South West has a positive correlation at the 95 per cent level.

We develop the model further by expanding to include rural-urban area dummy variables in Model 3. All five dummy variables enter significantly at the 95 per cent level, while the adjusted R^2 statistic increases to 67 per cent. The F-statistic improves while the effects of the base variables, while reduced, do not change hugely from the previous specification. The one exception is age, which now sees its influence over volunteering reduced as a result partly of inclusion of the rural-urban classification. It would therefore appear that age was picking up the differences in volunteering rates between Urban and Rural areas, where the former has in general a younger population and the latter, an older population. This specification violates the linear assumption in the OLS model, so is not a consistent estimator.

Finally, in model 4, we combine specifications by entering significant variables from model 1 into model 3, and we remove insignificant variables from the specification. Here we find the model fit increasing to 70 per cent, with the F-statistic increasing. We include the squares of our Ethnicity and Anti-social behaviour variables to control for non-linearities. We lose the effect of qualifications in terms of statistical significance.

We consider model 4 to be the best fit model of volunteering.

7.2.3 Involved in local decisions

Our second dependent variable that we test is the proportion of the population aged over 16 who say they have been involved in decisions that affect their local area in the past 12 months.

We estimate a slightly different model for this dependent variable. We test using the base specification for volunteering, but the model does not perform as well, with some variables appearing insignificant and a lower adjusted R^2 value.

We therefore select a revised set of variables of each of our main factors. Our model is shown in Figure 7.2 with our base specification appearing in the left hand column. We replace % in professional occupations with % in associate professional

occupations, and NVQ1+ with NVQ4+, and we follow a similar strategy to that described in Section 7.2 for our volunteering model, in terms of the inclusion of social capital measures and dummy variables.

Figure 7.2: Involved regression models

	Base		Model 1		Model 2		Model 3		Model 4	
Const	9.69	***	22.27	***	9.86	***	19.96	***	21.90	***
Assoc_pro	0.13	**	0.06		0.11	***	0.12	***	0.09	**
NVQ4+	0.14	***	0.05	**	0.12	***	0.08	***	0.08	***
Age50_over	0.17	***	0.18	***	0.15	***	0.03		0.10	***
White	-0.10	***	-0.10	***	-0.08	***	-0.09	***		
Hours			0.07	**					0.01	
Emp_rate			0.01							
Owneroccupied			-0.21	***					-0.15	***
ASB			-0.12	***						
Marriage			0.03							
East Midlands					-0.52		-0.82			
East of England					-0.97		-1.27	**	-1.14	***
London					0.46		1.06			
North East					-2.57	***	-1.51	**	-1.80	***
North West					-1.18	*	-0.41			
South East					-1.05	*	-0.42			
South West					1.01		0.92			
West Midlands					-1.44	**	-0.84			
Major_urban							-4.89	***	-4.49	***
Large_urban							-4.76	***	-4.42	***
Other_urban							-4.30	***	-4.18	***
Sig_rural							-3.37	***	-3.10	***
Rural_50							-2.02	***	-1.78	***
sq_ASB									-0.0002	
sq_White									-0.0005	***
Adj. R^2	0.30		0.45		0.36		0.56		0.60	
F	36.0		30.6		16.0		24.9		36.0	

Source: Consulting Inplace (2010) Note: *** Statistically significant at 99% level, ** 95% and *90%
Dependent Variable: % of the adult population who have been involved in decisions that affect the local area in the past 12 months. Yorkshire &Humber and rural-80 dummy variables omitted because of co-linearity.

Our base specification shows a reduced F-statistic and lower adjusted R^2 compared to the volunteering base specification. All entered explanatory variables are statistically significant (at the 95 per cent level). Age explains the greatest positive variation in this specification (0.17) and ethnicity shows the greatest negative association with involvement in local decisions. Again, our base regression model does not perform well in terms of satisfying assumptions. In particular, the assumption that the relationship between explanatory and independent variables are linear does not hold.

Adding further explanatory variables in Model 1 removes some of the predictive power within our base variables, where our measure of occupation (*Assoc_prof*) becomes statistically insignificant at the 90% level. *Age*, *ethnicity* and *Qualifications* remain significant, although the predictive power of qualifications is reduced by the effect of *hours worked*, *owner-occupation* and *anti social behaviour*. While performing better in terms of model fit, we still detect a small level of heteroskedasticity and the issue of non-linearity remains.[16]

Model 2 adds regional dummy variables, with Dummies for the North East and West Midlands entering significantly at the 95% level. Model 3 adds further dummy variables controlling for the urban or rural nature of a local area. All of these dummy variables enter significantly at the 99% level, all with negative correlation with our dependent variable. While we would expect a rural area to have a positive influence on involvement in local decisions, our modelling implies that this is not the case. However, the more rural characteristics have a *less* negative coefficient estimate compared to urban characteristics, justifying its inclusion within the model. However, regression diagnostics still indicate non-linearity.

Our non-linearity test involves entering squared variables into a regression, and testing the statistical significance of the difference in the model and the original specification. From this we have identified two non-linear variables (i.e. squared terms) which appear to have, prima facie, a strong association with the rate of volunteering. We enter these non-linear variables into our specification by replacing *white* with $white^2$ and *ASB* with ASB^2. This specification improves regression diagnostics significantly, with coefficients not changing markedly. We consider this non-linear model to be our preferred model for this dependent variable.

Based on the final specification, we conclude that involvement in local decisions is strongly correlated with age, ethnicity and qualifications çe.g. people who live in areas with higher proportions of over 50s and with level 4 qualifications are more likely to be involved in local decision making. Living in the North East or the East of England reduces the incidence of involvement across areas, while the more urban an area is, the less involved the population.

7.3 Influence over local decisions

The third Big Society indicator is the extent to which individuals in a particular local area feel they have the ability to influence decisions. Again, we present a slightly altered set of specifications for this dependent variable as shown in Figure 7.3 below.

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Figure 7.3: Influence regression models

Variable	Base		Model 1		Model 2		Model 3		Model 4	
	C.E.	Sig	C.E.	Sig	C.E.	Sig	C.E.	Sig	C.E.	Sig
Const	37.04	***	57.97	***	33.87	***	39.13	***	43.95	***
Professional	0.02		0.02		0.04		0.04		0.05	
NVQ4+	0.16	***	0.07	*	0.15	***	0.14	***	0.04	
Age50_over	0.05		0.02		0.06	*	0.00			
White	-0.17	***	-0.19	***	-0.14	***	-0.15	***		
Hours			-0.02							
Emp_rate			-0.06							
Own-occ			-0.18	***					-0.15	***
ASB			-0.22	***					-0.16	***
Marriage			0.07	**					0.06	*
Age^2									0.0002	
$White^2$									-0.001	** *
East Midlands					0.46		0.25			
East of England					0.49		0.41			
London					1.74		2.16	*	2.34	***
North East					1.46		2.02	*	1.38	
North West					-0.38		0.08			
South East					-0.82		-0.50			
South West					-0.12		-0.30			
West Midlands					-0.57		-0.14			
Major_urban							-2.86	***	-1.31	*
Large_urban							-1.97	***	-0.88	
Other_urban							-2.56	***	-1.27	*
Sig_rural							-2.52	***	-1.55	**
Rural_50							-1.23	**	-0.56	
F	55.9		36.7		20.5		16.8		23.8	
Adj R^2	0.40		0.50		0.42		0.45		0.50	

Source: Consulting Inplace (2010) Note: *** Statistically significant at 99% level, ** 95% and *90%. N=324
Dependent Variable: Ability to influence decisions in local area (as a proportion of the adult population). Yorkshire &Humber and rural-80 dummy variables omitted because of co-linearity.

Fewer variables in the base model are significant compared to other dependent variable specifications, yet the specification has both a high Adjusted R^2 and a high F-statistic. The level of qualifications and ethnicity are the only significant variables in the base model, significant at the 95 per cent level.

In model 1, *own-occ*, *ASB* and *marriage* enter the specification significantly with a higher Adjusted R^2, however the F-statistic decreases indicating a worse overall model significance. In model 2, two of all our regional dummies enter insignificantly. Model 3 adds additional significant variables from model 1. In model 3 we enter Rural-Urban dummies, which all enter significantly. The result is a model which explains just under half the variation in the dependent variable (as measured by Adjusted R^2).

However, our assumption of a linear relationship between our measure of *influence* and our explanatory variables is not satisfied. We therefore include non-linear terms in our specification which results in the regression output in the model 4 column of Figure 7.3 above. We also reduce the model to include significant variables from previous specifications. This however, does not improve the quality of the model. Our problem of linearity remains, and in addition our model has issues in terms of both heteroskedasticty and normality of the residual. We therefore reject this model of influence over local decisions and do not consider it further in subsequent chapters.

7.4 Future participation

Our next measure of Big Society readiness is the evidence from the Place Survey on [illegible] cipate in future decisions affecting their local [illegible] areas. We show the results of modelling the socio-economic determinants of this variable in Figure 7.4 below.

All of our explanatory variables, with the exception of *age*, enter significantly into the base model the majority with expected signs. The model has a high F-statistic and also explains around 45 per cent of the variation, even at this initial stage where we only have four variables entered in the regression.

Expanding the model using wider social capital variables, in model 2, shows that *hours worked* becomes significant. This implies that in areas with high proportions of individuals who work long hours, people nevertheless have greater intentions to get involved in the local decision making process. Areas with higher levels of *ASB* also have higher intentions while a higher incidence of *marriage* means that people in those areas are less likely to want get involved in local decisions made in future.

Regional dummy variables increase the overall model fit, with residents in London, the South East and the North West typically having greater intentions to participate. However, the baseline variables (in the first 5 rows in the table) lose explanatory power in response to the inclusion of these additional variables (i.e. the coefficient estimates reduce from the base specification) with *age* ceasing to be significant in the model and conversely, our *qualifications* measure becoming significant once again.

These regional patterns remain after we add rural-urban dummies into the regression, with only large urban areas entering with a significant correlation with the dependent variable. Their inclusion does not affect the base coefficient estimates to a great extent.

Figure 7.4: Future participation regression models

Variable	Base		Model 1		Model 2		Model 3		Model 4	
	C.E.	Sig	C.E.	Sig	C.E.	Sig	C.E.	Sig	C.E.	Sig
Const	42.94	***	29.28	***	38.47	***	36.01	***	27.03	***
Assoc_prof	0.25	***	0.22	***	0.13	***	0.14	***	0.13	***
NVQ1+	-0.09	***	0.03		-0.11	***	-0.10	**	-0.01	
Age50_over	0.00		0.06	**	0.00		0.03		0.06	**
White	-0.15	***	-0.14	***	-0.08	***	-0.08	***	-0.08	***
Hours			0.08	**					0.06	**
Emp_rate			-0.02							
Own-occ			-0.01							
ASB			0.17	**					0.14	**
Marriage			-0.05	**					-0.06	**
East Midlands					0.09		0.15			
East of England					0.19		0.27			
London					5.02	***	4.95	***	4.52	***
North East					0.14		-0.07			
North West					2.43	***	2.28	***	1.88	***
South East					2.36	***	2.27	***	1.85	***
South West					0.67		0.63			
West Midlands					0.55		0.51			
Major_urban							0.87			
Large_urban							0.99	*	0.52	
Other_urban							0.69			
Sig_rural							0.27			
Rural_50							0.07			
F	68.1		38.1		35.2		25.2		45.3	
Adj R^2	0.45		0.51		0.56		0.56		0.60	

Source: Consulting Inplace, 2010. Note: *** Statistically significant at 99% level, ** 95% and *90%. N=323
Dependent Variable: Intentions to participate in local decisions. Yorkshire &Humber and rural-80 dummy variables omitted because of co-linearity.

In the final specification, model 4, we add the significant independent variables from model 1. *Hours worked*, *ASB* and marriage enter significantly and the model gains explanatory power and robustness (i.e. Adjusted R^2 increases as well as the F-statistic). There is some limited effect on the base coefficients but overall, the final specification registers the highest R^2.

This specification of the model indicates that future participation intentions are higher in areas with greater proportions of people aged over 50, of an ethnic minority origin, and where people work long hours. A high proportion of negative perceptions around anti-social behaviour are also significant determinants of the desire to become involved in local decision making.

All of the model specifications satisfy assumptions for linearity and homoskedasticity. However, none of the specifications satisfies the assumption of normality of the residual. We therefore do not consider this model specifically in our analysis chapter.

7.5 Summary

We therefore accept two models (Volunteering and Involvement in local decisions) and reject two. The most appropriate regressions in each case are summarised in Figure 7.5.

Figure 7.5: Volunteering regression models

	Volunteering		Involved	
const	19.38	**	21.60	**
Occupation	0.16	**	0.09	**
Qualification	0.01		0.08	**
Age50_over	0.10	**	0.10	**
White	0.27	*		
Hours			0.01	
Emp_rate	0.04			
Owneroccupied	-0.02		-0.15	**
ASB	-0.46	**		
Marriage				
East Midlands				
East of England			-1.34	**
London	-1.30	*		
North East	-2.93	**	-2.02	**
North West			-0.23	
South East			-0.38	
South West	2.70	**		
West Midlands	-0.86	*	-0.67	
Major_urban	-6.10	**	-4.39	**
Large_urban	-5.65	**	-4.33	**
Other_urban	-5.07	**	-4.07	**
Sig_rural	-3.09	**	-2.97	**
Rural_50	-1.97	**	-1.69	**
sq_White	0.002	**	-0.0005	**
sq_ASB	0.007	**	-0.0002	
Adj. R^2	0.70		0.61	
F	43.2		36.0	

Source: Consulting Inplace (2010). Note: *** Statistically significant at 99% level, ** 95% and *90%. Yorkshire &Humber and rural-80 dummy variables omitted because of co-linearity.

Volunteering is the best performing model, with over two thirds of the variation in volunteering rates being explained with the highest F-statistic. Our model of involvement in local decisions also satisfies good practice statistical methodology but less than two thirds of the variation in the proportion of those who have been involved in local decisions is explained by the factors we have identified.

Occupation and ethnicity appear to be particularly influential factors in the volunteering model, while in the case of the Involvement models, age and occupation are particularly important. In terms of dummy variables, our urban / rural measures are significant in both models while our regional dummy variables are not all statistically significant in any one specification.

8. Implications: which places are ready for the Big Society?

8.1 Introduction

In Chapter 7 we set out details of various models which explain differences in Big Society readiness, as measured in different ways. While these models are all to some degree simplifications of a more complex underlying reality, we believe that they capture some key explanations of why some locations within England have high rates of participation, and hence are likely to find it relatively easy to embrace the Big Society.

But what is just as important from our analysis is that it also helps us to identify local areas where the readiness to engage in the Big Society is much higher than we would expect it to be, and places where it is much lower. Our methodology allows us to spot those local authority areas where specific local factors make them particularly well suited to embrace the Big Society, even though they are not particularly well endowed in terms of the factors that usually favour the Big Society. And we can spot other local areas where we think that it may be quite difficult to stimulate the Big Society, even though they have strong endowments of characteristics that in most places would foster Big Society preparedness.

8.2 Volunteering çactual levels

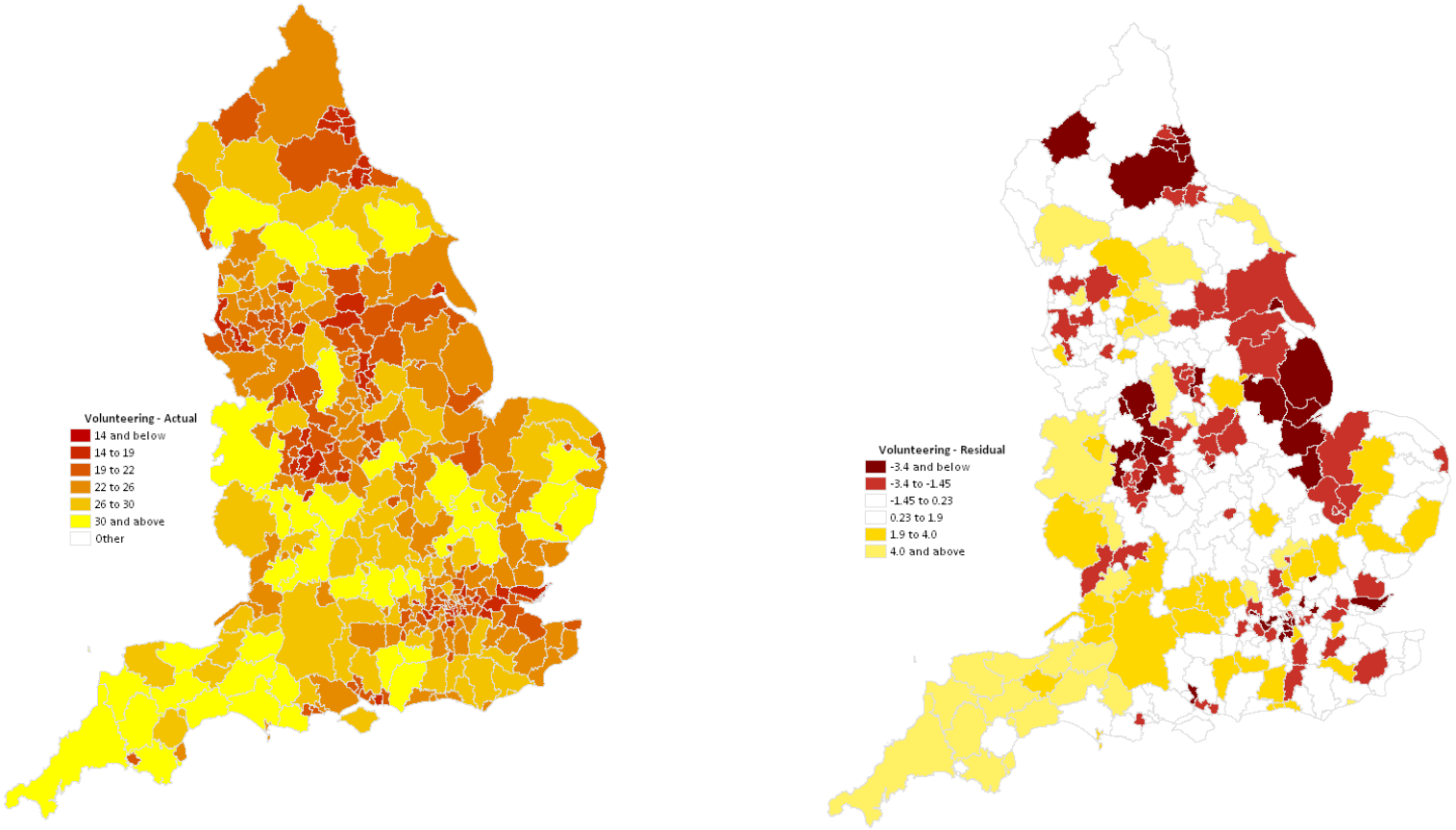
In Figure 8.1 below and in the first of the two maps in Figure 8.2 overleaf we set out the basic data on volunteering rates across England. In the map, those local authorities with the highest rates of volunteering are shaded in yellow. They are West Devon, Derbyshire Dales, South Lakeland (in Cumbria), South Hams (in Devon) and West Somerset. Those with the lowest are shaded in dark red and are Kingston-upon-Hull, Knowsley, Sunderland, South Tyneside and Wandsworth.

Figure 8.1: Highest and lowest rates of Volunteering in 2008

	Highest		Lowest	
	Local Authority	*Actual*	*Local Authority*	*Actual*
1	West Devon	35.9	Kingston-upon-Hull	14
2	Derbyshire Dales	35.1	Knowsley	14.3
3	South Lakeland	34.5	Sunderland	14.4
4	South Hams	34.4	South Tyneside	15.2
5	West Somerset	34.1	Wandsworth	15.4
6	Torridge	33.9	Stoke-on-Trent	15.6
7	Malvern Hills	33.3	Gateshead	15.8
8	South Cambridgeshire	33.0	Barking & Dagenham	16.0
9	East Devon	33.0	Middlesbrough	16.5
10	Chiltern	33.0	Slough	16.7

Source: National Audit Office (2008) *National Indicator dataset*

Figure 8.2: Actual and unexplained - volunteering



Source: Consulting Inplace (2010

8.3 Volunteering ςBetter or worse than predicted?

The second map in Figure 8.2 shows the difference between our expectations of volunteering rates as calculated from our model and the actual levels of volunteering in any one local area.[17]

Figure 8.3 lists the ten best and worst performing local authorities as measured by the difference between what we expect the volunteering rate to be and the actual volunteering rate. We call areas performing better than expected volunteering rates Ψ h dz ű NJ ƛ Ř Ŝ NJ ă Ω Ͱ ƴ Ř Ͱ NJ Ŝ Ͱ ă ǿ ƛ ű K ƭ 2ǿ persuaded Ř Ŭ Ω Ͱ ƴ Ŝ È LJ Ŝ Č

Outriding areas include Torridge (in Devon), Shropshire, Chiltern (in Buckinghamshire), Erewash (in Derbyshire) and Bradford. The list is a mixture of districts from the West Midlands, East Midlands, the South West and South East. No authorities from the North East appear in the list. Unpersuaded local authorities include Wandsworth, Eastleigh and North Kesteven.

Figure 8.3: Volunteering: best and worst performers

	Outriders (Better than predicted)		Unpersuaded (Worse than predicted)	
	Local Authority	*Residual*	*Local Authority*	*Residual*
1	Torridge	7.7	Wandsworth	-8.0
2	Shropshire	6.8	Eastleigh	-6.1
3	Chiltern	6.5	North Kesteven	-6.0
4	Bradford	6.3	Spelthorne	-5.3
5	Erewash	6.3	Slough	-5.2
6	Stroud	6.1	Birmingham	-5.0
7	West Devon	6.0	South Holland	-5.0
8	Hastings	5.5	Kingston upon Hull	-5.0
9	East Devon	5.3	Hounslow	-4.8
10	South Somerset	5.3	Sutton	-4.8

Source: Consulting Inplace (2010)

At a broader level of geography, much of Cornwall and Devon have rates of volunteering that are higher than would be expected, given their social makeup. There is a significant cluster of outriding districts in West Yorkshire and bordering parts of Greater Manchester (Bradford, Rochdale, Oldham, Kirklees and Harrogate). We have also detected outriding volunteering in districts such as Shropshire, Telford and Malvern Hills alongside Herefordshire.

A number of areas in the east of the country from Humberside, Lincolnshire, North West Norfolk and parts of Cambridgeshire have lower than predicted levels of volunteering. Large parts of urban West Midlands show low levels of actual volunteering, and in most cases these are below what we would expect, given the characteristics of these areas. Specific examples include Birmingham, Lichfield, East Staffordshire and South Staffordshire. There are also clusters of unpersuaded areas on the South Coast including Eastleigh, Fareham, Portsmouth and Poole. There is a

[17] Please note that in the calculation of these residuals, we factor back in the effect of regional dummy variables as their inclusion is to improve the diagnostics of the model and are not necessarily characteristics that should drive differences in our measure of volunteering

significant cluster of unpersuaded areas in the North East, notably Gateshead, Durham, North Tyneside and South Tyneside.

8.4 Involvement in local decisions ς Actual levels

The highest rates of involvement in local decisions can be found in London Boroughs such as Camden, Tower Hamlets and Kensington and Chelsea. The lowest rates can be found in Rochford, Cannock Chase and Stockton-on-Tees ςsee Figure 8.4.

Figure 8.4: Highest and lowest rates of Involvement in Local decisions in 2008

	Local Authority	Highest Actual	Local Authority	Lowest Actual
1	Camden	24.1	Rochford	7.6
2	Tower Hamlets	23.7	Cannock Chase	7.7
3	Kensington and Chelsea	22.4	Stockton-on-Tees	7.9
4	Hackney	22.0	Sunderland	8.2
5	Chichester	21.6	South Staffordshire	8.3
6	South Lakeland	21.2	Castle Point	8.6
7	Rutland	21.1	St. Edmundsbury	8.8
8	Shropshire	20.8	Tamworth	8.8
9	South Hams	20.6	Dudley	8.9
10	Malvern Hills	20.6	Bracknell Forest	9.0

Source: National Audit Office (2008) *National Indicator dataset*

8.5 Involvement in local decisions ς Better or worse than predicted?

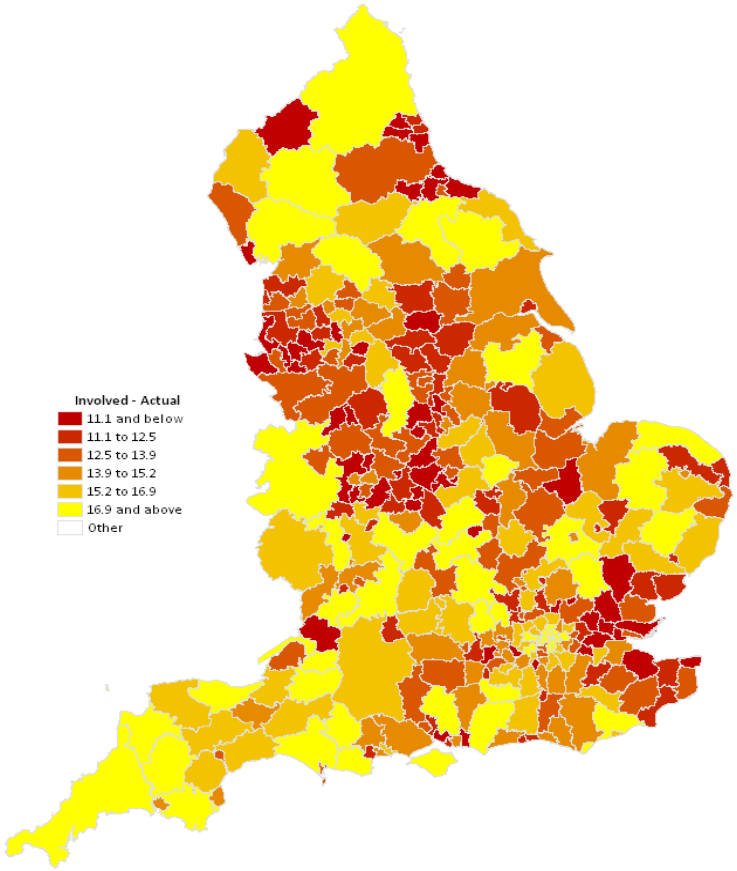
Again we refer to Outriders as those districts with higher than expected rates of involvement in local decisions and call districts with lower than expected rates Ψ ¦ ƴLJŜNJ ăndz ŀ Ř Ŝ Ř ΩΦ In terms of involvement in local decisions, outriding and unpersuaded local authorities are shown in Figure 8.5. Shropshire appears top of the ranking for involvement in local decisions as well as for volunteering in the previous section. Chiltern is also a top district in both. Many of the outriding areas are rural in nature, with a few examples of more urban areas (Camden and Tower Hamlets). Unpersuaded areas include Forest Heath, North Kesteven, Dacorum, Fenland and West Lancashire. Other notable unpersuaded areas are Newcastle-upon-Tyne, Darlington and Sunderland.

Figure 8.5: Involved: best and worst performers

Outriders (Better than predicted)		Unpersuaded (Worse than predicted)	
Local Authority	Residual	Local Authority	Residual
Shropshire	5.1	Forest Heath	-7.2
Malvern Hills	4.7	North Kesteven	-5.8
Chiltern	4.3	Dacorum	-5.4
Stroud	3.8	Fenland	-5.2
Bristol, City of	3.7	West Lancashire	-5.1
Eastbourne	3.6	Newcastle upon Tyne	-5.0
Camden	3.5	Darlington	-5.0
Tower Hamlets	3.5	Stockton-on-Tees	-5.0
Gravesham	3.4	Tonbridge and Malling	-4.9
Medway	3.3	Sunderland	-4.8

Source: Consulting Inplace (2010)

Figure 8.6: Actual and unexplained - involved in local decisions



Source: Consulting Inplace (2011)

The second map in Figure 8.6 shows the differences between actual and predicted involvement in local decisions but does not display the same pattern as volunteering in the previous section. Once again, however, there are clusters of districts with above expected and below expected involvement in local decisions. Outriding clusters include:

- Devon and Cornwall
- Bristol, Bath and Somerset
- Shropshire, Herefordshire and Malvern Hills
- East Lancashire and West Yorkshire (Bradford, Craven, Harrogate, Kirklees, Calderdale, plus Rochdale and Oldham)
- Gloucestershire and South Warwickshire (Stroud, Cotswold, Stratford-upon-Avon, and Bromsgrove)

Unpersuaded clusters include:

- The Fens and South Lincolnshire (Huntingdonshire, Fenland, South Holland and North Kesteven)
- Essex (Braintree, Colchester,Tendring, Chelmsford, Rochford, Brentwood and Basildon)
- Tyneside, County Durham and Teesside (Cleveland, Stockton on Tees, Darlington, Sunderland, Gateshead, Newcastle upon Tyne, South Tyneside)
- Leicestershire (Leicester, Oadby and Wigston, Hinckley and Bosworth, North West Leicestershire)
- Staffordshire & West Midlands metropolitan area (Cannock Chase, South Staffordshire, Dudley, and Birmingham)
- Merseyside, West Lancashire and parts of Greater Manchester (Wirral, West Lancashire, Sefton, Liverpool, Warrington, Flyde, Lancaster, Halton and Manchester)
- West Cumbria (Copeland, Allerdale, Carlisle and Barrow-in-Furness)

Volunteering

Rank	Local Authority	Actual	Predicted	Unexplained
1	West Devon	35.9	29.9	6.0
2	Derbyshire Dales	35.1	31.0	4.1
3	South Lakeland	34.5	29.3	5.2
4	South Hams	34.4	29.3	5.1
5	West Somerset	34.1	28.8	5.3
6	Torridge	33.9	26.2	7.7
7	Malvern Hills	33.3	28.4	4.9
8	Chiltern	33.0	26.5	6.5
9	South Cambridgeshire	33.0	31.9	1.1
10	East Devon	33.0	27.7	5.3
11	Craven	32.8	30.8	2.0
12	North Dorset	32.7	28.7	4.0
13	Suffolk Coastal	32.7	29.3	3.4
14	Stroud	32.5	26.4	6.1
15	Cornwall	32.3	27.1	5.2
16	Uttlesford	32.3	29.6	2.7
17	Shropshire	32.2	25.4	6.8
18	Chichester	31.9	31.1	0.8
19	Cotswold	31.9	29.1	2.8
20	Purbeck	31.8	30.1	1.7
21	Ryedale	31.6	30.7	0.9
22	Stratford-on-Avon	31.5	30.4	1.1
23	South Oxfordshire	31.4	28.3	3.1
24	South Somerset	31.3	26.0	5.3
25	West Dorset	31.1	30.2	0.9
26	Babergh	31.0	28.2	2.8
27	Mid Suffolk	30.9	31.1	-0.2
28	Waverley	30.9	27.3	3.6
29	Huntingdonshire	30.9	29.4	1.5
30	North Hertfordshire	30.8	26.6	4.2
31	Mendip	30.7	26.4	4.3
32	Mid Devon	30.7	26.6	4.1
33	Wychavon	30.6	28.8	1.8
34	Vale of White Horse	30.5	26.9	3.6
35	Harrogate	30.5	26.1	4.4
36	Harborough	30.1	30.1	0.0
37	Wycombe	30.0	26.6	3.4
38	East Hampshire	30.0	26.3	3.7
39	South Norfolk	30.0	30.9	-0.9
40	Horsham	29.8	27.5	2.3
41	North Devon	29.7	24.8	4.9
42	Aylesbury Vale	29.7	28.2	1.5
43	Rutland	29.6	30.2	-0.6
44	Wiltshire	29.6	26.9	2.7
45	Ribble Valley	29.5	31.4	-1.9

46	St Helens	29.4	28.9	0.5
47	Teignbridge	29.4	28.5	0.9
48	Hambleton	29.4	30.3	-0.9
49	Richmondshire	29.4	30.7	-1.3
50	Breckland	29.3	26.4	2.9
51	Eden	29.3	30.4	-1.1
52	Sedgemoor	29.2	24.9	4.3
53	Daventry	29.0	28.4	0.6
54	Winchester	28.9	28.2	0.7
55	Herefordshire, County of	28.9	26.7	2.2
56	South Northamptonshire	28.7	29.6	-0.9
57	West Oxfordshire	28.6	29.2	-0.6
58	Broadland	28.5	26.9	1.6
59	Dacorum	28.5	27.1	1.4
60	Mid Sussex	28.3	30.8	-2.5
61	Test Valley	28.2	28.3	-0.1
62	Rother	28.1	27.5	0.6
63	Taunton Deane	28.1	25.9	2.2
64	Scarborough	28.0	23.0	5.0
65	East Hertfordshire	28.0	25.5	2.5
66	North Norfolk	27.9	28.7	-0.8
67	Warwick	27.9	26.1	1.8
68	Wealden	27.8	28.0	-0.2
69	Sevenoaks	27.7	27.7	0.0
70	Bedford	27.5	25.6	1.9
71	Bath and North East Somerset	27.4	25.1	2.3
72	High Peak	27.4	26.5	0.9
73	Allerdale	27.4	27.2	0.2
74	West Berkshire	27.3	25.1	2.2
75	Lewes	27.2	27.2	0.0
76	Bradford	27.1	20.8	6.3
77	Wokingham	27.1	25.9	1.2
78	North Somerset	27.1	26.6	0.5
79	East Dorset	26.9	28.3	-1.4
80	Cambridge	26.9	27.5	-0.6
81	Tunbridge Wells	26.8	24.0	2.8
82	Guildford	26.8	26.4	0.4
83	Rushcliffe	26.8	29.6	-2.8
84	East Cambridgeshire	26.7	29.0	-2.3
85	Cherwell	26.6	25.1	1.5
86	Oxford	26.6	24.6	2.0
87	Hastings	26.5	21.0	5.5
88	Newark and Sherwood	26.5	24.4	2.1
89	South Buckinghamshire	26.5	28.9	-2.4
90	Calderdale	26.4	23.1	3.3
91	Isle of Wight	26.2	26.8	-0.6
92	Exeter	26.2	22.0	4.2
93	Stafford	26.2	25.3	0.9
94	Barnet	26.1	24.2	1.9

95	South Kesteven	26.1	27.1	-1.0
96	Fylde	26.1	26.3	-0.2
97	Tewkesbury	26.0	28.1	-2.1
98	Tandridge	25.8	28.3	-2.5
99	West Lindsey	25.7	27.5	-1.8
100	Stockport	25.7	22.2	3.5
101	Lancaster	25.7	24.5	1.2
102	Mole Valley	25.6	26.9	-1.3
103	Erewash	25.6	19.3	6.3
104	Kirklees	25.6	20.9	4.7
105	Hart	25.6	25.8	-0.2
106	Melton	25.6	27.7	-2.1
107	South Gloucestershire	25.5	21.7	3.8
108	Torbay	25.3	21.2	4.1
109	Selby	25.3	27.5	-2.2
110	Oldham	25.2	20.5	4.7
111	Epping Forest	25.2	23.9	1.3
112	Surrey Heath	25.1	26.0	-0.9
113	Rugby	25.1	26.2	-1.1
114	Hyndburn	25.0	21.3	3.7
115	Maldon	25.0	26.5	-1.5
116	Basingstoke and Deane	25.0	25.3	-0.3
117	Welwyn Hatfield	25.0	21.9	3.1
118	Preston	24.9	20.2	4.7
119	Northumberland	24.9	24.8	0.1
120	St. Albans	24.8	26.5	-1.7
121	East Northamptonshire	24.8	23.5	1.3
122	Cheltenham	24.8	23.5	1.3
123	Brentwood	24.8	25.6	-0.8
124	Camden	24.7	23.6	1.1
125	Woking	24.7	23.6	1.1
126	New Forest	24.7	25.7	-1.0
127	Reigate and Banstead	24.7	23.8	0.9
128	East Lindsey	24.7	28.4	-3.7
129	Maidstone	24.6	24.8	-0.2
130	Worthing	24.5	21.7	2.8
131	Richmond upon Thames	24.3	25.7	-1.4
132	Brighton and Hove	24.3	21.5	2.8
133	Chelmsford	24.3	23.5	0.8
134	Central Bedfordshire	24.3	25.4	-1.1
135	Christchurch	24.2	23.5	0.7
136	Bristol, City of	24.1	21.1	3.0
137	Harrow	24.0	22.7	1.3
138	Ashford	24.0	25.9	-1.9
139	East Riding of Yorkshire	24.0	26.7	-2.7
140	Reading	24.0	21.8	2.2
141	Three Rivers	24.0	25.2	-1.2
142	Warrington	23.9	22.5	1.4
143	Cheshire East	23.9	25.3	-1.4
144	Gravesham	23.8	20.6	3.2

145	Forest of Dean	23.8	26.8	-3.0
146	Pendle	23.8	21.6	2.2
147	Eastbourne	23.7	22.0	1.7
148	Waveney	23.7	23.8	-0.1
149	Colchester	23.7	24.8	-1.1
150	West Lancashire	23.7	26.1	-2.4
151	Adur	23.6	21.2	2.4
152	Weymouth and Portland	23.6	19.9	3.7
153	Telford and Wrekin	23.6	20.9	2.7
154	Kettering	23.6	23.2	0.4
155	Wyre Forest	23.6	23.5	0.1
156	Cheshire West and Chester	23.6	22.7	0.9
157	North West Leicestershire	23.6	24.2	-0.6
158	Hinckley and Bosworth	23.6	24.0	-0.4
159	Bromsgrove	23.5	26.3	-2.8
160	Luton	23.5	21.9	1.6
161	Amber Valley	23.5	24.5	-1.0
162	Tonbridge and Malling	23.5	25.6	-2.1
163	Forest Heath	23.5	26.6	-3.1
164	Watford	23.4	21.9	1.5
165	Hertsmere	23.4	25.3	-1.9
166	Worcester	23.4	22.9	0.5
167	Peterborough	23.3	22.2	1.1
168	King's Lynn and West Norfolk	23.3	25.2	-1.9
169	Copeland	23.3	24.3	-1.0
170	Bromley	23.2	22.3	0.9
171	Windsor and Maidenhead	23.2	24.2	-1.0
172	Wellingborough	23.2	21.9	1.3
173	Broxtowe	23.2	22.0	1.2
174	Braintree	23.2	24.2	-1.0
175	North Kesteven	23.2	29.2	-6.0
176	South Ribble	23.1	21.2	1.9
177	Rochdale	23.1	19.9	3.2
178	Rossendale	23.0	22.0	1.0
179	Kingston upon Thames	23.0	23.3	-0.3
180	South Derbyshire	23.0	24.8	-1.8
181	York	23.0	23.8	-0.8
182	Dover	23.0	23.8	-0.8
183	Blackburn with Darwen	23.0	22.1	0.9
184	Elmbridge	22.9	24.4	-1.5
185	North East Derbyshire	22.9	25.6	-2.7
186	Shepway	22.9	24.2	-1.3
187	Croydon	22.8	20.8	2.0
188	Islington	22.8	22.0	0.8
189	Chorley	22.8	24.7	-1.9
190	Milton Keynes	22.8	23.9	-1.1
191	Arun	22.7	23.0	-0.3
192	Swindon	22.6	22.1	0.5
193	Derby	22.5	21.4	1.1

194	Tendring	22.5	23.6	-1.1
195	Gloucester	22.4	21.3	1.1
196	Canterbury	22.4	23.4	-1.0
197	South Holland	22.4	27.4	-5.0
198	Wyre	22.3	24.0	-1.7
199	Bassetlaw	22.1	22.2	-0.1
200	Solihull	22.1	22.0	0.1
201	Poole	22.0	23.5	-1.5
202	Bolton	22.0	21.2	0.8
203	Hackney	21.9	22.0	-0.1
204	Enfield	21.9	21.8	0.1
205	Nuneaton and Bedworth	21.9	20.3	1.6
206	Blaby	21.9	22.9	-1.0
207	Charnwood	21.9	23.6	-1.7
208	Bournemouth	21.8	20.5	1.3
209	Hillingdon	21.8	21.5	0.3
210	Southend-on-Sea	21.8	20.5	1.3
211	Lichfield	21.8	26.0	-4.2
212	Southampton	21.7	20.2	1.5
213	Redbridge	21.6	22.2	-0.6
214	Swale	21.6	21.7	-0.1
215	Gedling	21.5	21.6	-0.1
216	Southwark	21.5	22.5	-1.0
217	Staffordshire Moorlands	21.4	24.9	-3.5
218	Crawley	21.4	21.2	0.2
219	Bury	21.4	20.7	0.7
220	Ipswich	21.3	20.8	0.5
221	Wirral	21.2	21.0	0.2
222	Sheffield	21.1	21.2	-0.1
223	Fenland	21.1	25.6	-4.5
224	Haringey	21.0	21.3	-0.3
225	Hammersmith and Fulham	21.0	21.2	-0.2
226	Castle Point	20.9	20.4	0.5
227	Tower Hamlets	20.8	21.3	-0.5
228	Wolverhampton	20.8	21.6	-0.8
229	Barrow-in-Furness	20.8	20.2	0.6
230	St. Edmundsbury	20.8	18.5	2.3
231	Rushmoor	20.7	20.8	-0.1
232	North Lincolnshire	20.7	23.8	-3.1
233	Havant	20.7	20.9	-0.2
234	Westminster	20.7	23.6	-2.9
235	Thanet	20.7	19.4	1.3
236	Medway	20.6	19.8	0.8
237	Stevenage	20.6	22.2	-1.6
238	Blackpool	20.6	18.9	1.7
239	Liverpool	20.6	18.5	2.1
240	Bracknell Forest	20.6	22.4	-1.8
241	Newham	20.5	19.0	1.5
242	Nottingham	20.5	20.2	0.3
243	Norwich	20.5	21.7	-1.2

244	Fareham	20.5	22.0	-1.5
245	North Warwickshire	20.4	23.6	-3.2
246	Runnymede	20.4	22.8	-2.4
247	Epsom and Ewell	20.4	24.2	-3.8
248	Kensington and Chelsea	20.3	24.8	-4.5
249	Brent	20.3	21.7	-1.4
250	Carlisle	20.3	24.0	-3.7
251	South Staffordshire	20.3	25.0	-4.7
252	Bexley	20.2	19.8	0.4
253	Redcar and Cleveland	20.2	21.5	-1.3
254	Ealing	20.0	21.0	-1.0
255	Rotherham	20.0	19.2	0.8
256	Salford	19.9	18.8	1.1
257	Greenwich	19.9	21.4	-1.5
258	Newcastle-under-Lyme	19.9	19.4	0.5
259	Plymouth	19.8	19.9	-0.1
260	Havering	19.8	19.9	-0.1
261	East Staffordshire	19.8	24.2	-4.4
262	Wigan	19.8	18.1	1.7
263	Darlington	19.8	22.8	-3.0
264	Great Yarmouth	19.7	22.6	-2.9
265	Gosport	19.7	18.7	1.0
266	Merton	19.7	23.2	-3.5
267	Durham	19.7	24.1	-4.4
268	Broxbourne	19.6	19.3	0.3
269	Doncaster	19.6	20.0	-0.4
270	Northampton	19.6	21.4	-1.8
271	Leeds	19.6	20.1	-0.5
272	Manchester	19.6	20.5	-0.9
273	Corby	19.5	19.4	0.1
274	Trafford	19.5	22.7	-3.2
275	Boston	19.4	23.2	-3.8
276	Leicester	19.3	21.9	-2.6
277	Eastleigh	19.2	25.3	-6.1
278	Lincoln	19.1	19.4	-0.3
279	North East Lincolnshire	19.0	18.8	0.2
280	Chesterfield	19.0	21.1	-2.1
281	Hartlepool	18.6	19.7	-1.1
282	Walsall	18.5	20.4	-1.9
283	Lambeth	18.5	22.1	-3.6
284	Burnley	18.5	19.8	-1.3
285	Tameside	18.5	18.8	-0.3
286	Mansfield	18.3	19.2	-0.9
287	Portsmouth	18.3	20.1	-1.8
288	Barnsley	18.3	18.6	-0.3
289	Lewisham	18.3	21.6	-3.3
290	Sefton	18.3	19.5	-1.2
291	Dartford	18.3	19.0	-0.7
292	Harlow	18.2	22.4	-4.2
293	Wakefield	18.1	20.8	-2.7

294	Thurrock	18.0	20.2	-2.2
295	Oadby and Wigston	18.0	22.7	-4.7
296	Tamworth	17.9	18.4	-0.5
297	Bolsover	17.8	22.0	-4.2
298	Basildon	17.8	20.4	-2.6
299	Newcastle upon Tyne	17.8	21.1	-3.3
300	Redditch	17.7	20.5	-2.8
301	Halton	17.7	19.1	-1.4
302	Cannock Chase	17.6	21.3	-3.7
303	Coventry	17.5	20.3	-2.8
304	Ashfield	17.5	19.1	-1.6
305	Rochford	17.5	21.7	-4.2
306	Sutton	17.4	22.2	-4.8
307	North Tyneside	17.2	20.8	-3.6
308	Sandwell	17.1	20.1	-3.0
309	Waltham Forest	17.1	20.7	-3.6
310	Stockton-on-Tees	17.1	20.1	-3.0
311	Spelthorne	16.9	22.2	-5.3
312	Hounslow	16.8	21.6	-4.8
313	Dudley	16.8	19.5	-2.7
314	Slough	16.7	21.9	-5.2
315	Birmingham	16.7	21.7	-5.0
316	Middlesbrough	16.5	19.2	-2.7
317	Barking and Dagenham	16.0	20.6	-4.6
318	Gateshead	15.8	19.9	-4.1
319	Stoke-on-Trent	15.6	19.4	-3.8
320	Wandsworth	15.4	23.4	-8.0
321	South Tyneside	15.2	19.7	-4.5
322	Sunderland	14.4	18.7	-4.3
323	Knowsley	14.3	17.4	-3.1
324	Kingston upon Hull, City of	14.0	19.0	-5.0

Source: Consulting Inplace, 2010

Involvement

Rank	Local Authority	Actual	Predicted	Unexplained
1	Camden	24.1	20.6	3.5
2	Tower Hamlets	23.7	20.2	3.5
3	Kensington and Chelsea	22.4	20.9	1.5
4	Hackney	22.0	20.2	1.8
5	Chichester	21.6	18.9	2.7
6	South Lakeland	21.2	19.9	1.3
7	Rutland	21.1	18.9	2.2
8	Shropshire	20.8	15.7	5.1
9	South Hams	20.6	18.8	1.8
10	Malvern Hills	20.6	15.9	4.7
11	Lambeth	20.5	19.6	0.9
12	Torridge	20.3	17.3	3.0
13	Cornwall	20.3	17.2	3.1
14	Southwark	20.3	19.6	0.7
15	South Cambridgeshire	20.1	17.6	2.5
16	West Dorset	20.1	19.0	1.1
17	Westminster	19.9	21.7	-1.8
18	Craven	19.8	17.2	2.6
19	Cotswold	19.7	18.8	0.9
20	Islington	19.5	19.5	0.0
21	Derbyshire Dales	19.4	16.7	2.7
22	West Somerset	19.4	0.0	19.4
23	Isle of Wight	19.4	17.3	2.1
24	Chiltern	19.1	14.8	4.3
25	Stroud	19.0	15.2	3.8
26	Stratford-on-Avon	19.0	17.8	1.2
27	Rother	18.9	17.2	1.7
28	North Dorset	18.6	18.5	0.1
29	Eden	18.4	19.5	-1.1
30	Ealing	18.4	16.4	2.0
31	Mendip	18.2	16.0	2.2
32	Ryedale	18.1	18.3	-0.2
33	Mid Suffolk	18.1	17.2	0.9
34	Winchester	18.1	17.4	0.7
35	North Norfolk	18.1	18.4	-0.3
36	Bristol, City of	18.0	14.3	3.7
37	West Devon	17.9	18.3	-0.4
38	Waverley	17.9	17.5	0.4
39	Daventry	17.9	18.8	-0.9
40	Newham	17.9	16.3	1.6
41	Breckland	17.8	15.7	2.1
42	West Lindsey	17.8	16.3	1.5
43	Eastbourne	17.8	14.2	3.6
44	Haringey	17.8	18.5	-0.7
45	Richmond upon Thames	17.7	15.8	1.9
46	Hammersmith and Fulham	17.7	18.6	-0.9
47	Purbeck	17.5	17.5	0.0
48	Aylesbury Vale	17.5	15.7	1.8
49	Hambleton	17.5	18.3	-0.8

50	South Northamptonshire	17.5	18.2	-0.7
51	Uttlesford	17.2	17.5	-0.3
52	Bath and North East Somerset	17.2	14.9	2.3
53	Northumberland	17.1	16.0	1.1
54	Wycombe	16.9	14.4	2.5
55	Vale of White Horse	16.8	15.8	1.0
56	North Devon	16.8	14.8	2.0
57	Mole Valley	16.7	15.1	1.6
58	South Somerset	16.6	15.5	1.1
59	Teignbridge	16.6	17.4	-0.8
60	Harrow	16.6	15.4	1.2
61	Horsham	16.5	16.4	0.1
62	Oldham	16.5	15.0	1.5
63	Harborough	16.4	16.6	-0.2
64	South Norfolk	16.4	17.5	-1.1
65	East Devon	16.3	16.4	-0.1
66	North Hertfordshire	16.3	14.7	1.6
67	Herefordshire, County of	16.3	15.6	0.7
68	Hastings	16.3	13.8	2.5
69	Barnet	16.3	16.4	-0.1
70	Suffolk Coastal	16.2	17.6	-1.4
71	Wychavon	16.2	16.4	-0.2
72	Bromley	16.2	13.6	2.6
73	Brent	16.2	17.4	-1.2
74	West Oxfordshire	16.1	17.4	-1.3
75	Lewisham	16.1	17.8	-1.7
76	Richmondshire	16.0	18.6	-2.6
77	High Peak	16.0	14.3	1.7
78	Kingston upon Thames	16.0	15.5	0.5
79	Mid Devon	15.9	16.7	-0.8
80	Bedford	15.9	14.8	1.1
81	Bradford	15.9	13.6	2.3
82	Woking	15.9	12.9	3.0
83	Tunbridge Wells	15.8	14.9	0.9
84	Hounslow	15.8	16.5	-0.7
85	Wiltshire	15.7	16.5	-0.8
86	Ribble Valley	15.7	19.5	-3.8
87	Gravesham	15.7	12.3	3.4
88	Scarborough	15.6	13.4	2.2
89	Allerdale	15.6	18.9	-3.3
90	St. Albans	15.6	16.1	-0.5
91	Bromsgrove	15.6	13.3	2.3
92	Redbridge	15.6	15.5	0.1
93	Salford	15.6	15.2	0.4
94	Babergh	15.5	16.3	-0.8
95	St Helens	15.5	16.2	-0.7
96	Sedgemoor	15.5	14.8	0.7
97	Croydon	15.5	13.3	2.2
98	Enfield	15.5	15.4	0.1
99	Rushcliffe	15.4	16.1	-0.7
100	Rossendale	15.4	14.5	0.9
101	South Oxfordshire	15.3	15.8	-0.5
102	Guildford	15.3	14.8	0.5

103	East Cambridgeshire	15.3	15.9	-0.6
104	Oxford	15.3	17.2	-1.9
105	Melton	15.3	16.4	-1.1
106	Christchurch	15.3	13.2	2.1
107	East Lindsey	15.2	17.9	-2.7
108	Hillingdon	15.2	14.6	0.6
109	Newark and Sherwood	15.1	14.4	0.7
110	South Buckinghamshire	15.1	17.0	-1.9
111	Preston	15.1	13.6	1.5
112	Bassetlaw	15.1	13.9	1.2
113	Greenwich	15.1	16.2	-1.1
114	Manchester	15.1	18.4	-3.3
115	Torbay	15.0	13.2	1.8
116	Harrogate	14.9	14.0	0.9
117	Taunton Deane	14.9	14.4	0.5
118	East Dorset	14.9	15.5	-0.6
119	Calderdale	14.9	14.0	0.9
120	New Forest	14.9	13.3	1.6
121	Forest of Dean	14.9	16.0	-1.1
122	Windsor and Maidenhead	14.9	14.7	0.2
123	Portsmouth	14.8	13.6	1.2
124	East Hertfordshire	14.7	14.0	0.7
125	Warwick	14.7	15.9	-1.2
126	South Kesteven	14.7	15.1	-0.4
127	Luton	14.7	14.3	0.4
128	King's Lynn and West Norfolk	14.7	16.0	-1.3
129	Medway	14.7	11.4	3.3
130	East Hampshire	14.6	15.4	-0.8
131	Sevenoaks	14.6	17.0	-2.4
132	Lewes	14.6	16.0	-1.4
133	Hyndburn	14.6	14.6	0.0
134	Norwich	14.6	15.4	-0.8
135	Tewkesbury	14.5	16.0	-1.5
136	Tandridge	14.5	15.9	-1.4
137	Brighton and Hove	14.5	14.8	-0.3
138	Rochdale	14.5	14.6	-0.1
139	Kirklees	14.4	13.2	1.2
140	Reigate and Banstead	14.4	13.3	1.1
141	East Riding of Yorkshire	14.4	14.8	-0.4
142	Elmbridge	14.4	15.5	-1.1
143	Bournemouth	14.4	12.7	1.7
144	Nottingham	14.3	14.8	-0.5
145	Cambridge	14.2	18.0	-3.8
146	Lancaster	14.2	16.6	-2.4
147	Hart	14.2	14.5	-0.3
148	Arun	14.2	12.6	1.6
149	North Lincolnshire	14.1	14.2	-0.1
150	Wolverhampton	14.0	14.4	-0.4
151	Walsall	14.0	12.5	1.5
152	Sutton	14.0	14.2	-0.2
153	Wealden	13.9	16.6	-2.7
154	West Berkshire	13.9	14.0	-0.1
155	East Northamptonshire	13.9	14.9	-1.0

156	Runnymede	13.9	15.2	-1.3
157	Plymouth	13.9	13.0	0.9
158	Waltham Forest	13.9	15.2	-1.3
159	Huntingdonshire	13.8	17.5	-3.7
160	Mid Sussex	13.8	17.4	-3.6
161	Maldon	13.8	15.1	-1.3
162	Chorley	13.8	14.7	-0.9
163	Wandsworth	13.8	17.0	-3.2
164	Selby	13.7	16.4	-2.7
165	Pendle	13.7	15.4	-1.7
166	Hertsmere	13.7	14.6	-0.9
167	South Derbyshire	13.7	13.2	0.5
168	Dover	13.7	14.8	-1.1
169	North Somerset	13.6	15.4	-1.8
170	Fylde	13.6	16.3	-2.7
171	Reading	13.6	14.2	-0.6
172	Weymouth and Portland	13.6	12.6	1.0
173	Stafford	13.5	14.2	-0.7
174	North East Lincolnshire	13.5	11.4	2.1
175	Middlesbrough	13.5	13.7	-0.2
176	Surrey Heath	13.4	13.4	0.0
177	Cheshire West and Chester	13.4	14.6	-1.2
178	South Holland	13.4	15.8	-2.4
179	Lichfield	13.4	14.3	-0.9
180	Burnley	13.4	12.8	0.6
181	Mansfield	13.4	11.5	1.9
182	Barking and Dagenham	13.4	15.0	-1.6
183	Cherwell	13.3	13.6	-0.3
184	Waveney	13.3	13.7	-0.4
185	Trafford	13.3	15.1	-1.8
186	Ashford	13.2	13.4	-0.2
187	Copeland	13.2	16.5	-3.3
188	Gedling	13.2	10.7	2.5
189	Liverpool	13.2	15.4	-2.2
190	Exeter	13.1	13.2	-0.1
191	Cheltenham	13.1	14.8	-1.7
192	Watford	13.1	13.0	0.1
193	North East Derbyshire	13.1	14.9	-1.8
194	Chesterfield	13.1	13.6	-0.5
195	Test Valley	12.9	15.4	-2.5
196	Cheshire East	12.9	16.8	-3.9
197	Peterborough	12.9	13.0	-0.1
198	South Ribble	12.9	12.5	0.4
199	Sandwell	12.9	13.3	-0.4
200	Telford and Wrekin	12.8	12.0	0.8
201	Wellingborough	12.8	12.7	0.1
202	Milton Keynes	12.8	14.6	-1.8
203	Bexley	12.8	12.5	0.3
204	Slough	12.8	14.9	-2.1
205	Epping Forest	12.7	14.1	-1.4
206	Basingstoke and Deane	12.7	14.0	-1.3
207	Maidstone	12.7	13.8	-1.1
208	York	12.7	13.8	-1.1

209	East Staffordshire	12.7	13.5	-0.8
210	Central Bedfordshire	12.6	15.2	-2.6
211	Charnwood	12.6	13.5	-0.9
212	Southampton	12.6	14.3	-1.7
213	Merton	12.6	15.3	-2.7
214	Durham	12.6	16.2	-3.6
215	Southend-on-Sea	12.5	12.6	-0.1
216	Boston	12.5	13.0	-0.5
217	Leicester	12.5	15.7	-3.2
218	Broadland	12.4	12.7	-0.3
219	Wokingham	12.4	13.4	-1.0
220	Colchester	12.4	14.7	-2.3
221	Kettering	12.4	12.2	0.2
222	Rushmoor	12.4	12.4	0.0
223	Welwyn Hatfield	12.3	14.7	-2.4
224	Worthing	12.3	12.8	-0.5
225	Wyre Forest	12.3	13.2	-0.9
226	Gloucester	12.3	11.5	0.8
227	Staffordshire Moorlands	12.3	13.1	-0.8
228	Sheffield	12.3	14.3	-2.0
229	Blackpool	12.3	13.0	-0.7
230	Doncaster	12.3	12.6	-0.3
231	Blackburn with Darwen	12.2	15.9	-3.7
232	Swindon	12.2	12.1	0.1
233	Canterbury	12.2	14.4	-2.2
234	Ipswich	12.2	12.9	-0.7
235	Adur	12.1	11.0	1.1
236	Broxtowe	12.1	12.0	0.1
237	Great Yarmouth	12.1	12.3	-0.2
238	Stockport	12.0	14.0	-2.0
239	Rugby	12.0	15.6	-3.6
240	Three Rivers	12.0	13.8	-1.8
241	North Warwickshire	11.9	12.6	-0.7
242	Gosport	11.9	12.7	-0.8
243	Corby	11.9	12.5	-0.6
244	Kingston upon Hull, City of	11.9	13.1	-1.2
245	West Lancashire	11.8	16.9	-5.1
246	Forest Heath	11.8	19.0	-7.2
247	Shepway	11.8	14.7	-2.9
248	Tendring	11.8	14.6	-2.8
249	Erewash	11.7	10.3	1.4
250	North Kesteven	11.7	17.5	-5.8
251	Stevenage	11.7	11.4	0.3
252	Poole	11.6	12.3	-0.7
253	Lincoln	11.6	12.6	-1.0
254	Barnsley	11.6	11.8	-0.2
255	Bolsover	11.6	13.4	-1.8
256	Warrington	11.5	13.8	-2.3
257	Bolton	11.5	14.8	-3.3
258	Eastleigh	11.5	13.2	-1.7
259	Crawley	11.3	13.9	-2.6
260	Havering	11.3	10.8	0.5
261	Dacorum	11.2	16.6	-5.4

262	Tonbridge and Malling	11.2	16.1	-4.9
263	Redditch	11.2	11.0	0.2
264	South Tyneside	11.2	14.1	-2.9
265	Wyre	11.1	14.4	-3.3
266	Solihull	11.1	12.8	-1.7
267	Rotherham	11.1	11.8	-0.7
268	Leeds	11.1	13.6	-2.5
269	North Tyneside	11.1	13.5	-2.4
270	Brentwood	11.0	13.9	-2.9
271	Epsom and Ewell	11.0	14.6	-3.6
272	Carlisle	11.0	14.7	-3.7
273	Redcar and Cleveland	11.0	13.6	-2.6
274	Coventry	11.0	12.1	-1.1
275	Spelthorne	11.0	12.3	-1.3
276	Hartlepool	10.9	12.9	-2.0
277	Wakefield	10.9	12.7	-1.8
278	Amber Valley	10.8	13.3	-2.5
279	Nuneaton and Bedworth	10.8	11.2	-0.4
280	Sefton	10.8	13.2	-2.4
281	Braintree	10.7	14.5	-3.8
282	Swale	10.7	12.4	-1.7
283	Fenland	10.7	15.9	-5.2
284	Derby	10.6	12.7	-2.1
285	Havant	10.6	11.4	-0.8
286	Tameside	10.6	13.4	-2.8
287	Birmingham	10.6	15.3	-4.7
288	Gateshead	10.6	13.3	-2.7
289	South Gloucestershire	10.5	11.1	-0.6
290	North West Leicestershire	10.5	13.4	-2.9
291	Broxbourne	10.5	10.2	0.3
292	Halton	10.5	13.4	-2.9
293	Barrow-in-Furness	10.4	12.8	-2.4
294	Newcastle upon Tyne	10.3	15.3	-5.0
295	Hinckley and Bosworth	10.2	13.3	-3.1
296	Northampton	10.2	12.4	-2.2
297	Bury	10.1	13.9	-3.8
298	Thanet	10.1	12.6	-2.5
299	Wirral	10.0	14.0	-4.0
300	Newcastle-under-Lyme	10.0	11.4	-1.4
301	Thurrock	10.0	12.1	-2.1
302	Chelmsford	9.9	12.2	-2.3
303	Worcester	9.9	11.5	-1.6
304	Oadby and Wigston	9.9	12.1	-2.2
305	Blaby	9.8	10.2	-0.4
306	Knowsley	9.7	13.0	-3.3
307	Harlow	9.6	13.9	-4.3
308	Basildon	9.6	11.9	-2.3
309	Wigan	9.5	12.9	-3.4
310	Stoke-on-Trent	9.4	12.1	-2.7
311	Fareham	9.2	10.5	-1.3
312	Darlington	9.2	14.2	-5.0
313	Dartford	9.1	12.1	-3.0
314	Bracknell Forest	9.0	12.5	-3.5
315	Ashfield	9.0	11.5	-2.5

316	Dudley	8.9	11.8	-2.9
317	St. Edmundsbury	8.8	13.3	-4.5
318	Tamworth	8.8	9.4	-0.6
319	Castle Point	8.6	10.4	-1.8
320	South Staffordshire	8.3	12.8	-4.5
321	Sunderland	8.2	13.0	-4.8
322	Stockton-on-Tees	7.9	12.9	-5.0
323	Cannock Chase	7.7	12.2	-4.5
324	Rochford	7.6	10.5	-2.9

Source: Consulting Inplace, 2010

Volunteering

Base model

Base_new:OLS, using observations 1-326 (n = 324)
Missing or incomplete observations dropped: 2
Dependent variable: Volunteering

	Coefficient	*Std. Error*	*t-ratio*	*p-value*	
const	-6.63495	2.81113	-2.3602	0.01886	**
Professionals	0.242902	0.0548421	4.4291	0.00001	***
NVQ1	0.258314	0.05056	5.1091	<0.00001	***
Age50_over	0.319583	0.0392824	8.1355	<0.00001	***
White	-0.0810605	0.0281976	-2.8747	0.00432	***

Mean dependent var	23.84537	S.D. dependent var	4.545083
Sum squared resid	4273.921	S.E. of regression	3.660310
R-squared	0.359469	Adjusted R-squared	0.351437
F(4, 319)	44.75602	P-value(F)	8.11e-30
Log-likelihood	-877.6221	Akaike criterion	1765.244
Schwarz criterion	1784.148	Hannan-Quinn	1772.790

Non-linearity test (squares) -
Null hypothesis: relationship is linear
Test statistic: LM = 5.54937
with p-value = P(Chi-Square(4) > 5.54937) = 0.235424

White's test for heteroskedasticity -
Null hypothesis: heteroskedasticity not present
Test statistic: LM = 7.57991
with p-value = P(Chi-Square(14) > 7.57991) = 0.910045

Test for normality of residual -
Null hypothesis: error is normally distributed
Test statistic: Chi-square(2) = 9.04162
with p-value = 0.0108802

Model 1

Model 1 new:OLS, using observations 1-326 (n = 324)
Missing or incomplete observations dropped: 2
Dependent variable: Volunteering

	Coefficient	*Std. Error*	*t-ratio*	*p-value*	
const	20.548	5.46249	3.7616	0.00020	***
Professionals	0.0729412	0.0521844	1.3978	0.16317	
NVQ1	0.0289034	0.0506263	0.5709	0.56846	
Age50_over	0.228195	0.038126	5.9853	<0.00001	***
White	-0.0969275	0.0252838	-3.8336	0.00015	***
Hours	-0.0010236	0.0420429	-0.0243	0.98059	
Employment_rate	0.136679	0.0471623	2.8981	0.00402	***
Owneroccupied	-0.119449	0.0333167	-3.5853	0.00039	***
ASB	-0.33471	0.0442977	-7.5559	<0.00001	***
Marriage	0.0316736	0.0341096	0.9286	0.35382	

Mean dependent var	23.84537	S.D. dependent var	4.545083
Sum squared resid	3210.320	S.E. of regression	3.197491
R-squared	0.518870	Adjusted R-squared	0.505080
F(9, 314)	37.62562	P-value(F)	5.87e-45
Log-likelihood	-831.2641	Akaike criterion	1682.528
Schwarz criterion	1720.336	Hannan-Quinn	1697.619

Non-linearity test (squares) -
Null hypothesis: relationship is linear
Test statistic: LM = 29.7409
with p-value = P(Chi-Square(9) > 29.7409) = 0.00048554

White's test for heteroskedasticity -
Null hypothesis: heteroskedasticity not present
Test statistic: LM = 67.0819
with p-value = P(Chi-Square(54) > 67.0819) = 0.108885

Test for normality of residual -
Null hypothesis: error is normally distributed
Test statistic: Chi-square(2) = 2.64598
with p-value = 0.266337

Model 2

Model 2 new:OLS, using observations 1-326 (n = 324)
Missing or incomplete observations dropped: 2
Dependent variable: Volunteering

	Coefficient	*Std. Error*	*t-ratio*	*p-value*	
const	1.54051	3.2266	0.4774	0.63338	
Professionals	0.28107	0.0525063	5.3531	<0.00001	***
NVQ1	0.180047	0.0517698	3.4778	0.00058	***
Age50_over	0.28928	0.0373508	7.7449	<0.00001	***
White	-0.0843087	0.0312643	-2.6966	0.00739	***
EM_1	-0.57642	0.922699	-0.6247	0.53262	
EE_1	0.402905	0.897651	0.4488	0.65386	
LON_1	-2.69046	1.1702	-2.2991	0.02216	**
NoE_1	-5.4566	1.23708	-4.4109	0.00001	***
NW_1	-1.48786	0.924025	-1.6102	0.10837	
SE_1	-0.892256	0.875533	-1.0191	0.30895	
SW_1	1.99385	0.97144	2.0525	0.04096	**
WM_1	-1.79613	0.976705	-1.8390	0.06687	*

Mean dependent var	23.84537	S.D. dependent var	4.545083
Sum squared resid	3616.490	S.E. of regression	3.410071
R-squared	0.457998	Adjusted R-squared	0.437084
F(12, 311)	21.89986	P-value(F)	7.57e-35
Log-likelihood	-850.5637	Akaike criterion	1727.127
Schwarz criterion	1776.277	Hannan-Quinn	1746.745

Non-linearity test (squares) -
Null hypothesis: relationship is linear
Test statistic: LM = 5.7859
with p-value = P(Chi-Square(4) > 5.7859) = 0.215718

White's test for heteroskedasticity -
Null hypothesis: heteroskedasticity not present
Test statistic: LM = 53.3949
with p-value = P(Chi-Square(54) > 53.3949) = 0.497677

Test for normality of residual -
Null hypothesis: error is normally distributed
Test statistic: Chi-square(2) = 7.75547
with p-value = 0.0206976

Model 3

Model 3 new:OLS, using observations 1-326 (n = 324)
Missing or incomplete observations dropped: 2
Dependent variable: Volunteering

	Coefficient	*Std. Error*	*t-ratio*	*p-value*	
const	20.1716	2.77823	7.2606	<0.00001	***
Professionals	0.228459	0.0405012	5.6408	<0.00001	***
NVQ1	0.12682	0.040001	3.1704	0.00168	***
Age50_over	0.100675	0.0317	3.1759	0.00165	***
White	-0.0957928	0.0244509	-3.9178	0.00011	***
EM_1	-1.11628	0.712105	-1.5676	0.11801	
EE_1	-0.0757057	0.690962	-0.1096	0.91283	
LON_1	-1.68741	0.947984	-1.7800	0.07607	*
NoE_1	-3.53469	0.96502	-3.6628	0.00029	***
NW_1	-0.0860528	0.71925	-0.1196	0.90484	
SE_1	0.0210748	0.677544	0.0311	0.97521	
SW_1	2.07625	0.750526	2.7664	0.00601	***
WM_1	-0.958504	0.75478	-1.2699	0.20508	
Major_urban_	-8.03638	0.654076	-12.2866	<0.00001	***
Large_urban_	-7.08684	0.606735	-11.6803	<0.00001	***
Other_urban_	-6.76688	0.552102	-12.2566	<0.00001	***
Sig_rural_	-4.02739	0.53069	-7.5890	<0.00001	***
Rural_50_	-2.79884	0.530918	-5.2717	<0.00001	***

Mean dependent var	23.84537	S.D. dependent var	4.545083
Sum squared resid	2091.500	S.E. of regression	2.614377
R-squared	0.686548	Adjusted R-squared	0.669133
F(17, 306)	39.42497	P-value(F)	1.06e-66
Log-likelihood	-761.8488	Akaike criterion	1559.698
Schwarz criterion	1627.751	Hannan-Quinn	1586.861

Non-linearity test (squares) -
Null hypothesis: relationship is linear
Test statistic: LM = 6.65847
with p-value = P(Chi-Square(4) > 6.65847) = 0.155075

White's test for heteroskedasticity -
Null hypothesis: heteroskedasticity not present
Test statistic: LM = 131.149
with p-value = P(Chi-Square(111) > 131.149) = 0.0930359

Test for normality of residual -
Null hypothesis: error is normally distributed
Test statistic: Chi-square(2) = 1.93796
with p-value = 0.37947

Model 4

Model 4:OLS, using observations 1-326 (n = 324)
Missing or incomplete observations dropped: 2
Dependent variable: Volunteering

	Coefficient	*Std. Error*	*t-ratio*	*p-value*	
const	19.3781	6.48049	2.9902	0.00301	***
Professionals	0.164464	0.0413769	3.9748	0.00009	***
NVQ1	0.00510128	0.0425306	0.1199	0.90461	
Age50_over	0.0976945	0.0330416	2.9567	0.00335	***
White	0.265867	0.137103	1.9392	0.05340	*
Employment_rate	0.042243	0.037862	1.1157	0.26542	
Owneroccupied	-0.0158392	0.0277407	-0.5710	0.56844	
ASB	-0.463705	0.105394	-4.3997	0.00001	***
LON_1	-1.30085	0.76655	-1.6970	0.09071	*
NoE_1	-2.93113	0.792045	-3.7007	0.00026	***
SW_1	2.70415	0.48934	5.5261	<0.00001	***
WM_1	-0.86306	0.503555	-1.7139	0.08756	*
Major_urban_	-6.10239	0.719491	-8.4815	<0.00001	***
Large_urban_	-5.65046	0.638573	-8.8486	<0.00001	***
Other_urban_	-5.0706	0.603517	-8.4018	<0.00001	***
Sig_rural_	-3.0915	0.534478	-5.7841	<0.00001	***
Rural_50_	-1.97174	0.52264	-3.7727	0.00019	***
sq_White	-0.00228603	0.000871529	-2.6230	0.00915	***
sq_ASB	0.00692594	0.00230412	3.0059	0.00287	***

Mean dependent var	23.84537	S.D. dependent var	4.545083
Sum squared resid	1885.302	S.E. of regression	2.486226
R-squared	0.717450	Adjusted R-squared	0.700775
F(18, 305)	43.02535	P-value(F)	1.28e-72
Log-likelihood	-745.0343	Akaike criterion	1528.069
Schwarz criterion	1599.903	Hannan-Quinn	1556.741

Non-linearity test (squares) -
Null hypothesis: relationship is linear
Test statistic: LM = 5.63329
with p-value = P(Chi-Square(9) > 5.63329) = 0.775985

White's test for heteroskedasticity -
Null hypothesis: heteroskedasticity not present
Test statistic: LM = 156.042
with p-value = P(Chi-Square(153) > 156.042) = 0.416504

Test for normality of residual -
Null hypothesis: error is normally distributed
Test statistic: Chi-square(2) = 0.914969
with p-value = 0.632874

Involved

Base model

Base new:OLS, using observations 1-326 (n = 323)
Missing or incomplete observations dropped: 3
Dependent variable: Involved

	Coefficient	*Std. Error*	*t-ratio*	*p-value*	
const	9.68595	1.45061	6.6772	<0.00001	***
Associate_profe	0.127604	0.0503394	2.5349	0.01173	**
NVQ4	0.135663	0.0206311	6.5756	<0.00001	***
Age50_over	0.167433	0.0272937	6.1345	<0.00001	***
White	-0.0960085	0.0164983	-5.8193	<0.00001	***

Mean dependent var	14.04830	S.D. dependent var	3.069529
Sum squared resid	2087.364	S.E. of regression	2.562038
R-squared	0.311984	Adjusted R-squared	0.303329
F(4, 318)	36.04957	P-value(F)	7.63e-25
Log-likelihood	-759.6769	Akaike criterion	1529.354
Schwarz criterion	1548.242	Hannan-Quinn	1536.894

Non-linearity test (squares) -
Null hypothesis: relationship is linear
Test statistic: LM = 28.9025
with p-value = P(Chi-Square(4) > 28.9025) = 8.18206e-006

White's test for heteroskedasticity -
Null hypothesis: heteroskedasticity not present
Test statistic: LM = 20.6529
with p-value = P(Chi-Square(14) > 20.6529) = 0.110863

Test for normality of residual -
Null hypothesis: error is normally distributed
Test statistic: Chi-square(2) = 6.0915
with p-value = 0.0475607

Model 1

Model 1 new:OLS, using observations 1-326 (n = 323)
Missing or incomplete observations dropped: 3
Dependent variable: Involved

	Coefficient	*Std. Error*	*t-ratio*	*p-value*	
const	22.2688	3.47449	6.4092	<0.00001	***
Associate_profe	0.0554527	0.0460668	1.2037	0.22960	
NVQ4	0.0545393	0.0230575	2.3654	0.01862	**
Age50_over	0.182283	0.0268016	6.8012	<0.00001	***
White	-0.10013	0.0168001	-5.9601	<0.00001	***
Hours	0.0673473	0.0305967	2.2011	0.02846	**
Employment_rate	0.00873464	0.033105	0.2638	0.79207	
Owneroccupied	-0.206591	0.0248915	-8.2996	<0.00001	***
ASB	-0.122519	0.0308906	-3.9662	0.00009	***
Marriage	0.0262415	0.0240776	1.0899	0.27661	

Mean dependent var	14.04830	S.D. dependent var	3.069529
Sum squared resid	1613.581	S.E. of regression	2.270509
R-squared	0.468147	Adjusted R-squared	0.452854
F(9, 313)	30.61208	P-value(F)	3.81e-38
Log-likelihood	-718.0994	Akaike criterion	1456.199
Schwarz criterion	1493.975	Hannan-Quinn	1471.279

Non-linearity test (squares) -
Null hypothesis: relationship is linear
Test statistic: LM = 30.7279
with p-value = P(Chi-Square(9) > 30.7279) = 0.000329581

White's test for heteroskedasticity -
Null hypothesis: heteroskedasticity not present
Test statistic: LM = 67.0833
with p-value = P(Chi-Square(54) > 67.0833) = 0.108864

Test for normality of residual -
Null hypothesis: error is normally distributed
Test statistic: Chi-square(2) = 3.07389
with p-value = 0.215038

Model 2

Model 2: OLS, using observations 1-326 (n = 323)
Missing or incomplete observations dropped: 3
Dependent variable: Involved

	Coefficient	*Std. Error*	*t-ratio*	*p-value*	
const	9.86184	1.74367	5.6558	<0.00001	***
Associate_profe	0.1148	0.0501614	2.2886	0.02277	**
NVQ4	0.120494	0.0206037	5.8482	<0.00001	***
Age50_over	0.152032	0.0267092	5.6921	<0.00001	***
White	-0.0765988	0.0194013	-3.9481	0.00010	***
EM_1	-0.522426	0.664314	-0.7864	0.43223	
EE_1	-0.969052	0.646275	-1.4994	0.13478	
LON_1	0.460803	0.877516	0.5251	0.59987	
NoE_1	-2.56466	0.891908	-2.8755	0.00431	***
NW_1	-1.18366	0.666163	-1.7768	0.07658	*
SE_1	-1.05296	0.625883	-1.6824	0.09351	*
SW_1	1.01139	0.689651	1.4665	0.14352	
WM_1	-1.4418	0.702181	-2.0533	0.04088	**

Mean dependent var	14.04830	S.D. dependent var	3.069529
Sum squared resid	1873.398	S.E. of regression	2.458296
R-squared	0.382509	Adjusted R-squared	0.358606
F(12, 310)	16.00264	P-value(F)	2.50e-26
Log-likelihood	-742.2110	Akaike criterion	1510.422
Schwarz criterion	1559.531	Hannan-Quinn	1530.026

Non-linearity test (squares) -
Null hypothesis: relationship is linear
Test statistic: LM = 20.609
with p-value = P(Chi-Square(4) > 20.609) = 0.000378495

White's test for heteroskedasticity -
Null hypothesis: heteroskedasticity not present
Test statistic: LM = 66.3698
with p-value = P(Chi-Square(54) > 66.3698) = 0.120407

Test for normality of residual -
Null hypothesis: error is normally distributed
Test statistic: Chi-square(2) = 11.6669
with p-value = 0.00292791

Model 3

Model 3 new:OLS, using observations 1-326 (n = 323)
Missing or incomplete observations dropped: 3
Dependent variable: Involved

	Coefficient	*Std. Error*	*t-ratio*	*p-value*	
const	19.9609	1.69073	11.8061	<0.00001	***
Associate_profe	0.118778	0.0417365	2.8459	0.00473	***
NVQ4	0.0841442	0.017529	4.8003	<0.00001	***
Age50_over	0.034238	0.024589	1.3924	0.16481	
White	-0.0874904	0.0164977	-5.3032	<0.00001	***
EM_1	-0.824161	0.554932	-1.4852	0.13854	
EE_1	-1.2732	0.538855	-2.3628	0.01877	**
LON_1	1.05915	0.763628	1.3870	0.16646	
NoE_1	-1.50998	0.752863	-2.0057	0.04578	**
NW_1	-0.41002	0.561209	-0.7306	0.46558	
SE_1	-0.422274	0.524464	-0.8052	0.42136	
SW_1	0.92234	0.576768	1.5992	0.11082	
WM_1	-0.841919	0.587466	-1.4331	0.15284	
Major_urban_	-4.88548	0.511801	-9.5457	<0.00001	***
Large_urban_	-4.76071	0.476008	-10.0013	<0.00001	***
Other_urban_	-4.29601	0.431583	-9.9541	<0.00001	***
Sig_rural_	-3.37169	0.414565	-8.1331	<0.00001	***
Rural_50_	-2.02264	0.415749	-4.8651	<0.00001	***

Mean dependent var	14.04830	S.D. dependent var	3.069529
Sum squared resid	1269.978	S.E. of regression	2.040555
R-squared	0.581402	Adjusted R-squared	0.558071
F(17, 305)	24.91900	P-value(F)	7.76e-48
Log-likelihood	-679.4272	Akaike criterion	1394.854
Schwarz criterion	1462.852	Hannan-Quinn	1421.998

Non-linearity test (squares) -
Null hypothesis: relationship is linear
Test statistic: LM = 12.4721
with p-value = P(Chi-Square(4) > 12.4721) = 0.0141653

White's test for heteroskedasticity -
Null hypothesis: heteroskedasticity not present
Test statistic: LM = 119.178
with p-value = P(Chi-Square(111) > 119.178) = 0.280819

Test for normality of residual -
Null hypothesis: error is normally distributed
Test statistic: Chi-square(2) = 4.5084
with p-value = 0.104958

Model 4

Model 4 new:OLS, using observations 1-326 (n = 323)
Missing or incomplete observations dropped: 3
Dependent variable: Involved

	Coefficient	*Std. Error*	*t-ratio*	*p-value*	
const	21.8957	2.05915	10.6334	<0.00001	***
Associate_profe	0.092249	0.0395068	2.3350	0.02018	**
NVQ4	0.0787386	0.0197224	3.9923	0.00008	***
Age50_over	0.0964581	0.0244606	3.9434	0.00010	***
EE_1	-1.14011	0.325036	-3.5076	0.00052	***
NoE_1	-1.79991	0.596624	-3.0168	0.00277	***
Major_urban_	-4.49031	0.493002	-9.1081	<0.00001	***
Large_urban_	-4.42638	0.467419	-9.4698	<0.00001	***
Other_urban_	-4.17919	0.43564	-9.5932	<0.00001	***
Sig_rural_	-3.10279	0.397541	-7.8050	<0.00001	***
Rural_50_	-1.7778	0.39835	-4.4629	0.00001	***
Hours	0.00774169	0.0267794	0.2891	0.77271	
Owneroccupied	-0.15372	0.0212719	-7.2264	<0.00001	***
sq_White	-0.000553586	0.000100419	-5.5128	<0.00001	***
sq_ASB	-0.000165034	0.000597076	-0.2764	0.78242	

Mean dependent var	14.04830	S.D. dependent var	3.069529
Sum squared resid	1149.940	S.E. of regression	1.932245
R-squared	0.620968	Adjusted R-squared	0.603739
F(14, 308)	36.04260	P-value(F)	1.63e-56
Log-likelihood	-663.3919	Akaike criterion	1356.784
Schwarz criterion	1413.449	Hannan-Quinn	1379.404

Non-linearity test (squares) -
Null hypothesis: relationship is linear
Test statistic: LM = 7.10974
with p-value = P(Chi-Square(7) > 7.10974) = 0.417544

White's test for heteroskedasticity -
Null hypothesis: heteroskedasticity not present
Test statistic: LM = 103.087
with p-value = P(Chi-Square(100) > 103.087) = 0.396226

Test for normality of residual -
Null hypothesis: error is normally distributed
Test statistic: Chi-square(2) = 0.273285
with p-value = 0.872282

Influence

Base model

Base:OLS, using observations 1-326 (n = 324)
Missing or incomplete observations dropped: 2
Dependent variable: Influence

	Coefficient	*Std. Error*	*t-ratio*	*p-value*	
const	37.0404	1.67383	22.1291	<0.00001	***
Professionals	0.0228787	0.0642232	0.3562	0.72190	
NVQ4	0.160471	0.0330867	4.8500	<0.00001	***
Age50_over	0.0485658	0.0331462	1.4652	0.14385	
White	-0.170336	0.0198905	-8.5637	<0.00001	***

Mean dependent var	28.67407	S.D. dependent var	4.016954
Sum squared resid	3063.260	S.E. of regression	3.098822
R-squared	0.412257	Adjusted R-squared	0.404887
F(4, 319)	55.93853	P-value(F)	1.02e-35
Log-likelihood	-823.6677	Akaike criterion	1657.335
Schwarz criterion	1676.239	Hannan-Quinn	1664.881

Non-linearity test (squares) -
Null hypothesis: relationship is linear
Test statistic: LM = 29.8301
with p-value = P(Chi-Square(4) > 29.8301) = 5.30004e-006

White's test for heteroskedasticity -
Null hypothesis: heteroskedasticity not present
Test statistic: LM = 24.4947
with p-value = P(Chi-Square(14) > 24.4947) = 0.0398957

Test for normality of residual -
Null hypothesis: error is normally distributed
Test statistic: Chi-square(2) = 1.67618
with p-value = 0.432537

Model 1

Model 1:OLS, using observations 1-326 (n = 324)
Missing or incomplete observations dropped: 2
Dependent variable: Influence

	Coefficient	*Std. Error*	*t-ratio*	*p-value*	
const	57.9696	4.41615	13.1267	<0.00001	***
Professionals	0.0166132	0.0601792	0.2761	0.78268	
NVQ4	0.0671061	0.0350145	1.9165	0.05621	*
Age50_over	0.0180923	0.0338978	0.5337	0.59391	
White	-0.189328	0.0208706	-9.0715	<0.00001	***
Hours	-0.018485	0.0380384	-0.4860	0.62734	
Employment_rate	-0.0623162	0.0411993	-1.5126	0.13140	
Owneroccupied	-0.175208	0.0306441	-5.7175	<0.00001	***
ASB	-0.222522	0.0389189	-5.7176	<0.00001	***
Marriage	0.0714125	0.0303355	2.3541	0.01918	**

Mean dependent var	28.67407	S.D. dependent var	4.016954
Sum squared resid	2538.491	S.E. of regression	2.843302
R-squared	0.512943	Adjusted R-squared	0.498983
F(9, 314)	36.74323	P-value(F)	3.85e-44
Log-likelihood	-793.2263	Akaike criterion	1606.453
Schwarz criterion	1644.260	Hannan-Quinn	1621.543

Non-linearity test (squares) -
Null hypothesis: relationship is linear
Test statistic: LM = 34.3573
with p-value = P(Chi-Square(9) > 34.3573) = 7.73136e-005

White's test for heteroskedasticity -
Null hypothesis: heteroskedasticity not present
Test statistic: LM = 67.1834
with p-value = P(Chi-Square(54) > 67.1834) = 0.107316

Test for normality of residual -
Null hypothesis: error is normally distributed
Test statistic: Chi-square(2) = 7.02564
with p-value = 0.0298128

Model 2

Model 2:OLS, using observations 1-326 (n = 324)
Missing or incomplete observations dropped: 2
Dependent variable: Influence

	Coefficient	*Std. Error*	*t-ratio*	*p-value*	
const	33.8669	2.17351	15.5816	<0.00001	***
Professionals	0.0404273	0.0652891	0.6192	0.53624	
NVQ4	0.153911	0.0355621	4.3280	0.00002	***
Age50_over	0.0626157	0.033539	1.8669	0.06285	*
White	-0.143367	0.0239086	-5.9965	<0.00001	***
EM_1	0.461318	0.826224	0.5583	0.57701	
EE_1	0.491646	0.806956	0.6093	0.54280	
LON_1	1.73733	1.07898	1.6102	0.10838	
NoE_1	1.46072	1.1109	1.3149	0.18952	
NW_1	-0.380155	0.829518	-0.4583	0.64707	
SE_1	-0.822245	0.777182	-1.0580	0.29088	
SW_1	-0.119392	0.85552	-0.1396	0.88910	
WM_1	-0.566252	0.875028	-0.6471	0.51803	

Mean dependent var	28.67407	S.D. dependent var	4.016954
Sum squared resid	2911.613	S.E. of regression	3.059755
R-squared	0.441353	Adjusted R-squared	0.419798
F(12, 311)	20.47520	P-value(F)	6.96e-33
Log-likelihood	-815.4425	Akaike criterion	1656.885
Schwarz criterion	1706.035	Hannan-Quinn	1676.503

Non-linearity test (squares) -
Null hypothesis: relationship is linear
Test statistic: LM = 27.0296
with p-value = P(Chi-Square(4) > 27.0296) = 1.96072e-005

White's test for heteroskedasticity -
Null hypothesis: heteroskedasticity not present
Test statistic: LM = 68.4194
with p-value = P(Chi-Square(54) > 68.4194) = 0.0896101

Test for normality of residual -
Null hypothesis: error is normally distributed
Test statistic: Chi-square(2) = 0.536905
with p-value = 0.764562

Model 3

Model 3:OLS, using observations 1-326 (n = 324)
Missing or incomplete observations dropped: 2
Dependent variable: Influence

	Coefficient	*Std. Error*	*t-ratio*	*p-value*	
const	39.1279	2.46424	15.8783	<0.00001	***
Professionals	0.0425061	0.0633675	0.6708	0.50286	
NVQ4	0.138377	0.0349872	3.9551	0.00010	***
Age50_over	0.00236604	0.0359875	0.0657	0.94762	
White	-0.148409	0.0237393	-6.2516	<0.00001	***
EM_1	0.25402	0.806921	0.3148	0.75313	
EE_1	0.41297	0.786361	0.5252	0.59985	
LON_1	2.15609	1.10214	1.9563	0.05134	*
NoE_1	2.01608	1.09608	1.8394	0.06683	*
NW_1	0.0815711	0.816861	0.0999	0.92052	
SE_1	-0.498408	0.760974	-0.6550	0.51299	
SW_1	-0.303975	0.836106	-0.3636	0.71644	
WM_1	-0.143136	0.855761	-0.1673	0.86727	
Major_urban_	-2.86031	0.744043	-3.8443	0.00015	***
Large_urban_	-1.97236	0.692225	-2.8493	0.00468	***
Other_urban_	-2.55921	0.627699	-4.0771	0.00006	***
Sig_rural_	-2.52301	0.602511	-4.1875	0.00004	***
Rural_50_	-1.22921	0.60289	-2.0389	0.04232	**

Mean dependent var	28.67407	S.D. dependent var	4.016954
Sum squared resid	2696.564	S.E. of regression	2.968552
R-squared	0.482614	Adjusted R-squared	0.453871
F(17, 306)	16.79029	P-value(F)	1.55e-34
Log-likelihood	-803.0125	Akaike criterion	1642.025
Schwarz criterion	1710.078	Hannan-Quinn	1669.188

Non-linearity test (squares) -
Null hypothesis: relationship is linear
Test statistic: LM = 18.5897
with p-value = P(Chi-Square(4) > 18.5897) = 0.000946078

White's test for heteroskedasticity -
Null hypothesis: heteroskedasticity not present
Test statistic: LM = 139.022
with p-value = P(Chi-Square(111) > 139.022) = 0.0370307

Test for normality of residual -
Null hypothesis: error is normally distributed
Test statistic: Chi-square(2) = 1.81503
with p-value = 0.403526

Model 4

Model 4:OLS, using observations 1-326 (n = 324)
Missing or incomplete observations dropped: 2
Dependent variable: Influence

	Coefficient	*Std. Error*	*t-ratio*	*p-value*	
const	43.955	3.15525	13.9308	<0.00001	***
Professionals	0.0506602	0.0604965	0.8374	0.40301	
NVQ4	0.0413347	0.0361304	1.1440	0.25349	
Owneroccupied	-0.153388	0.0307775	-4.9838	<0.00001	***
ASB	-0.161015	0.0410354	-3.9238	0.00011	***
Marriage	0.0550688	0.030981	1.7775	0.07647	*
LON_1	2.33514	0.858165	2.7211	0.00688	***
NoE_1	1.37533	0.876925	1.5684	0.11782	
Major_urban_	-1.30543	0.76936	-1.6968	0.09075	*
Large_urban_	-0.877581	0.695443	-1.2619	0.20794	
Other_urban_	-1.27041	0.664449	-1.9120	0.05680	*
Sig_rural_	-1.54653	0.597623	-2.5878	0.01012	**
Rural_50_	-0.558189	0.592973	-0.9413	0.34727	
sq_White	-0.00100581	0.000152154	-6.6105	<0.00001	***
sq_Age50_over	0.000245546	0.000386434	0.6354	0.52563	

Mean dependent var	28.67407	S.D. dependent var	4.016954
Sum squared resid	2508.338	S.E. of regression	2.849140
R-squared	0.518729	Adjusted R-squared	0.496924
F(14, 309)	23.78927	P-value(F)	3.71e-41
Log-likelihood	-791.2905	Akaike criterion	1612.581
Schwarz criterion	1669.292	Hannan-Quinn	1635.217

Non-linearity test (squares) -
Null hypothesis: relationship is linear
Test statistic: LM = 39.9124
with p-value = P(Chi-Square(7) > 39.9124) = 1.30833e-006

White's test for heteroskedasticity -
Null hypothesis: heteroskedasticity not present
Test statistic: LM = 135.835
with p-value = P(Chi-Square(95) > 135.835) = 0.0038237

Test for normality of residual -
Null hypothesis: error is normally distributed
Test statistic: Chi-square(2) = 8.46998
with p-value = 0.01448

Future Participation

Base model

Base new:OLS, using observations 1-326 (n = 323)
Missing or incomplete observations dropped: 3
Dependent variable: Want_to_be_invo

	Coefficient	*Std. Error*	*t-ratio*	*p-value*	
const	42.9374	2.00541	21.4108	<0.00001	***
Associate_profe	0.253599	0.0466415	5.4372	<0.00001	***
NVQ1	-0.0910364	0.0343708	-2.6487	0.00848	***
Age50_over	0.00275891	0.0275167	0.1003	0.92020	
White	-0.146765	0.0199705	-7.3491	<0.00001	***

Mean dependent var	26.09690	S.D. dependent var	3.502810
Sum squared resid	2127.645	S.E. of regression	2.586640
R-squared	0.461470	Adjusted R-squared	0.454696
F(4, 318)	68.12403	P-value(F)	1.36e-41
Log-likelihood	-762.7638	Akaike criterion	1535.528
Schwarz criterion	1554.416	Hannan-Quinn	1543.068

Non-linearity test (squares) -
Null hypothesis: relationship is linear
Test statistic: LM = 6.42811
with p-value = P(Chi-Square(4) > 6.42811) = 0.169377

White's test for heteroskedasticity -
Null hypothesis: heteroskedasticity not present
Test statistic: LM = 10.6542
with p-value = P(Chi-Square(14) > 10.6542) = 0.712965

Test for normality of residual -
Null hypothesis: error is normally distributed
Test statistic: Chi-square(2) = 7.92057
with p-value = 0.0190577

Model 1

Model 1 new:OLS, using observations 1-326 (n = 323)
Missing or incomplete observations dropped: 3
Dependent variable: Want_to_be_invo

	Coefficient	*Std. Error*	*t-ratio*	*p-value*	
const	29.2798	4.09553	7.1492	<0.00001	***
Associate_profe	0.22307	0.0480502	4.6424	<0.00001	***
NVQ1	0.0338437	0.0403202	0.8394	0.40190	
Age50_over	0.0617235	0.0287967	2.1434	0.03285	**
White	-0.139195	0.019176	-7.2588	<0.00001	***
Hours	0.0764419	0.03318	2.3039	0.02189	**
Employment_rate	-0.0175436	0.0363521	-0.4826	0.62972	
Owneroccupied	-0.0128895	0.0260786	-0.4943	0.62147	
ASB	0.171152	0.0325801	5.2533	<0.00001	***
Marriage	-0.0549832	0.0259102	-2.1221	0.03462	**

Mean dependent var	26.09690	S.D. dependent var	3.502810
Sum squared resid	1884.345	S.E. of regression	2.453624
R-squared	0.523052	Adjusted R-squared	0.509337
F(9, 313)	38.13951	P-value(F)	2.19e-45
Log-likelihood	-743.1520	Akaike criterion	1506.304
Schwarz criterion	1544.081	Hannan-Quinn	1521.384

Non-linearity test (squares) -
Null hypothesis: relationship is linear
Test statistic: LM = 11.3213
with p-value = P(Chi-Square(9) > 11.3213) = 0.254328

White's test for heteroskedasticity -
Null hypothesis: heteroskedasticity not present
Test statistic: LM = 48.671
with p-value = P(Chi-Square(54) > 48.671) = 0.679374

Test for normality of residual -
Null hypothesis: error is normally distributed
Test statistic: Chi-square(2) = 12.4895
with p-value = 0.00194066

Model 2

Model 2 new:OLS, using observations 1-326 (n = 323)
Missing or incomplete observations dropped: 3
Dependent variable: Want_to_be_invo

	Coefficient	*Std. Error*	*t-ratio*	*p-value*	
const	38.4716	2.19775	17.5050	<0.00001	***
Associate_profe	0.133274	0.0449402	2.9656	0.00326	***
NVQ1	-0.110714	0.033494	-3.3055	0.00106	***
Age50_over	0.00121532	0.0251625	0.0483	0.96151	
White	-0.0762322	0.0210479	-3.6219	0.00034	***
EM_1	0.0887853	0.62924	0.1411	0.88788	
EE_1	0.188275	0.610916	0.3082	0.75815	
LON_1	5.01524	0.820065	6.1157	<0.00001	***
NoE_1	0.141242	0.842774	0.1676	0.86701	
NW_1	2.43229	0.629422	3.8643	0.00014	***
SE_1	2.36093	0.597371	3.9522	0.00010	***
SW_1	0.667304	0.662233	1.0077	0.31440	
WM_1	0.549719	0.664365	0.8274	0.40863	

Mean dependent var	26.09690	S.D. dependent var	3.502810
Sum squared resid	1672.627	S.E. of regression	2.322837
R-squared	0.576640	Adjusted R-squared	0.560252
F(12, 310)	35.18643	P-value(F)	7.39e-51
Log-likelihood	-723.9036	Akaike criterion	1473.807
Schwarz criterion	1522.917	Hannan-Quinn	1493.411

Non-linearity test (squares) -
Null hypothesis: relationship is linear
Test statistic: LM = 1.56243
with p-value = P(Chi-Square(4) > 1.56243) = 0.815528

White's test for heteroskedasticity -
Null hypothesis: heteroskedasticity not present
Test statistic: LM = 42.4102
with p-value = P(Chi-Square(54) > 42.4102) = 0.873138

Test for normality of residual -
Null hypothesis: error is normally distributed
Test statistic: Chi-square(2) = 11.454
with p-value = 0.00325678

Model 3

Model 3 new:OLS, using observations 1-326 (n = 323)
Missing or incomplete observations dropped: 3
Dependent variable: Want_to_be_invo

	Coefficient	*Std. Error*	*t-ratio*	*p-value*	
const	36.0133	2.47546	14.5481	<0.00001	***
Associate_profe	0.136068	0.0450463	3.0206	0.00274	***
NVQ1	-0.0997861	0.0339502	-2.9392	0.00354	***
Age50_over	0.0252337	0.0277081	0.9107	0.36318	
White	-0.075672	0.0214758	-3.5236	0.00049	***
EM_1	0.153043	0.63277	0.2419	0.80905	
EE_1	0.273796	0.613182	0.4465	0.65554	
LON_1	4.94756	0.860852	5.7473	<0.00001	***
NoE_1	-0.0682977	0.856945	-0.0797	0.93653	
NW_1	2.27458	0.63853	3.5622	0.00043	***
SE_1	2.26999	0.60269	3.7664	0.00020	***
SW_1	0.634535	0.66714	0.9511	0.34229	
WM_1	0.508464	0.669241	0.7598	0.44798	
Major_urban_	0.867029	0.580424	1.4938	0.13627	
Large_urban_	0.993458	0.537151	1.8495	0.06535	*
Other_urban_	0.68505	0.48948	1.3995	0.16267	
Sig_rural_	0.274395	0.471595	0.5818	0.56110	
Rural_50_	0.0669137	0.473086	0.1414	0.88761	

Mean dependent var	26.09690	S.D. dependent var	3.502810
Sum squared resid	1643.936	S.E. of regression	2.321627
R-squared	0.583902	Adjusted R-squared	0.560710
F(17, 305)	25.17648	P-value(F)	3.21e-48
Log-likelihood	-721.1093	Akaike criterion	1478.219
Schwarz criterion	1546.216	Hannan-Quinn	1505.363

Non-linearity test (squares) -
Null hypothesis: relationship is linear
Test statistic: LM = 3.64707
with p-value = P(Chi-Square(4) > 3.64707) = 0.455871

White's test for heteroskedasticity -
Null hypothesis: heteroskedasticity not present
Test statistic: LM = 87.9564
with p-value = P(Chi-Square(111) > 87.9564) = 0.947727

Test for normality of residual -
Null hypothesis: error is normally distributed
Test statistic: Chi-square(2) = 10.7109
with p-value = 0.00472234

Model 4

Model 4 new:OLS, using observations 1-326 (n = 323)
Missing or incomplete observations dropped: 3
Dependent variable: Want_to_be_invo

	Coefficient	*Std. Error*	*t-ratio*	*p-value*	
const	27.0325	3.40538	7.9382	<0.00001	***
Associate_profe	0.130757	0.0433536	3.0161	0.00277	***
NVQ1	-0.0128975	0.0360165	-0.3581	0.72051	
Age50_over	0.0581276	0.0252819	2.2992	0.02216	**
White	-0.0786533	0.019853	-3.9618	0.00009	***
Hours	0.0607621	0.0302029	2.0118	0.04510	**
ASB	0.138692	0.0282904	4.9025	<0.00001	***
Marriage	-0.056653	0.0233623	-2.4250	0.01588	**
LON_1	4.52126	0.650918	6.9460	<0.00001	***
NW_1	1.88277	0.408479	4.6092	<0.00001	***
SE_1	1.85413	0.336112	5.5164	<0.00001	***
Large_urban_	0.521102	0.392973	1.3261	0.18580	

Mean dependent var	26.09690	S.D. dependent var	3.502810
Sum squared resid	1518.580	S.E. of regression	2.209727
R-squared	0.615631	Adjusted R-squared	0.602036
F(11, 311)	45.28342	P-value(F)	4.64e-58
Log-likelihood	-708.2996	Akaike criterion	1440.599
Schwarz criterion	1485.931	Hannan-Quinn	1458.695

Non-linearity test (squares) -
Null hypothesis: relationship is linear
Test statistic: LM = 3.70859
with p-value = P(Chi-Square(7) > 3.70859) = 0.812663

White's test for heteroskedasticity -
Null hypothesis: heteroskedasticity not present
Test statistic: LM = 76.7722
with p-value = P(Chi-Square(69) > 76.7722) = 0.243664

Test for normality of residual -
Null hypothesis: error is normally distributed
Test statistic: Chi-square(2) = 12.5322
with p-value = 0.0018996

- Communities
- Economies
- Skills
- Enterprise