

**Does locality make a difference? The impact of housing allowance reforms on private landlords**

SANDERSON, Elizabeth <<http://orcid.org/0000-0003-1423-1670>> and  
WILSON, Ian <<http://orcid.org/0000-0001-8813-3382>>

Available from Sheffield Hallam University Research Archive (SHURA) at:  
<http://shura.shu.ac.uk/14990/>

---

This document is the author deposited version. You are advised to consult the publisher's version if you wish to cite from it.

**Published version**

SANDERSON, Elizabeth and WILSON, Ian (2017). Does locality make a difference? The impact of housing allowance reforms on private landlords. *Housing Studies*, 32 (7), 948-967.

---

**Copyright and re-use policy**

See <http://shura.shu.ac.uk/information.html>

# **Does Locality Make a Difference? The Impact of Housing Allowance Reforms on Private Landlords**

**ELIZABETH SANDERSON**

Centre for Regional Economic and Social Research, Sheffield Hallam University, Sheffield,  
UK

**IAN WILSON**

Centre for Regional Economic and Social Research, Sheffield Hallam University, Sheffield,  
UK

## **ABSTRACT**

*Housing subsidies are used by developed welfare states to ensure their citizens can access decent and affordable housing. This paper assesses the relative importance of individual and area level factors on the degree to which private sector landlords were affected by changes to Local Housing Allowance (LHA) in the UK. The changes were part of the Government's package of measures to reform LHA and reduce the welfare benefit bill. Multi-level modelling techniques have been applied to a longitudinal survey of 788 private sector landlords who had LHA tenants in 19 Local Authorities across GB. The analysis shows that whilst landlords were affected by reforms, area effects were not as pronounced as anticipated. In general landlords were equally affected regardless of where they operate. The findings suggest tenants in the most affected areas have absorbed increases in their rent shortfall signifying income was not the overriding determinant of demand.*

**KEY WORDS;** Housing Allowances, Private rented sector, Welfare reform, Area effects

Correspondence Address: Ian Wilson, Centre for Regional Economic and Social Research,  
Sheffield Hallam University, Unit 10 Science Park, Howard Street, Sheffield, S1 1WB, UK.  
Fax: +44 (0)114 225 2197; Tel.: +44 (0)114 225 3539; Email: i.wilson@shu.ac.uk

The authors were part of the consortium undertaking the national evaluation of Measures to Change Housing Benefit and Local Housing Allowances in the Private Rented Sector in the UK funded by the Department for Work and Pensions (DWP). Thanks are due to the DWP for funding the 2011-2014 evaluation. In particular thanks are due to Claire Frew and Rachel Tsang. The views expressed here are those of the authors alone and do not necessarily reflect those of DWP. Thanks are also due to all members of the consortium: Christina Beatty, Ian Cole, and Ryan Powell at Centre for Regional Economic and Social Research at Sheffield Hallam University; Peter Kemp at University of Oxford; Mike Brewer, Carl Emmerson, Andy Hood and Robert Joyce at Institute of Fiscal Studies; Ipsos MORI.

## **Introduction**

Housing subsidies are used by developed welfare states across the world to ensure their citizens can access decent and affordable housing. Subsidies are characterised as being either supply or demand sided. Supply side policies (Oxley, 1987) include low interest loans, indirect subsidies and price regulation targeted at housing suppliers - such as builders, landlords and financiers – in order to provide housing at lower prices or rents. Conversely demand side interventions provide assistance to housing consumers (e.g. renters), most commonly through income related subsidies or housing allowances paid to consumers (or directly to landlords on behalf of consumers).

Policy instruments employed to subsidise housing have varied between countries and over time (Dorling, 1997). Until the early 1970s developed countries tended to focus their efforts on supply side – ‘bricks and mortar’ - housing subsidies. This reflected the need to address then prevailing housing shortages arising from, in particular, the effects of two world wars (Howenstine, 1986). From the mid-1970s the focus shifted to income related housing allowance schemes and market or near market rents (Kemp, 1990; Harding, 2011). This reflected housing affordability becoming the most pressing issue (Grigsby and Bourassa, 2004), at a time when many developed countries moved to more selective, as opposed to universal, approaches to welfare provision. While these broad patterns characterised many developed economies, considerable variations remained between countries in relation to housing allowances with regard to eligibility, degree of choice, incentive mechanisms, and extent of oversight (Steuerle and Twombly, 2002; Hulse, 2003; Priemus et al., 2005; Kemp, 2007; Agiro and Matusitz, 2011).

Many countries have sought to address five key issues in their housing allowances systems (Kemp, 2007, 276-279): the rising cost of housing allowance systems; the 'uncontrollability' of demand-led housing allowance expenditure (see also Haffner and Boelhouwer, 2006 and Priemus et al., 2005); the prospect of means-tested systems creating work disincentives; the risks of over-consumption in housing by reducing recipients' incentive to shop around; and concern that allowances might result in rent inflation in the housing market. In response to these concerns a number of countries have sought to fine-tune their systems (Turner and Elsinga, 2005). For example Britain, the Netherlands and Sweden all introduced reductions in entitlement levels during the 1990s following shared concerns with regard to the rising cost of housing allowances (Kemp, 2007). In addition most systems have created some ineligible households, have utilised tapers, or have introduced differential rents implicitly based on income and rent (Haffner and Boelhouwer, 2006). The US voucher system, for instance, has been compared to other systems using notional rent such as those operating in Germany and in Britain.

This paper makes important contributions to the underdeveloped international literature on housing allowance (welfare) reform and private landlords. The particular focus is on the relative importance of individual and area level factors impacting on the degree to which private sector landlords have been affected by, and reacted to, government policy designed to reduce housing subsidy expenditure. Recent policy changes to Local Housing Allowance (LHA) in the British private rented sector (PRS) have been used here as a case study. From this focused example the paper provides evidence against two key questions which are of wider international relevance. First, the extent to which tenants are able to absorb different (absolute) reductions in housing allowance, or whether they lead to indirect impacts on landlords, such as defaulting on their housing costs, negotiating a lower rent or giving up a tenancy. A second contribution is to the limited literature on how private landlords manage their portfolio in response to housing allowance reforms. The paper considers the reaction of affected private landlords, exploring whether those in certain areas are more likely to leave the LHA market, for example because they are able to substitute into other rental markets, compared to those operating in other areas.

The next three sections: provide a brief background to LHA and the reforms; consider the theoretical impact of the reforms, including outlining the hypothesis which the paper tested; and present the current evidence base on the impact of the reforms. The paper then moves on to describe the research methods used and the subsequent results. A discussion of the results and a conclusion then follow.

## **LHA and the reforms**

Housing Benefit (HB) in the UK was introduced in the 1982 Social Security and Housing Benefit Act, and replaced a previous system of rent allowances. HB is paid to tenants on a low income (in both the social and private sectors) in order to help them pay their rent. It has been reformed several times, including a significant overhaul in 2008 when the then Labour Government changed the way HB was calculated and paid to tenants in the PRS through the introduction of the LHA. The LHA is a way of calculating the eligible rent for tenants claiming HB in the deregulated PRS. It ensures that tenants in similar circumstances, in the same area, receive the same amount of financial support for their housing costs. Different LHA rates are set according to property size (shared, one, two, three and four plus bedrooms) in different Broad Rental Market Areas (BRMAs) across Great Britain (see Beatty et al., 2014a). BRMAs are set according to local housing market characteristics rather than via administrative boundaries.

Further reforms to LHA, and which are the focus for this paper, were initially announced by the then 2010-2015 Coalition Government in 2010 and involved the reduction or removal of various tiers of support. They formed an important part of the Government's overall package of measures to reduce the deficit through cutting back on welfare expenditure for working age adults. Changes to LHA were introduced against a backdrop of growing concern about housing subsidies in Britain, a trend mirrored in other countries also seeking to address issues in their housing allowance systems, as is outlined above. The four central charges were: 1) the high taper provided strong work disincentives (Gibb, 1995); 2) the system covered 100 per cent of rent (albeit subject to restrictions) and therefore created a moral hazard, reducing any incentive for claimants to shop around (Kemp, 1998) thus encouraging overconsumption (Hills, 1991); 3) the system contained relatively high horizontal inefficiencies, in that it was not restricted to those most in need; 4) the costs of the system had risen dramatically and because entitlement was demand led there was a fear of uncontrollability (Haffner and Boelhouwer, 2006; Priemus et al., 2005). The cost of HB increased from £11 billion in 1999-2000 to £20 billion in 2009-10 (DWP, 2010). However the Building and Social Housing Foundation (cited in DWP, 2010) argued that portraying the system as 'out of control' was an overstatement, as HB expenditure had remained at about 14 per cent of the overall benefits bill for around two decades. Part of the reason for the escalation in the cost of HB in the 2000s was the growth in the number of households in the PRS, which increased from 1.9 million to 3.6 million from 2000 to 2011, as the UK became increasingly reliant on this sector to provide homes to tenants on a low income. Over the

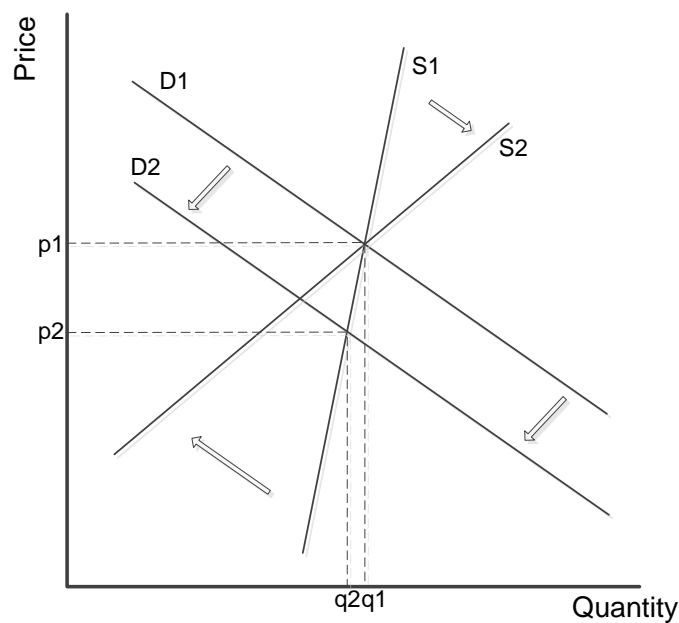
same period, the number of households in the social rented sector decreased by about 100,000 to 4.1 million (ONS, 2013).

The package of reforms announced by the government in the June 2010 Budget and the Spending Review of October 2010 aimed to save £1,765 million by 2014/15 (7 per cent of total expenditure) (Wilson, 2013). While reducing HB expenditure was the central aim of these reforms, other objectives included: providing a fairer system by removing situations where individuals could potentially receive large HB payments in areas of high market rents; ensuring families on benefits could not choose to live in properties that were unaffordable to many people in work and thereby removing work disincentives created by the receipt of high rates of benefit; exerting a downward pressure on private sector rent levels by breaking the link to average PRS market rents; and restricting growth in LHA rates to CPI, or in later years a one per cent uprating (DWP, 2010; for uprating changes, see DWP, 2012; DWP, 2013).

### **The impact of the LHA reforms: theory**

The hypothesised impact of the LHA reforms, or retrenchment in housing allowance provision, can be illustrated within a standard economic model of demand and supply. Figure 1 shows a prevailing market in equilibrium at the intersection of D1 and S1. The introduction of the reforms reduces demand, shown by a shift to the left in the demand curve from D1 to D2. This reflects the reduced financial resource available to households which in turn will affect the level of demand for rented housing at a given price. The shift to the left in demand means the price that tenants are willing, or able, to pay for a rental property reduces from  $p_1$  to  $p_2$ . Consequently rent negotiations, vacancies or arrears emerge and the quantity of units supplied will reduce from  $q_1$  to  $q_2$ . In the medium and long run the change to supply will be greater as supply becomes more elastic (variable). The supply curve will move S1 to S2, which in this model would lead to an increase in price.

**Figure 1.** The impact of the LHA reform on demand and supply

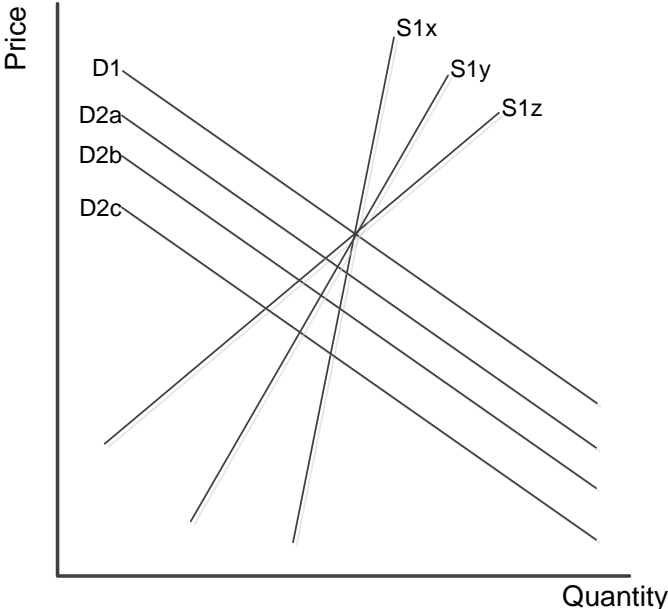


This basic model depicts a macro level assessment. Consideration of the spatial dimension behind the reforms is important in order to understand whether and how these have changed the 'welfare geography' of the United Kingdom (Smith, 1973). Unlike most other benefits, LHA expenditure is disproportionately concentrated in high demand areas such as London and the South East of England (Hamnett, 2009). This has led to political arguments about fairness, in that claimants could therefore afford to rent in areas where 'working families' could not afford to buy (Prime Minister: David Cameron Bluewater, Kent, 25/6/12). Early projections of savings from the LHA reforms suggested their impact would vary across different parts of the United Kingdom (Brewer et al., 2014). These showed that the largest impacts would be seen in areas where pre-reform rents were high, the absolute difference between the 50th and 30th percentile of local rents was large, the spread in rents was large (which meant the shift to Consumer Price Index (CPI) using uprating would be greatest) and the housing market exhibited certain characteristics, such as having larger proportions of young renters. As such the LHA reforms could increase the spatial unevenness of welfare provision and reduce horizontal equality across places in access to housing.

The spatial variation, identified by Brewer et al. (2014), suggests there would be area effects in how landlords have been affected and reacted to the LHA reforms. The degree to which the demand curve shifted to the left within the economic model is likely to have varied between areas: depicted in Figure 2 by demand curves D2a, D2b and D2c. The areas where the welfare savings were largest, described above, are likely to have experienced the largest shifts, from D1 to D2c. In such areas, for a given supply curve the fall in price and quantity would have been greater. The elasticity of supply is also likely to have varied by area: supply

curves S1x, S1y and S1z in Figure 2. In those areas with high housing demand landlords would have had greater opportunity to substitute into other markets. Within the economic model the supply curve would be flatter - S1z in figure 2 - meaning for a given shift in the demand curve the fall in supply would be greater and the fall in price smaller.

**Figure 2.** The impact of the LHA reform on demand and supply, with area effects



A number of factors may mitigate against area effects, including the capacity of tenants to absorb any financial loss due to the reforms, as well as the composition of landlords within areas. Although there is relatively little evidence about private landlords and how they manage their properties there is some existing evidence which reveals the heterogeneous nature of landlordism in the UK. Quantitative data has highlighted the diversity of landlords in terms of both their socioeconomic and demographic backgrounds and their property portfolios (DCLG, 2010; Lord et al., 2013; Wallace and Rugg, 2014). The recent entrance of institutional investors, such as private equity firms and financial institutions in helping drive the growth in the PRS, particularly in London and the South East, has also been highlighted; however this has been overshadowed by the growing importance of 'small-time' landlords since the 1990s (Ronald and Kadi, 2016). In 2010, private individuals or couples accounted for 89 per cent of private landlords, up from 61 per cent in the early 1990s, and 81 per cent of these landlords owned just one let (DCLG, 2011). Qualitative research has also explored the heterogeneity in landlords' circumstances and motivations for engaging in landlordism. Soaita et al. (2016) found that while investing in the PRS was a way of diversifying large wealth portfolios by a very privileged few, it was also a prime asset-building vehicle for financing retirement for some, a safety-net for others, while a few had to rely on rental income for basic subsistence.



While evidence on how private landlords manage their properties is relatively sparse, there have been some studies which have looked into the strategies private landlords employ and their awareness of relevant policy and legislation. Crook et al. (2016), for example, found that landlords in Scotland tend to restrict the acquisition of property close to where they themselves live to manage the market and business risks they face, relying on their own personal knowledge of markets in light of the complexities of the submarkets where they operate and the difficulties in obtaining relevant information. Work by the University of Cambridge (Monk et al., 2014) examining the business models of private landlords, indicated that awareness of responsibilities and standards in terms of legislation was low, particularly among small and medium landlords. This builds on earlier research which found that Scottish private landlords and some agents were poorly informed about both housing legislation and the state of the lettings market (Kemp and Rhodes, 1997).

This paper tests the hypothesis that there were area effects: the impact of LHA reforms on landlords has been spatially uneven. That is the impact of the LHA reforms is consistent with Figure 2, as opposed to Figure 1 which shows no area effects. The findings from this research are important because the UK has become increasingly reliant on the PRS to house people on low incomes, and home ownership and market rents are beyond those on low incomes in many high demand areas of the country such as London. The paper will both shed some light on the response of landlords to the reforms and contribute to the evidence base on private landlords, as relatively little is known about the sector, or indeed about how landlords actually manage their properties (Crook et al., 2012). Findings from this work are of direct relevance to other countries seeking to reform their housing allowance systems, and seeking to establish any spatial differentiation such reforms might have on landlords and tenants.

### **The impact of the LHA reforms: existing evidence**

The then Coalition Government's impact assessment showed that on average households would lose £12 per week because of the LHA reforms (DWP, 2010). It stated that the changes would 'place no direct burdens on landlords' but that indirectly they could experience greater numbers of tenants with arrears. This may mean that some landlords would choose not to continue renting to HB tenants if the rate of return was not attractive. In areas where landlords let predominantly to HB tenants or where overall demand was not high, landlords might be prepared to accept lower rents but may also as a consequence spend less on maintaining properties. Research by Fenton (2010) estimated that between

136,000 and 269,000 households would find their rent payments unmanageable as a result of the LHA measures. Half of these households would be unable to sustain their tenancy and would therefore be evicted or need to move involuntarily. This led many landlords to reconsider or reduce their involvement in the LHA market (see for example Wellman, 2011; Wallace and Rugg, 2014; Beatty et al., 2014b and 2014c).

Since that 2010 assessment limited evidence has emerged of landlords and tenants negotiating reduced rents as the Government intended (Fenton, 2010; Chowdhury and Cass, 2014). Where negotiations have occurred evidence suggests landlords have reduced maintenance budgets, but value the continuity of retaining tenants, even if this means loss of some rental income. In addition profit margins have been placed under pressure (Beatty et al., 2014b; Lloyd, 2013). In high demand areas, such as London, when faced with shortfalls in their rent, tenants have proved less able to renegotiate with landlords or move to more affordable accommodation in their local area as the policy intended (Beatty et al., 2013 and McCarvill et al., 2012). In these areas landlords have a greater choice about letting to non-LHA tenants compared with areas where LHA was dominant.

The next section provides an overview of the methodology and analytical methods adopted.

## **Methodology and methods**

A longitudinal survey of PRS landlords collated as part of a DWP funded evaluation of the LHA reforms in Great Britain forms the evidence for this paper. The evaluation adopted a mixed methods 'pragmatic' approach based on combining 'qualitative and quantitative data collection and data analysis within a single study' (Molina-Azorin, 2012). Such an approach ought to increase confidence in results because of the comprehensive nature of the evidence base, which in turn should allow greater understanding of underlying processes (Johnson and Christensen, 2004).

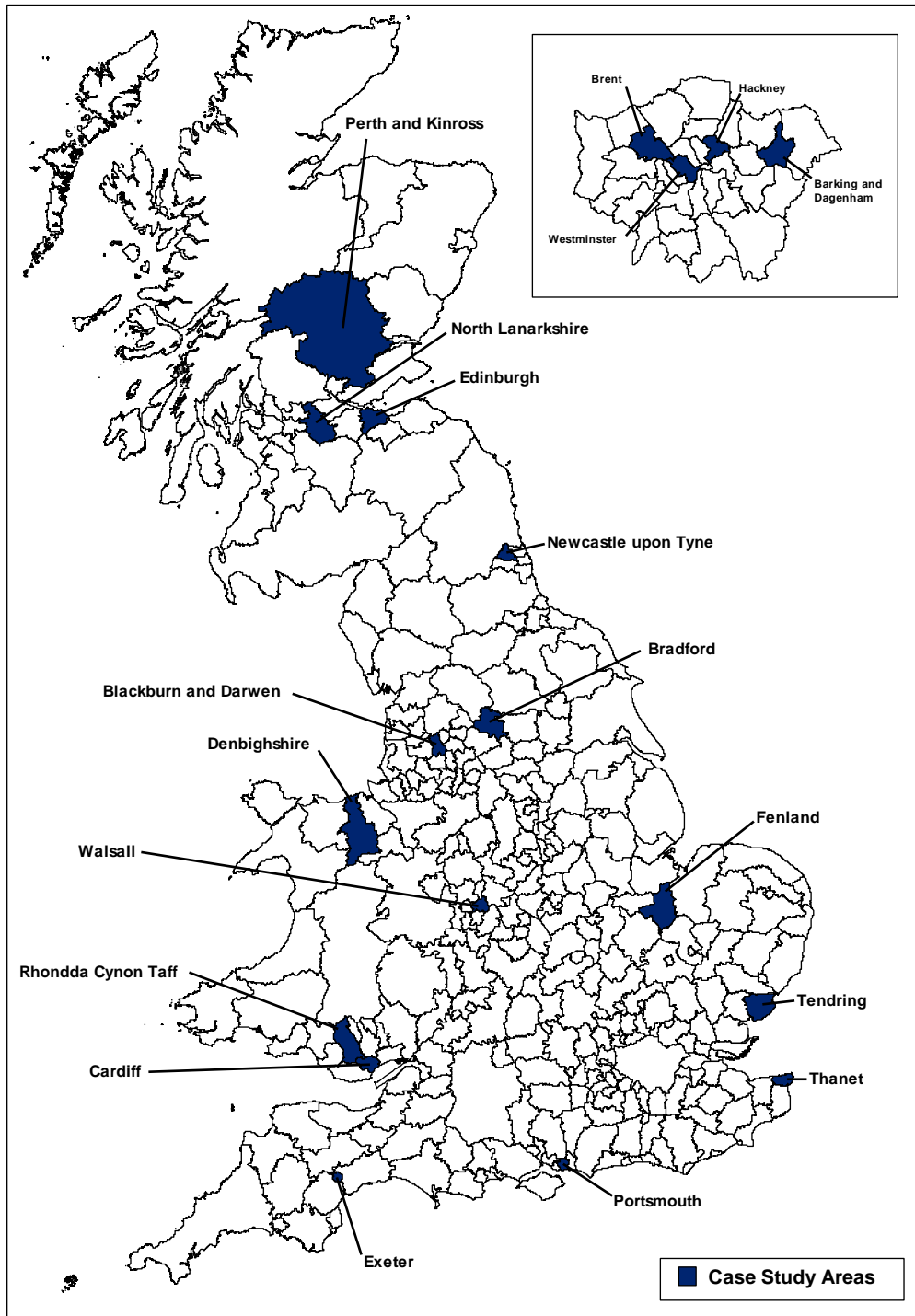
The evaluation explored the consequences for both claimants and landlords in 19 diverse case study (local authority) areas spread throughout Great Britain (Figure 3). The research also involved spatial and econometric analysis of the effects of the measures at the national level. The 19 case study areas were not chosen to provide a nationally representative sample, but to ensure that a wide range of local housing market and labour market

circumstances were included. The case study areas<sup>1</sup> were selected to ensure that adequate sample sizes for sub-groups - of areas and respondents - could be secured. Four London Boroughs, three Welsh and three Scottish local authorities were included, as well as nine other local authorities across the English regions. Other factors considered in area selection included: housing demand; different labour market contexts, including more buoyant markets in the South East and weaker markets in older industrial Britain; urban and rural areas; areas with a potentially alternative supply of PRS tenants (such as students); the size of the Black and Minority Ethnic (BME) population in the local authority area; and seaside towns with concentrations of PRS housing.

**Figure 3.** Map of case study areas

---

<sup>1</sup> Barking and Dagenham, Blackburn with Darwen, Bradford, Brent, Cardiff, Denbighshire, Edinburgh, Exeter, Fenland, Hackney, Newcastle upon Tyne, North Lanarkshire, Perth and Kinross, Portsmouth, Rhondda Cynon Taff, Tendring, Thanet, Walsall, Westminster.



Twenty nine separate BRMAs covered the 19 local authority case study areas. This means in some case study areas claimants could have moved within the local authority and faced different LHA rates. The maximum LHA caps by bedroom size only affected rent levels in three of the four London case study areas (Barking and Dagenham had LHA rates below maximum caps). By February 2012, all rates in the other three London areas were subject to the maximum caps, except for the one-bedroom rate only for the Inner East London part of Hackney and the one-bedroom rate only for the Inner West London part of Brent.

The first wave of the longitudinal survey of PRS landlords was carried out between September and October 2011. The sampling frame for the survey was derived from a number of sources, including landlord and HMO (Houses in Multiple Occupation) contact lists provided by the case study local authorities, landlord contacts from the National Landlords Association and British Property Federation, and names and addresses of landlords held via claimant records within the DWP's Single Housing Benefit Extract (SHBE). The potential sampling frame within each area varied in terms of overall numbers available and balance between these sources. This was due to varied practices across local authorities in terms of the extent and purpose for which landlord contact information was collected, local interpretation of Data Protection protocols, and varying data management systems for submission of HB records to the central SHBE system.

In the first wave of the survey just under 17,000 questionnaires were sent out across the 19 areas, resulting in 1,867 completed questionnaires being returned. The overall response rate of 11 per cent reflected the impact of a number of factors such as the inclusion of non-LHA landlords in the sample who might have been less inclined to complete the questionnaire, the quality and maintenance of the source sample information available in some local areas, and lower response rates in London. The second wave was carried out between September and December 2012. All landlords who had returned a completed questionnaire in the first wave were asked to take part in the survey again. In total 967 landlords responded, including 788 landlords who had had LHA tenants at both or either survey points.

The aim of the survey was to gauge attitudes and perceptions of landlords in relation to changes being made to the LHA system and whether these attitudes had changed over the year. Landlords were asked whether the changes had affected them so far, whether they had altered their letting strategy specifically because of these changes, and their future intentions with regard to their lettings portfolio.

The new rules were in force for new tenants for a period of 17 months by the time the follow-up survey was distributed. Nearly all HB claimants under the LHA system would by then have been subject to the new rules. This contrasted with the first wave of the survey, when the nine-month transitional period was still in force for many existing tenants.

Reflecting on this evidence base, there are three key considerations that need to be borne to mind which have implications for both the methodology and interpretation of the findings. First, despite not knowing the size of the local authority LHA landlord populations it is fair to state that a relatively low response has been achieved. Nevertheless it represented a large overall sample compared to much research in this area. Second, there are potential

biases within the local authority samples due to the low response and the heterogeneous nature of landlordism - as outlined earlier. The study was unable to determine the characteristics of the LHA landlord populations within case study local authority areas which means we were unable to assess the effect of any sample bias: whether estimates under- or over-state the existence of area effects. For example, if landlords with higher rent properties, larger properties (five or more bedrooms), younger tenants and single person households were under-represented in samples - especially in the areas Brewer et al. (2014) suggested would see the largest changes as a result of the LHA reforms - there will be a bias to underestimate the existence of area effects. Furthermore, because we do not know the characteristics of the true population we were unable to adopt sample weights to make the analysis more representative. Third, housing markets typically operate at sub-local authority levels. However there are logistical reasons why local authority case studies have been chosen as an appropriate lens to assess areas effects. Key to these: sub-local authority markets are socially determined, non-defined geographies (Crook et al., 2012); the data used for the sampling framework was unable to identify the precise location of landlord properties within a local authority; and there are unlikely to be sufficient LHA landlords operating within local authority sub-markets to provide a robust evidence base for quantitative analysis.

Multi-level modelling (MLM) was the main analytical method used. MLM is used to test and analyse data with a hierarchical structure. The technique acknowledges that individual-level factors do not act in isolation from factors at other levels, such as the area in which the respondent operates: landlord responses within the same area may be related (Goldstein, 1995). The data were explored using random intercept mixed effect logit models at two levels. Level one was the landlord and level two composed the case study areas in which the landlord operated. For the purposes of the analysis the four London boroughs were combined into two areas - Inner (Westminster and Hackney) and Outer (Barking and Dagenham and Brent) London - resulting in 17 level two areas. As a by-product MLM models partition unexplained variation into what is due to factors at each of the levels within the model, which is determined by calculating the intra-class correlation (ICC). This method therefore indicates how much variation in the outcome variable was explained by the characteristics of the landlords themselves, and how much by the local authority area within which they operated (Goldstein et al., 2002).

The ICC ( $\hat{\rho}$ ) is computed using the following formula:

$$\hat{\rho} = \frac{\hat{\sigma}_u^2}{\hat{\sigma}_u^2 + \hat{\sigma}_\varepsilon^2} = \frac{\hat{\sigma}_u^2}{\hat{\sigma}_u^2 + \pi^2/3}$$

where  $\hat{\sigma}_u^2$  is the estimated variance between subjects and  $\hat{\sigma}_\varepsilon^2$  is the estimated residual variance.

### *Outcome variable*

An indicator of whether a landlord had been affected by the LHA reforms was the main outcome variable used in the analysis. This was derived from the following survey question:

'Thinking of your lettings located within [AREA NAME], have any of the Housing Benefit/Local Housing Allowance reforms introduced in April 2011 affected you so far?'

The response options were: 'Yes, a lot'; 'Yes, a fair amount'; 'Not very much'; 'Not at all'; and 'Don't know/not sure'. In the analysis this was turned into a binary variable with the first two categories used to identify landlords that had been affected by the reforms.

Whilst this question does not explicitly ask whether landlords had been positively or negatively affected by the reforms to LHA, a follow-up question in the survey found those that had been affected had reported an increase in a wide range of negative factors - such as rent arrears, tenants negotiating a lower rent and tenants giving up their tenancy - which they attributed to these changes. A second potential issue with this outcome variable is it relies on attitudes and perceptions rather than observing more reliable statistical indicators (Wikman, 2006). Attitudinal responses can suffer from the attitudinal fallacy (Jerolmack and Khan, 2014) and fundamental attributional error (Ross and Nisbett, 1991) whereby respondents overstate the role of LHA in any changes to their lettings. Alternatively landlords may undervalue the role of LHA reforms because they have imperfect knowledge about the reforms and how they may have impacted on their lettings. Evidence from wave one of the survey (conducted between September and December 2012) suggested only 69 per cent of LHA landlords were aware of at least one element of the reforms. However the impact of the attitudinal fallacy on the interpretation of our results is reduced because the focus of the research is comparison between landlords in different areas where the survey method is assumed to be more reliable (Jerolmack and Khan, 2014).

## **Results and Analysis**

This section explores the hypothesis outlined above. Before assessing the MLM, a descriptive assessment of responses to the main outcome variable has been provided.

### *Descriptive assessment*

Across the whole sample, 41 per cent of respondents reported that their lettings in the relevant case study area had been affected by the reforms (Table 1). This is a finding in its

own right. It suggests that the LHA changes, which were targeted at tenants, had filtered through to indirectly impact on the lettings of over two fifths of LHA landlords. The percentage affected 'a lot' or 'a fair amount' ranged from 50 per cent or more in Tendring (52 per cent) Walsall (51 per cent) and inner London (Hammersmith and Fulham and Hackney; 50 per cent) to less than a quarter of landlords in Denbighshire (22 per cent) and Fenland (21 per cent).



**Table 1.** Percentage of landlords: letting affected by LHA reforms

	<b>Per cent</b>
Tendring	52
Walsall	51
Inner London	50
Outer London	47
Edinburgh	46
Blackburn with Darwen	45
Bradford	45
Portsmouth	45
Rhondda Cynon Taff	45
Newcastle upon Tyne	42
North Lanarkshire	41
Cardiff	35
Perth and Kinross	34
Thanet	31
Exeter	29
Denbighshire	22
Fenland	21
<b>Total</b>	<b>41</b>

Source: CRESR LHA Landlord Survey (2011-12)

A z-test for proportions was used to test for differences between each of the case study areas in the percentage of landlords who reported being affected. Statistical testing is important because it is only in instances where the difference is statistically significant that there is sufficient evidence to indicate that the observed difference has not occurred due to chance. A number of statistically significant differences were identified. The percentage of landlords affected by the reforms in Denbighshire and Fenland were both statistically lower (at a 0.05 level) than in each of the nine areas with the highest rates. Also the percentage of landlords affected in Thanet was statistically significantly lower (at a 0.05 level) than the rate in Tendring, Walsall and outer London (Barking and Dagenham and Brent).

### MLM

Table 2 shows the results from the null mixed effects logit model with two levels. The ICC of the outcome variable was 0.014, indicating that only 1.4 per cent of the total variation in the likelihood that a landlord had been affected by the LHA changes was due to area level factors. Individual landlord level factors were therefore much more important, accounting for 98.6 per cent of total variation in the outcome.

**Table 2.** MLM Landlords' lettings affected by LHA reforms: null model parameters

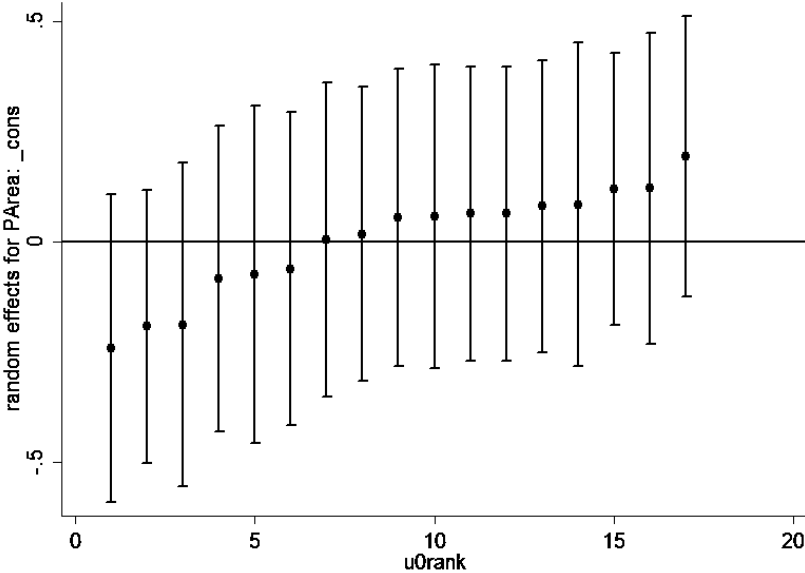
Parameter	Coef.	Confidence
<b>Fixed Part</b>		
Constant	-0.372	(-0.552, -0.192)
<b>Random Part</b>		
$\sigma_u^2$	0.451	(0.005, 0.376)
$\rho$	0.134	
Log likelihood	-516.6	

Source: CRESR LHA Landlord Survey (2011-12)

Analysis of the model suggests that the data did not have a hierarchical structure. A likelihood ratio test was used to compare the MLM against a single level logistic regression model. However there was insufficient statistical evidence to reject the null hypothesis that there was no statistical difference between the two models at a 0.05 level. Further evidence was provided by computing the design effect. This adjusts the ICC to take into account the average area level sample size. The design effect provides justification for the application of MLM by quantifying the effect of independence violation on standard evidence (Peugh, 2010). In this instance the design effects was 1.6 ( $1+(average\ group\ size-1)*ICC = 1.6$ ) which was less than the level deemed necessary for MLM to account for area effects.

Figure 4 provides a 'Caterpillar' plot of the area level residuals to illustrate the degree of variation amongst the case study areas. From this it is possible to identify the extent to which an area was different to the average and other areas. The plot shows that there was insufficient statistical evidence to suggest any of the 17 areas were different to the sample average. However there was some evidence of difference between areas, after accounting for individual 'landlord' variation. On average landlords in Tendring were statistically more likely (at a 0.05 level) to have been affected by the LHA reforms compared to landlords in either Denbighshire or Thanet. Landlords in Walsall were also statistically more likely to have been affected compared to landlords in Denbighshire, at a 0.05 level.

**Figure 4.** Caterpillar plot of area level residuals



Source: CRESR LHA Landlord Survey (2011-12)

In summary the analysis shows that there was very limited evidence for any area effect in how the LHA reforms had affected landlords.

## **Discussion**

The findings from the empirical evidence presented above raise three issues for discussion and further analysis:

- Why were area effects not identified?
- What individual level factors were associated with the likelihood of being affected by the changes?
- Were any specific area level factors associated with the likelihood of being affected by the changes?

### *Why were area effects not identified?*

There are perhaps four plausible reasons why area level effects were not identified. First, the area effect may have been borne elsewhere or blunted by other factors. Evidence from a separate DWP funded evaluation on the impact of the LHA changes found that 89 per cent of the initial incidence of reduced LHA entitlements fell on tenants and six per cent on landlords (Brewer et al., 2014). This may mean the reforms have a lagged area effect on landlords as tenants struggle to pay their rents at a later date, the effects of which would not be picked up in this study. Similarly the impacts of the LHA reforms on tenants, and in turn landlords, were likely to have been blunted by DHPs (Discretionary Housing Payments). However DHPs were not viewed as a permanent solution, with funding due to be reduced from 2015/16 (Wilson, 2015). Therefore the impact of the changes would need to be monitored over a longer time period in order to establish if any further area specific impacts emerged.

Second, some of the reforms were more likely to have induced area level effects than others - such as the increase to the age limit which the SAR is applicable - which affect specific types of landlords regardless of where they were located. The landlord survey allowed this hypothesis to be tested. As a follow up to the main outcome question, landlords who had been affected were asked to identify which of the various measures had affected them. Analysis of these questions using MLM identified statistical evidence of an area effect in relation to the abolition of the five bedroom rate. Eighteen per cent of the total variation in the response to this measure was accounted for by variation at the area level. Assessing the design effect and likelihood ratio test against a logistic regression model confirmed evidence

of a hierarchical structure to this data. Of the 17 areas, the expected likelihood of being affected by the abolition of the five bedroom LHA rate was statistically higher than the average in Outer London and Newcastle. There was also weak evidence of area level variation with respect to landlords being affected due to the capping of the maximum weekly LHA rate by property size.

Third, landlord area effects may only emerge when assessing specific ways in which landlords may have been affected, rather than responses to generalised questions. The survey contained six detailed questions which allowed this hypothesis to be tested, including increased rent arrears and evictions; increases in tenants trying to re-negotiate rents; or ceased lettings to LHA tenants. Using the same MLM approach one such question had a design effect of 2, indicating evidence of a hierarchical structure to the data. An area effect was found in landlords who identified tenants currently in arrears because they could no longer afford rent due to the LHA reforms. However, this effect was small: 2.2 per cent of the total variation in landlord responses was at the area level.

Finally, a technical reason relating to how MLMs identify and quantify area effects may explain why none were identified. MLMs look for evidence across all areas. However in reality there may only have been a small number of 'outliers' in which landlords were statistically more or less likely to have been affected by the reforms. If this is the case, the LHA reforms may have had a meaningful area effect, justifying initial fears, but these were not area effects as assessed by statistical testing for a hierarchical structure in responses. Analysis from the survey appears to support this. Ordinary logistic regression modelling (at a single level) identified that landlords in Denbighshire, Fenland and Thanet were statistically less likely to have had their lettings affected by the reforms. Both Fenland and Thanet are characterised by dominant LHA submarkets while Denbighshire is a rural area with a 'small landlord' PRS mentality.

*What individual level factors were associated with the likelihood of being affected by the changes?*

This question is important given the dominance of individual landlord level factors in explaining the variation in the likelihood of a landlord's lettings being affected by the reforms. The landlord survey asked a number of questions about the characteristics landlords and their lettings to be explored. These are described in Table 3 and include:

- general questions, such as whether they were a full, or part, -time landlord, the length of time they had been a landlord and whether they were a 'buy to let' landlord

- questions about the size and make-up of their portfolio, such as how many properties they let in the area, whether they operated across multiple areas and whether they let shared accommodation
- information about their tenant base such as whether they let to tenants on out of work benefits or to single people under 35 years.

**Table 3.** Summary of landlord level explanatory variables

<b>Variable</b>	<b>Code</b>	<b>Number</b>	<b>Per cent</b>
<b>LHA concentration</b>	100%	234	30
	75% less than 100%	90	12
	50% less than 75%	130	17
	25% less than 50%	91	12
	more than 0% less than 25%	59	8
	0%	168	22
<b>Number of lettings</b>	1	199	26
	2 - 5	275	36
	6 - 10	121	16
	11 - 50	130	17
	Over 50	47	6
<b>Length of time</b>	Less than 5 years	100	13
	5 years but less than 10 years	200	26
	For 10 years or more	472	61
<b>Managing agent</b>	No	695	90
	Yes	77	10
<b>Full-time landlord</b>	No	529	69
	Yes	243	31
<b>Let to single people aged 34 or under</b>	No	324	42
	Yes	448	58
<b>Buy-to-let landlord?</b>	No	248	32
	Yes	524	68
<b>Let any shared accommodation?</b>	No	534	69
	Yes	238	31
<b>Let to Students</b>	No	624	81
	Yes	148	19
<b>Multi area landlord</b>	Single area	435	56
	Multi area	337	44

Source: CRESR LHA Landlord Survey (2011-12)

Logistic regression modelling was used to test which of these explanatory variables were statistically associated to the outcome variable: lettings in the area have been affected by the LHA reforms. In these models area level dummies were included to account for any area level variation.

Four statistically significant relationships emerged. The strongest associations were identified with LHA concentration in the area and the size of the landlord's portfolio. Generally speaking the lower a landlord's concentration of lettings in the LHA sector the less likely they were to have been affected by the reforms. Conversely the more lettings a landlord had in the area the more likely it was that their lettings had been affected.

Further statistically significant relationships were identified with whether the respondent identified themselves as a full-time (as opposed to a part-time) landlord or Buy-to-Let (as opposed to a non-Buy-to-Let) landlord. Both of these characteristics were on average found to increase the likelihood that a landlord had been affected by the LHA reforms. These raise potential concerns as both groups are likely to be dependent on their lettings to provide income and to meet their mortgage repayments.

There was only sufficient evidence to conclude one area was statistically different to the group average. Landlords in Denbighshire were on average statistically less likely to have been affected by the changes, holding all other factors constant.

*Were any specific area level factors associated with the likelihood of being affected by the changes?*

Despite the analysis failing to identify meaningful area effects, it is worth considering whether there is any statistical evidence of specific area level factors being associated with the likelihood that the LHA reforms had affected a landlord's lettings in a given area. Five area level variables were considered: the average reduction in LHA rates paid to claimants, the size of the LHA submarket, the type of area, the number of LHA claimants and the number of LHA claimants aged 25 to 34 years. Exploratory analysis, entering these variables individually into MLMs as level two factors identified one statistically significant relationship with the outcome variable. Landlords in areas where the average reduction in LHA rates was more than £10 were more likely on average to have had their lettings affected by the LHA reforms; this relationship was statistically significant at a 0.05 level. However it should be noted there was insufficient statistical evidence for this variable in a model which also included the four individual, level one, factors identified in the previous sub-section.

## Conclusion

From the mid 1970's developed welfare states have sought to ensure access to decent and affordable housing by shifting away from supply side subsidies to demand side interventions, namely income related housing allowances schemes and market or near market rents. A series of concerns emerged about housing allowance systems primarily around their increasing cost, possible work disincentives, and over-consumption of housing. In Britain the 2010-15 Coalition Government announced important reforms to LHA in 2010 as part of its overall package of measures to reduce the deficit through cutting back on welfare expenditure for working age adults. The LHA reforms, which included the reduction or removal of various tiers of support, aimed to provide 'fairness' (Hamnett, 2014) between claimants and non-claimants in terms of their access to housing markets.

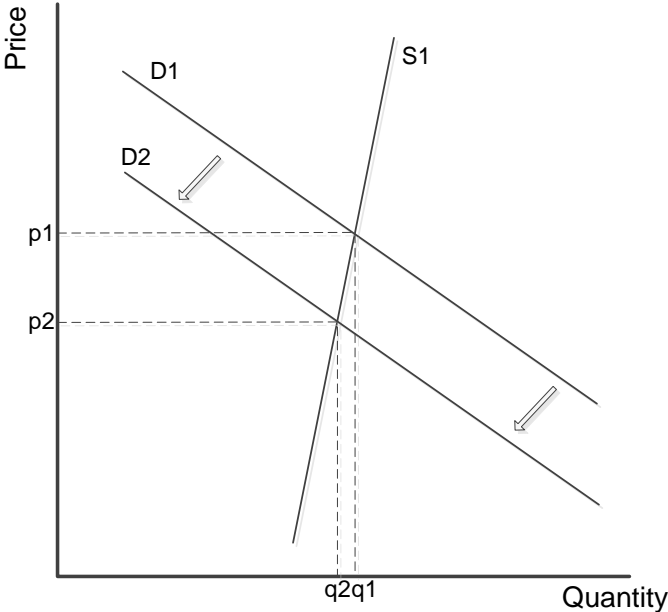
This paper has focussed on the consequences of the reforms for landlords and tested the hypothesis that there were area effects in the impact of the LHA reforms on landlords: that the impact of reforms has proved to be spatially uneven. The responses of landlords are important because they affect the level of supply. Underlying the assessment of area effects is a questioning of the justification and impact of implementing changes that increase the spatial unevenness of welfare provision. Unlike most other benefits, LHA is disproportionately concentrated in London and the South East (Hamnett, 2009). Spatial patterns in welfare geography are often the outcome of secondary factors - such as industrial decline or housing affordability - and the resultant clustering of welfare claimants within particular areas (Walker and Huby, 1989). Spatial benefit transfers act to lessen regional economic disparities. Powell and Boyne (2001) argue that much academic debate has been simplistic in that it has not taken account of context and has assumed a viewpoint that geographic inequalities in welfare expenditure are undesirable. Instead they argue that such inequalities may be necessary and desirable in order to rectify inequalities of condition. This argument is applicable to the case of LHA expenditure in the United Kingdom. A spatial inequality in LHA expenditure has been required to enable 'horizontal equality' in access to housing across claimants, making geography irrelevant (Newton, 1980; MacKay, 2001; Powell and Boyne, 2001).

This analysis has shown that landlords have been indirectly affected by the LHA reforms which were only directly targeted at tenants. However, area effects in the extent to which landlords were affected have not been as pronounced as anticipated. In general landlords of similar types have been equally affected regardless of where they operate. Area level differences in the extent to which landlords were affected are likely to be due to the



makeup of landlords operating in the area rather than differences in the degree of LHA changes facing tenants. This implies that the impacts of the reforms were characterised by the economic model in Figure 5 (not Figure 2 as had been hypothesised): the shift D1 to D2 and the angle of S1 were similar in all areas, indicating a similar impact on price and quantity demanded. It should be noted that some statistically significant areas effects were identified when considering particular elements of reforms and particular effects. However, the overriding finding was not what had been expected by many commentators, for example that landlords would exit the LHA market on a grand scale within particular areas of the country.

**Figure 5.** The impact of the LHA reform on demand and supply, no area effects



Given the spatial inequalities within the LHA reforms (Brewer et al., 2014) this implies the income elasticity of demand is relatively small, at least in the short run. This has wider international relevance as to how tenants react to reductions in housing allowance (or similar income shocks). Tenants in the most affected areas have absorbed increases in their rent shortfall suggesting income was not the overriding determinant of demand. It may instead reflect the value tenants place on remaining in situ in high demand areas, combined with the costs of moving away from support networks and employment opportunities. Though not considered in this study, further research is needed to consider how LHA tenants were able to meet their shortfall, particularly whether it has been met by going without necessities or increasing occupancy rates. Despite no overall significant area effects emerging in this analysis, it is still important to bear in mind lagged effects, which are likely to be compounded by the array of other reductions in working age benefits, the drip-drip effect of annual LHA rate rises below the rate of inflation, and the reduction in DHP budgets. It is important that governments are aware of the spatial implications of their policies and understand that

fairness can look very different in different spatial economies. This may mean a more formal assessment of the degree to which any policy creates uneven spatial impact (Mohan, 2003), combined with a more thorough understanding of the context to, and circumstances underlying, spatial variations (Mohan, 2003; Milbourne, 2010). Prioritising vertical over horizontal equality in the provision of welfare will instead tend to reinforce segregation and growing imbalances between places over time. The composition of the LHA landlord population could change quickly. Landlords rent their properties to provide a return (Kemp and Rhodes, 1997). If the return falls, either due to increased arrears or reduced rents being paid, landlords will look to reduce their participation (supply) in the LHA market. The elasticity of supply is likely to be greatest in the most affected areas: areas where the LHA changes have provided the largest rent shortfalls for tenants tend to coincide with high demand areas where landlords will have greatest freedom to substitute into other markets, or sell up and exit the sector altogether. As a further consequence the shift in the market equilibrium position, in particular the fall in price, could lead to poorer quality accommodation being let as landlords reduce maintenance budgets and have less need to compete against other lettings on quality.

## References

- Agiro, A. and Matusitz, J. (2011) Housing Vouchers, Benefits and Allowances (VBAs): Comparing Rental Tools in the US, England and the Netherlands, *International Journal of Housing Policy*, Vol 11, No1, 71-88.
- Beatty, C., Cole, I., Powell, R., Crisp, R., Kemp, P., Brewer, M., Browne, J., Emerson, C., Joyce, R., Pereira, I. and Hall, S. (2013) *Monitoring the impact of changes to the Local Housing Allowance system of Housing Benefit: Interim report*. London: Department for Work and Pensions.
- Beatty, C., Cole, I., Foden, M. and Powell, R. (2014a) *The Impact of Recent Reforms to Local Housing Allowance: Differences by Place*. London: Department for Work and Pensions.
- Beatty, C., Cole, I., Powell, R., Kemp, P., Brewer, M., Browne, J., Emerson, C., Hood, A. and Joyce, R. (2014b) *The Impact of Recent Reforms to Local Housing Allowance: Summary of Key Findings*. London: Department for Work and Pensions.
- Beatty, C., Cole, I., Powell, R., and Sanderson, E. (2014c) *Monitoring the impact of recent measures affecting Housing Benefit and Local Housing Allowances in the private rented sector: The response of landlords* (Research Report No. 870). London: Department for Work and Pensions.
- Brewer, M., Emmerson, C., Hood, A. and Joyce, R. (2014) *Econometric analysis of the impacts of Local Housing Allowance reforms on existing claimants*. London: Department for Work and Pensions.
- Chowdhury, R. and Cass, N. (2014) *The experiences of families claiming housing benefit during a time of cuts and changes to benefits*. London: Shelter.
- Crook, T., Ferrari, E. and Kemp, P. (2012) Knowing the Area: The Management of Market and Business Risks by Private Landlords in Scotland. *Urban Studies*, 49 (15), pp. 3347-3363.
- Dorling, J. (1997) *Comparative housing policy*, Basingstoke: Macmillan
- DCLG (2011) *Private Landlords Survey 2010*. London: Department for Communities and Local Government.
- DWP (Department for Work and Pensions) (2010) *Housing Benefit Impact Assessment: Changes to the Local Housing Allowance Arrangements*. London: Department for Work and Pensions.
- DWP. (2012). *Housing Benefit: Uprating Local Housing Allowance rates by CPI from April 2013: Impact Assessment*. London: DWP.

- DWP. (2013). *Monitoring the Impact of Changes to the Local Housing Allowance System of Housing Benefit: Interim Report, Vol 1 Summary of Main Findings*. DWP Research Report No. 838. London: Department for Work and Pensions.
- Fenton, A. (2010) 'How will changes to Local Housing Allowance affect low-income tenants in private rented housing?', *CCHPR Working Paper*. Cambridge: University of Cambridge.
- Gibb, K. (1995). A housing allowance for the UK? Preconditions for an income-related housing subsidy. *Housing Studies*, 10(4), 517-532.
- Goldstein, H. (1995) *Multilevel Statistical Models*, Second Edition. London: Edward Arnold.
- Goldstein, H., Browne, WJ., and Rasbash, J. (2002) Partitioning variation in multilevel models. *Understanding Statistics*, 1, pp. 223–32.
- Grigsby, W.G. and Bourassa, S.C. (2004) 'Section 8: The time for fundamental program change?', *Housing Policy Debate*, Vol 15, no 4, pp 805-34.
- Haffner, M. and Boelhouwer P. (2006) Housing Allowances and Economic Efficiency, *International Journal of Urban and Regional Research*, Vol 30.4 pp 944-59.
- Hamnett, C. (2009) Spatial divisions of welfare: the geography of welfare benefit expenditure and of housing benefit in Britain, 1995-2006, *Housing Studies*, vol 43 pp 1015-1033.
- Harding, R. (2011) The implications of the changes to Housing Benefit. *Policy Review*, 19 (2), pp. 175-179.
- Hills, J. (1991). Distributional effects of housing subsidies in the United Kingdom. *Journal of Public Economics*, 44(3), 321-352.
- Howenstine, E.J. (1986) *Housing Vouchers: A comparative international analysis*, New Brunswick, NJ: Centre for Urban Policy Research, Rutgers University.
- Hulse, K (2003) Housing Allowances and Private Renting in Liberal Welfare Regimes, *Housing, Theory and Society*, 20:1, 28-42.
- Jerolmack, C. and Khan, S. (2014) Talk is cheap: Ethnography and the attitudinal fallacy, *Sociological Methods and Research*, 43(2), pp178-209
- Johnson, B., and Christensen, L. (2004) *Educational Research: Quantitative, Qualitative and Mixed Approaches*. 2nd ed. Boston, MA: Pearson.
- Kemp, P. (1990) Income-related assistance with housing costs: a cross-national comparison, *Urban Studies*, 27.6: 795-808.
- Kemp, P. (1998). *Housing benefit: time for reform*. York: Joseph Rowntree Foundation.

Kemp, P (2007) Housing Allowances in the advanced welfare states in Kemp P (ed) Housing allowances in comparative perspective (pp265-288) Bristol: The Policy Press.

Kemp, P. A., and Rhodes, D. (1997). The motivations and attitudes to letting of private landlords in Scotland. *Journal of Property Research*, 14(2), 117-132.

Lloyd, J. (2013) *Whose Home? Understanding landlords and their effect on public policy*. London: The Strategic Society Centre.

Lord, C., Lloyd, J. & Barnes, M. (2013) *Understanding Landlords: A Study of Private Landlords in the UK using the Wealth and Assets Survey*. London: Strategic Society Centre.

McCarvill, P., Gaffney, D. and Griffith, M. (2012) *Affordable Capital? Housing in London*. London: Institute for Public Policy Research.

Milbourne, P. (2010). The geographies of poverty and welfare. *Geography Compass*, 4(2), 158-171.

Mohan. J, (2003) Geography and social policy: spatial divisions of welfare, *Progress in Human Geography*, 27, 3 pp 363-374.

Molina-Azorin, J. (2012) Mixed Methods Research in Strategic Management. *Organisational Research Methods*, 15, pp. 33–56.

Monk, S., Morris, S., Tang. C. and Udagawa (2014) *Understanding private landlords' financial and regulatory incentives for property investment*. London: Shelter.

Office for National Statistics (2013) *A Century of Home Ownership and Renting in England and Wales*, April 2013 <http://www.ons.gov.uk/ons/rel/census/2011-census-analysis/a-century-of-home-ownership-and-renting-in-england-and-wales/short-story-on-housing.html>

Oxley, M. (1987) The aims and effects of housing allowances in western Europe, in W. van Vilet (ed) *Housing markets and policies under fiscal austerity*, London: Greenwood Press.

Peugh J., (2010) A practical guide to multilevel modelling. *Journal of School Psychology*, 48 (1), pp. 85-112.

Powell, M., and Boyne, G. (2001). The spatial strategy of equality and the spatial division of welfare. *Social Policy & Administration*, 35(2), 181-194.

Priemus, H., Kemp, P. A. and Varady, D. (2005) Housing vouchers in the United States, Great Britain, and the Netherlands: Current issues and future perspectives, *Housing Policy Debate*, Vol 16 no 3/4 , pp 575-609.

Ronald, R. and Kadi, J. (2016) 'The revival of private landlords in Britain's post-homeownership society'. *HOUWEL Working Papers Series No. 9*. Amsterdam: University of Amsterdam.

Ross, L. and Nisbett, R.E (1991) *The Person and the Situation: Perspectives of Social Psychology*. New York: McGraw-Hill

Smith, D. M. (1973). *An introduction to welfare geography* (No. 11). Dept. of Geography and Environmental Studies, University of the Witwatersrand.

Social Security and Housing Benefits Act(1982). *Public General Acts—Elizabeth*, HMSO, London.

Soaita, A. M., Searle, B. A., McKee, K. and Moore, T. (2016) Becoming a landlord: strategies of property-based welfare in the private rental sector in Great Britain. *Housing Studies*, DOI: 10.1080/02673037.2006.122855

Steuerle, E. C. and Twombly, E. C (2002) Vouchers, in Salamon (ed.) *The Tools of Government: A guide in the New Government* (pp 445-446) New York: Oxford University Press.

Turner, B. and Elsinga, M.. (2005) Housing allowances: finding a balance between social justice and market incentives. *European Journal of Housing Policy* 5.2: 103-109.

Walker, R., & Huby, M. (1989). Social security spending in the United Kingdom: bridging the north-south economic divide. *Environment and Planning C: Government and Policy*, 7(3), 321-340.

Wallace, A and Rugg, J. (2014) *Buy-to-let Mortgage Arrears: Understanding the factors that influence landlords' mortgage debt*. York: University of York.

Wellman, A. (2011) *Private Landlords Dropping LHA Tenants*, Inside Housing, 3 November 2011 <http://www.insidehousing.co.uk/tenancies/private-landlords-dropping-lha-tenants/6518803.article>

Wikman, A. (2006) Reliability, validity and true values in surveys, *Social Indicators Research*, 78: pp 85-110

Wilson, W. (2013) *Measures to reduce Housing Benefit expenditure - an overview*. London: House of Commons Library standard note.

Wilson, W. (2015) *Housing Benefit: Discretionary Housing Payments (DHPs)*. London: House of Commons Library standard note.