

Neighbourhood Effects and Pension Protection among Ethnic Minorities in England and Wales

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ABSTRACT

Ethnic minorities are concentrated in particular geographical areas in England and Wales. Neighbourhood effects, such as the concentration of individuals from particular ethnic groups and levels of local deprivation, can impact upon the labour market performance of ethnic minorities and thus may affect individuals' pension protection. This paper examines the neighbourhood effect on pension protection for ethnic minorities in England and Wales using the wave 1 (January 2009–March 2011) dataset of the Understanding Society linked with a range of neighbourhood characteristics from the 2011 UK Census. Results from multilevel logistic models highlight that in addition to the effect of individual characteristics on patterns of pension protection, the level of concentration of own-ethnic-group individuals is significantly negatively correlated with a range of key indicators associated with pension protection such as being in paid employment, being an employee, and working for an employer who offers a pension scheme. However, the concentration of one's own ethnic group has no significant effect on the likelihood of being a member of an employer's pension scheme after controlling for other factors. Living in a deprived neighbourhood is negatively correlated with one's likelihood to be in paid employment or being self-employed. Furthermore, individuals are less likely to be members of an employer's pension scheme if they live in highly deprived neighbourhoods.

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Published by John Wiley & Sons, Ltd.

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Accepted 11 December 2014

Keywords: neighbourhood effects; enclave and deprivation; ethnic minorities; pension scheme; multilevel model

INTRODUCTION

The proportion of individuals from Black and minority ethnic heritage (BME) living in England and Wales has grown significantly over the last 10 years. In 2001, BME individuals accounted for around 8% of the total population; by 2011, this figure had risen to around 14% (ONS, 2005, 2012a). Although the BME population is younger than the White population, currently comprising just 8% of people aged 60 years and over in England (AgeUK, 2013), this population is ageing along with the rest of the UK population (Lupton & Power, 2004), and it is estimated that there will be 3.8 million individuals from BME groups aged 65 years and over by 2051 (Lievesley, 2010). Previous studies have found that older people from BME populations have lower economic and social resources and are less likely to be in receipt of a pension than the White majority population (e.g. Evandrou, 2000; Allmark *et al.*, 2010). Occupational pension membership could offer financial advantages over reliance on the basic state pension and is a crucial indicator of whether or not an individual will experience poverty risks in later life. This is because the UK state pension system offers a retirement income just above the poverty line, and there are increasing incentives for employees to take up opportunities for 'topping up' their income in later life with occupational and/or personal private pension contributions

during their working life (Pemberton *et al.*, 2006; Clark *et al.*, 2008).

Reinforcing the role of occupational and other 'second tier' pensions, recent UK pension reforms have aimed at increasing the number of employees enrolled in occupational pension schemes, obliging all employers to 'auto-enrol' their employees in such schemes by 2018. However, the poorer labour market performance of certain BME groups, as well as the particular characteristics of employment, can lead to fewer opportunities to participate in an occupational or private pension scheme. For example, more than 80% of Pakistani and Bangladeshi women of working age are not employed compared with about one-third of White British women of the same age (Allmark *et al.*, 2010), while working in a family business, which can equate with earnings and pension insecurity, is more common among certain BME groups compared with the White British majority (PPI, 2003). Existing literature has aimed at unravelling the reasons behind such employment patterns among BME groups, pointing to a combination of cultural traditions that may hinder women's labour market participation, religious reasons that may prohibit investments including profit-making, and a reliance on alternative types of investment for later life such as family businesses, as well as a lack of awareness about pension protection opportunities – which may be improving among younger cohorts of BME individuals (Berthoud, 1998; Barnes & Taylor, 2006).

Previous research has shown that BME groups are unevenly concentrated across England and Wales and that high ethnic minority concentration is associated with high deprivation in that area (Clark & Drinkwater, 2002) and with poor labour market outcomes among ethnic minority groups (van Ham & Manley, 2009). However, it is unknown whether the neighbourhood effect extends to also affecting pension protection among the BME groups and in particular the opportunity to take part in an employer's pension scheme. The aim of this paper is to fill that gap and to shed light on the relationship between neighbourhood effects and pension protection among individuals from BME groups compared with the White British majority population. In terms of neighbourhood effects, our paper focuses on two key variables to represent the characteristics of the neighbourhood: own-ethnic-

group concentration (providing a measure of enclave) and deprived neighbourhoods (a measure of poverty in the neighbourhood).

LITERATURE REVIEW

It is notable that the ethnic minority population in England and Wales is geographically concentrated, as a result of ethnic-specific patterns of migration over time (Finney & Simpson, 2008; Simpson & Finney, 2009). This concentration can be referred to as an 'enclave', an often-debated concept, which has been used in the academic literature to define individual residents from the same ethnic background concentrated within a specific geographical location (Clark & Drinkwater, 1998). Previous studies have explored the linkage between ethnic enclave and labour market outcomes (e.g. Battu & Mwale, 2004; Khattab *et al.*, 2010), finding that living in an enclave may have benefits for individuals from the dominant ethnic minorities. For example, firms with a higher proportion of customers from selected ethnic minorities exhibit a higher probability of hiring a minority worker from that ethnic minority in order to facilitate more contact with customers (Holzer & Ihlanfeldt, 1998; Battu & Mwale, 2004; Khattab *et al.*, 2010). Furthermore, individuals from ethnic minorities have a higher probability of finding a job in a neighbourhood with a high degree of concentration as compared with ethnic minorities residing in areas with fewer same-ethnicity neighbours (Patacchini & Zenou, 2012).

On the other hand, the concept of an ethnic enclave can also present two main disadvantages in terms of economic opportunities for ethnic minorities. First, ethnic minorities living in their enclave may consider it less of a necessity to improve their social interactions with the native majority population, which may in turn result in the former not improving their social and human capital (e.g. language skills) and job-finding networks (Battu & Mwale, 2004). Battu and Mwale (2004) found that areas of high ethnic concentration also present a lower percentage of employment and fluency in the native language, while Clark and Drinkwater (2002) found that the highest minority concentration areas have the lowest percentage of individuals in professional and managerial occupations. The second

disadvantage relates to the 'spatial mismatch hypothesis'; as jobs decentralise to the suburbs or beyond, ethnic minorities who live in racially segregated areas, which are often in the centre of towns, are more likely to be poorly connected to major centres of employment, and their spatial access to jobs worsens (Kain, 1968). The majority of literature in this area comes from the US with relatively few studies in the UK. Fieldhouse (1999) found some support for this hypothesis with evidence from the unemployment rates of Black individuals and the combined group of Pakistanis and Bangladeshis in Greater London; however, Fieldhouse's work could not find support from evidence on the Indian and combined Chinese and other Asian groups in the same area. By contrast, earlier studies showed that ethnic minorities were less likely to commute to find employment compared with Whites in the UK (Thomas, 1998; Patacchini & Zenou, 2005). Finally, there is a body of work evidencing the negative impact of living in an enclave in terms of ethnic minorities' self-employment (Clark & Drinkwater, 2007).

Areas of high ethnic concentration are highly correlated with a high level of deprivation, for example showing high unemployment both for the White majority community and for each of the ethnic minority groups (Clark & Drinkwater, 2002, 2007). Living in deprived neighbourhoods may hinder residents' access to job information network systems (Wilson, 1991). Nevertheless, living in the enclave areas, ethnic minorities are more likely to be in low-paid employment and face a higher risk of lower occupational returns (Clark & Drinkwater, 2007; Khattab *et al.*, 2010). Van Ham and Manley (2009) used the data from the Scottish Longitudinal Study and found that persons living in the most-deprived neighbourhoods in 1991 (whether employed or unemployed) are the least likely to be in employment in 2001.

Regarding pension membership, although the decision of whether to join a pension scheme is ultimately one of individual choice, the opportunities to participate in a scheme are also determined by an individual's labour market participation. Existing research shows that individuals from most BME groups are less likely to be in paid employment than the White majority population, and more likely to work part time or to be self-employed, and to have

lower earnings than their White counterparts (Vlachantoni *et al.*, 2015). In addition, whether an individual is a pension scheme member is also determined by whether his or her employer offers such a pension scheme (Vlachantoni *et al.*, 2015). Currently, only the large and long-established employers are required to provide auto-enrolment into a second-tier scheme. This could be an issue for individuals from BME groups as large and long-established employers are less likely to be located in racially segregated areas as previously discussed. Indeed, Vlachantoni *et al.* (2015) also found that most BME groups are significantly less likely to work for an employer who runs a pension scheme than the White majority.

To our knowledge, no previous studies have examined the link between neighbourhood effects and pension protection among ethnic minorities in England and Wales. Sunley (2000) combined data across several years of the General Household Survey (1993–1995 and 1995–1997) to explore changes in the coverage of occupational pensions in the UK over the 1990s, finding that coverage fluctuated with small increases in some regions (i.e. in the North and East Midlands of England) and declines in others (i.e. North West of England and Scotland). He highlighted that regional differentials in wages and flexible forms of employment, alongside with people's ability, willingness, and opportunity to take up pensions, might account for the fluctuation and variation of pension coverage observed. Strauss (2008), adopting a behavioural economics approach, argued that geographic context may influence people's 'irrational decision-making' with regard to pensions. Extending this argument, ethnic minorities living in enclave areas, or people in deprived areas, may be less likely to be a member of a pension scheme as they might be less likely to receive pension information from their neighbour and more likely to choose to maximise their current disposable income as a 'rational' choice. In this paper, we explore the determinants of employer's pension membership among ethnic minorities in England and Wales, empirically investigating the role of both neighbourhood effects (enclave and deprivation) and individual characteristics. The paper aims to address two research questions:

- (1) To what extent do taking neighbourhood effects (enclave and deprivation) into account modify the differentials between BME groups and the White majority in terms of their labour market performance and pension protection?
- (2) To what extent do neighbourhood effects influence the likelihood of individuals from BME groups to be members of an employer's pension scheme?

DATA AND METHODS

This paper uses individual data from the wave 1 (January 2009–March 2011) dataset of the Understanding Society, which collects information about the social and economic circumstances and attitudes of people living in 40,000 UK households (Understanding Society, n.d.). It is ideal for this study as the survey design oversamples members of minority ethnic groups (including at least 1,000 individuals from the five key ethnic minority groups: African, Bangladeshi, Caribbean, Indian, and Pakistani). This allows us to investigate the pension protection of different minority groups living in the UK. In this study, we only focus on ethnic minorities in England and Wales.¹ The analytical sample for this paper includes all adults aged between 25 and 1 year below the State Pension Age (in 2009–2011, 64 for men and 59 for women), totalling 26,917 respondents with complete data, of whom 4,916 came from the five ethnic groups listed previously. The respondents'

home addresses were then linked to local area data from the 2011 Census in order to allow for the inclusion of neighbourhood effects in the analysis.

The key objective in this paper is to investigate the neighbourhood effects of ethnic minority concentration on individuals' chances of being a member of an employer's pension scheme. Before having the opportunity of being a member of a pension scheme, there are three preceding stages for the individual. Figure 1 shows the sequence in the dataset determining whether an individual can be a member of an employer's pension scheme. A simple inverse explanation is: whether one is a member of an employer's pension scheme depends on whether their employer offers a pension scheme; whether one works for an employer who offers a pension scheme depends on whether they are an employee (rather than self-employed), and finally one needs to be in paid work in order to be an employee. Therefore, there are four 'nested' binary-dependent variables in this study: being in paid employment (No:0 and Yes:1), being an employee (No:0 and Yes:1), working for an employer who offers a pension scheme (No:0 and Yes:1), and being a member of an employer's pension scheme (No:0 and Yes:1). The distribution of each dependent variable is shown in Table 1. It is clear that more than 70% of working-age people are in paid employment, 85% among them are employees, 72% of employees are working for an employer who

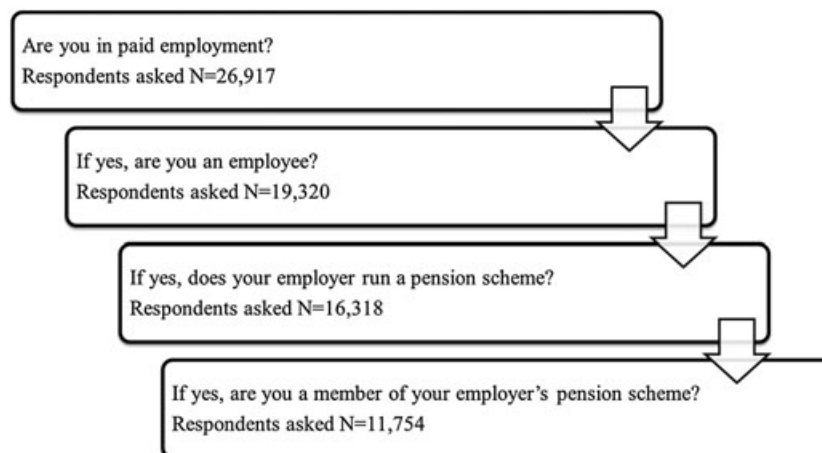


Figure 1. Sequence determining whether an individual can be a member of an employer's pension scheme (Understanding Society, n.d.).

offers a pension scheme, and more than 73% of individuals who work for such an employer are members of their employer's pension scheme.

The multivariate analysis uses four distinct regression models, three of which show the conditional odds of an individual experiencing the outcome variable, based on the preceding model; for example, for an individual to experience the odds of being a member of their employer's pension scheme (or not), they first need to have been 'selected' into the group of individuals who work for an employer offering a pension scheme. This is an important caveat of the analysis, as the odds in the final model are not reflective of the total working-age population who are in paid work and therefore do not estimate the true extent of ethnic differentials in terms of occupational pension membership and protection.

The independent variables include both individual-level and neighbourhood-level variables. Apart from ethnicity, we also consider a range of other individual demographic characteristics (age, gender, marital status, migration history, whether the individual cares for a handicapped/other individual in the household, and whether there are children aged less than 5 years old in the household), socio-economic status variables (highest educational qualification, housing tenure, and five-category occupational social class [National Statistics Socio-economic Classification (NS-SEC)]), and indicators of individual health [self-rated health and limiting long-standing illness (LLSI)]. The distributions of the independent variables are listed in Table 1, where a '—' signifies that this independent variable is not used in this model.² We included the missing values (inapplicable and missing) in the 'Cares for handicapped/other in household' variable as separate categories, as they do have some different effects on the dependent variables.

In terms of the neighbourhood level and neighbourhood-level variables, we choose the lower-layer super output area (LSOA) as the neighbourhood level. We recognise that there is no single consensus regarding the appropriate definition of a neighbourhood; however, it is generally held that lower-level geographies are better at representing neighbourhoods in analyses, which relate to the labour market (van Ham & Manley, 2009). This is particularly important for analysis on ethnic minority populations due to

their tendency for geographical concentration.³ Another advantage is that there are numerous indicators available from the 2011 Census at the LSOA scale. Three objective variables are chosen to reflect the level of deprivation of a neighbourhood, including the percentage of working-age individuals who are unemployed, the percentage of individuals who live in housing rented from a local authority or housing associations, and the percentage of individuals with no educational qualifications. As the correlation among these three variables is above 0.55, this indicates significant multicollinearity in the model. Therefore, in order to capture overall deprivation at the neighbourhood level, we used factor analysis to produce a summary deprivation score for each LSOA (Johnston, 1978). The factor score is also listed in Table 1.⁴

In terms of capturing a measure of the 'enclave' at the neighbourhood level, an indicator of the percentage of one's own ethnic group residing in the LSOA is used. Five dummy variables were constructed: four are ethnic concentration dummies (0–5%, 6–19%, 20–60%, and 60% plus) for individuals who are from each of the five ethnic minorities and one dummy (the British) for individuals who are from the White majority.

Multilevel logistic regression models are used to estimate the impact of individual and neighbourhood factors simultaneously (Hox, 2002). All the models are estimated by the (MLwiN 2.27 software, Centre for Multilevel Modelling, University of Bristol, Bristol, UK) (Rasbash *et al.*, 2009). Separate models were run for men and women with regard to being in paid employment. We also estimated separate models by gender for subsequent stages, but as there were no structural differences by gender once the initial condition of being in paid work was controlled for, the other models presented are for the whole population of working age, with gender included as a control variable.

RESULTS

Tables 2–5 present the results, expressed in terms of odds ratios of four multilevel logistic regression models estimating the individual and neighbourhood effects in terms of (a) being in paid employment (Table 2, which includes separate models for men and women); (b) being an

Table 1. Descriptive statistics of sample.

Dependent	In paid employment? No (27.9%), Yes (72.1%)	Being an employee? No (13.9%), Yes (86.1%)	Employer offers scheme? No (27.9%), Yes (72.1%)	Member of employer's scheme? No (26.5%), Yes (73.5%)
Independent				
Level 1 individual predictors				
Age	25–29 (13.2%), 30–34 (13.8%), 35–39 (15.1%), 40–44 (15.3%), 45–49 (14.2%), 50–54 (12.2%), 55–59 (10.9%), 60–64 (5.2%)	25–29 (12.5%), 30–34 (14%), 35–39 (15.6%), 40–44 (16.3%), 45–49 (15.4%), 50–54 (12.7%), 55–59 (10%), 60–64 (3.6%)	25–29 (13%), 30–34 (14.4%), 35–39 (15.7%), 40–44 (16.4%), 45–49 (15.3%), 50–54 (12.5%), 55–59 (9.6%), 60–64 (3%)	25–29 (12%), 30–34 (14.3%), 35–39 (15.6%), 40–44 (16.4%), 45–49 (16%), 50–54 (13.1%), 55–59 (9.7%), 60–64 (3%)
Gender	Male (46%), female (54%)	Male (49.1%), female (50.9%)	Male (46%), female (54%)	Male (45.1%), female (54.9%)
Marital status	Married (57.6%), single (26.9%), divorced/separated (14.1%), widowed (1.4%)	Married (59.8%), single (26%), divorced/separated (13.2%), widowed (1.1%)	Married (59.1%), single (26.5%), divorced/separated (13.4%), widowed (1.1%)	Married (59.9%), single (25.8%), divorced/separated (13.2%), widowed (1.1%)
Highest educational qualification	Degree (28%), other high (12.1%), A-level (17%), GCSE (21.4%), other qualification (5.7%), no qualification (15.7%)	Degree (32.8%), other high (13.4%), A-level (18.3%), GCSE (20.8%), other qualification (5.3%), no qualification (10%)	Degree (32.6%), other high (13.7%), A-level (18.3%), GCSE (21.1%), other qualification (5.1%), no qualification (9.2%)	Degree (36.6%), other high (14.6%), A-level (18.1%), GCSE (19.6%), other qualification (4.4%), no qualification (6.6%)
Housing tenure	Own outright (17.4%), own with mortgage (47.2%), local authority rent (10.7%), housing association rented (7.2%), rented from employer (1%), rented private (16.2%), other (0.3%)	Own outright (16.5%), own with mortgage (56.4%), local authority rent (6.1%), housing association rented (4.3%), rented from employer (1.2%), rented private (15.3%), other (0.3%)	Own outright (16.4%), own with mortgage (61%), local authority rent (4.9%), housing association rented (3.5%), rented from employer (1.2%), rented private (12.8%), other (0.2%)	Own outright (16.6%), own with mortgage (61.1%), local authority rent (5%), housing association rented (3.5%), rented from employer (1.1%), rented private (12.2%), other (0.3%)
Ethnic background	White British (70.8%), other White [†] (3.7%), mixed (1.9%), Indian (4.9%), Pakistani (3.7%), Bangladeshi (2.9%), other Asian (2.3%), Caribbean (2.9%), African (3.9%), Polish (0.8%), other ethnic (2.3%)	White British (74.3%), other White [†] (3.8%), mixed (1.7%), Indian (5%), Pakistani (2.6%), Bangladeshi (1.8%), other Asian (2.1%), Caribbean (2.7%), African (3.2%), Polish (0.9%), other ethnic (1.9%)	White British (77.8%), other White [†] (3.5%), mixed (1.7%), Indian (4.3%), Pakistani (1.8%), Bangladeshi (1.1%), other Asian (1.9%), Caribbean (2.9%), African (3%), Polish (0.5%), other ethnic (1.6%)	White British (78.8%), other White [†] (4%), mixed (1.6%), Indian (3.8%), Pakistani (1.6%), Bangladeshi (1%), other Asian (1.7%), Caribbean (2.6%), African (2.8%),

Migration history	Non-migrant (69.8%), second generation (6.6%), first generation (23.6%)	Non-migrant (72.9%), second generation (6.5%), first generation (20.6%)	Non-migrant (73.6%), second generation (6.6%), first generation (19.9%)	Polish (0.6%), other ethnic (1.4%) Non-migrant (76.5%), second generation (7.1%), first generation (16.4%)
Self-rated health	Positive (80.8%), fair (13%), negative (6.2%)	—	—	—
Limiting long-standing illness	No (56.2%), long-standing illness but not limiting (12.8%), long-standing illness and limiting (18.9%), no long-standing illness but has limitations (12.1%)	—	—	—
Cares for handicapped/other in household	Yes (6.2%), no (81.6%), missing (inapplicable and missing) (12.1%)	—	—	—
Children	None (54.6%), children under 5 years (23.7%), children above 5 years (21.7%)	—	—	—
Five-category occupational social class	—	—	Management and professional (47.8%), intermediate (15.9%), lower supervisory and technical (8.2%), semi-routine, routine, and never worked/long-term unemployed (28.2%)	Management and professional (54.3%), intermediate (16.9%), lower supervisory and technical (7%), semi-routine, routine, and never worked/long-term unemployed (21.8%)
Level 2 neighbourhood	—	—	—	—
Enclave (level of concentration of own ethnic group)	0 ~ 5% (10.1%), 6% ~ 19% (12.1%), 20% ~ 60% (5.8%), >60% (1.2%), White British (70.8%)	0 ~ 5% (9.8%), 6% ~ 19% (10.7%), 20% ~ 60% (4.5%), >60% (0.7%), White British (74.3%)	0 ~ 5% (9.7%), 6% ~ 19% (10.6%), 20% ~ 60% (4.2%), >60% (0.6%), White British (74.8%)	0 ~ 5% (9.5%), 6% ~ 19% (9.2%), 20% ~ 60% (3.2%), >60% (0.3%), White British (77.8%)
Factor	-1.8 ~ 4.2	-1.8 ~ 4.2	-1.8 ~ 4.2	-1.8 ~ 4.2

^aOther White group includes White individuals who are not of British origin (e.g. White European or White of other descent). GCSE, general certificate of secondary education; NS-SEC, National Statistics Socio-economic Classification.

Table 2. Multilevel logistic regression (odds ratios) of being in paid employment.

	In paid employment			
	Men		Women	
	Model 1	Model 2	Model 1	Model 2
Fixed part	(No. of respondents: 12,405)		(No. of respondents: 14,512)	
Age (ref: 25–29)				
30–34	1.46***	1.48***	1.18**	1.19**
35–39	1.40***	1.42***	1.17*	1.17*
40–44	1.45***	1.45***	1.24**	1.25**
45–49	1.32**	1.32**	1.26**	1.26**
50–54	1.01	1.01	1.13	1.13
55–59	0.70***	0.69***	0.74***	0.74***
60–64	0.25***	0.25***		
Female (ref: male)				
Marital status (ref: married)				
Single	0.53***	0.54***	0.97	0.97
Divorced/separated	0.70***	0.71***	1.27***	1.27***
Widowed	0.66*	0.67*	0.9	0.9
Education (ref: degree)				
Other high	0.91	0.93	0.94	0.94
A-level	1.04	1.09	0.84**	0.85**
GCSE	0.77***	0.82**	0.54***	0.54***
Other qualification	0.84	0.9	0.41***	0.42***
No qualification	0.57***	0.63***	0.23***	0.24***
House tenure (ref: owned outright)				
Own with mortgage	2.64***	2.64***	2.29***	2.28***
Local authority rent	0.41***	0.48***	0.53***	0.54***
Housing association rented	0.38***	0.42***	0.56***	0.57***
Rented from employer	5.20***	5.13***	1.08	1.07
Rented private	0.86*	0.87	0.88	0.88
Other	1	1.01	0.78	0.78
Fixed part				
Ethnic (ref: White British)				
Other White	0.68**	0.69*	0.93	1.12
Mixed	0.50***	0.53***	0.68***	0.75*
Indian	0.75*	0.83	0.59***	0.73**
Pakistani	0.62**	0.77	0.19***	0.24***
Bangladeshi	0.50***	0.61**	0.28***	0.37***
Other Asian	0.50***	0.51***	0.47***	0.54***
Caribbean	0.50***	0.52***	1.1	1.27
African	0.42***	0.46***	0.87	1.05
Polish	1.86	1.87	1.59*	1.90**
Other ethnic	0.41***	0.42***	0.60***	0.66**
Migration history (ref: non-migrant)				
Second generation	1.25	1.26	1.16	1.17
First generation	1.08	1.11	0.76**	0.76**
Self-rated health (ref: positive)				
Fair	0.66***	0.67***	0.69***	0.69***
Negative	0.19***	0.19***	0.23***	0.23***
LLSI (ref: no)				
Long-standing illness but not limiting	0.70***	0.69***	0.92	0.92

Continues

Table 2. (Continued)

	In paid employment			
	Men		Women	
	Model 1	Model 2	Model 1	Model 2
Long-standing illness and limiting	0.36***	0.36***	0.52***	0.52***
No long-standing illness but reports limitations	0.91	0.91	0.95	0.95
Cares for handicapped/other in household (ref: no)				
Missing	0.87	0.89	0.95	0.95
Yes	0.47***	0.49***	0.43***	0.43***
Children (ref: none)				
Children under 5 years	0.94	0.96	0.28***	0.28***
Children above 5 years	0.96	0.96	0.56***	0.57***
Level 2 neighbourhood effects				
Enclave (ref: 0 ~ 5%)				
6% ~ 19%		0.98		0.78***
20% ~ 60%		0.88		0.75**
>60%		0.67		0.62**
White British		—		—
Factor		0.84***		0.99
Level 2 variance	0.116*	0.119*	0.081	0.082

*** $p < 0.01$.** $p < 0.05$.* $p < 0.1$.

GCSE, general certificate of secondary education; LLSI, limiting long-standing illness.

employee (Table 3); (c) working for an employer who offers a pension scheme (Table 4); and (d) being a member of an employer's pension scheme (Table 5). In each table, Model 1 reveals the individual effects, and Model 2 shows the additional contribution of neighbourhood effects.

From the individual effects in Table 2, we can see the nonlinear effect of age on men and women's chances of being in paid work. Among those aged up to 49 years, the odds of being in paid employment increase with their increasing age group, while the odds of being in paid employment decrease for both men and women aged over 55 years. For both men and women, having lower educational qualifications and owning one's home with a mortgage or renting a house from a Local Authority/ Housing Association reduce one's chances of being in paid employment (but renting from an employer increased such chances for men). In terms of one's ethnicity, all ethnic minority groups (apart from Polish women) were less likely to be in paid employment than the White British. One's health and household circumstances also had similar

effects for men and women, with their chances of being in paid employment increasing when reporting good health and no LLSI and such chances reducing when providing care to a handicapped or dependent person in the household. However, certain substantial differences could be identified between the two genders. Divorced/separated or single men are less likely to be in paid employment than married men, while divorced/separated women are more likely to be in paid employment than married women. Having children (of any age) is significantly associated with a lower risk of being in paid employment for women; however, it does not have an effect on men's employment. First-generation migrant women are less likely to be in paid employment than non-migrant women; however, migration history does not seem to matter for men's employment. In terms of the neighbourhood effects, interestingly, the enclave factor does not seem to have an important effect on men's employment, while it contributes to lower odds of being in paid employment for women who are resident in neighbourhoods with

Table 3. Multilevel logistic regression (odds ratios) of being an employee.

	Being an employee	
	Model 1	Model 2
Fixed part (no. of respondents: 19,320)		
Age (ref: 25–29)		
30–34	0.78**	0.77**
35–39	0.61***	0.61***
40–44	0.58***	0.58***
45–49	0.53***	0.54***
50–54	0.50***	0.51***
55–59	0.44***	0.45***
60–64	0.36***	0.38***
Female (ref: male)	2.32***	2.33***
Marital status (ref: married)		
Single	1.03	1
Divorced/separated	1.1	1.07
Widowed	1.52*	1.47*
Education (ref: degree)		
Other high	1.01	0.98
A-level	0.91	0.87**
GCSE	0.98	0.92
Other qualification	0.86	0.81**
No qualification	0.77***	0.70***
House tenure (ref: own outright)		
Own with mortgage	1.09	1.08
Local authority rented	1.89***	1.57***
Housing association rented	1.30**	1.14
Rented from employer	0.95	0.96
Rented private	1.11	1.11
Other	1.63	1.68
Ethnic (ref: White British)		
Other White	0.87	0.97
Mixed	1.03	1
Indian	1.33*	1.45**
Pakistani	0.70**	0.73*
Bangladeshi	1.04	1.06
Other Asian	1.11	1.14
Caribbean	1.41*	1.39*
African	1.74***	1.69***
Polish	0.78	0.85
Other ethnic	0.97	0.96
Migration history (ref: non-migrant)		
Second generation	0.80*	0.79*
First generation	0.78**	0.77**
Level 2 neighbourhood effect		
Enclave (reference: 0 ~ 5%)		
6% ~ 19%		0.89
20% ~ 60%		0.75**
>60%		0.65*
White British		—
Factor		1.23***
Level 2 variance	0.361***	0.351***

****p* < 0.01,***p* < 0.05.**p* < 0.1.

GCSE, general certificate of secondary education.

a higher concentration of own ethnic group. Finally, higher deprivation is associated with lower odds of being in paid employment for men but not for women.

Table 3 presents the determinants of being an employee among those in paid employment. Those in younger age groups, who are women, widowed, and renting their home from a Local Authority or Housing Association compared with owning outright, are all positively associated with being an employee. Individuals with no qualifications are significantly less likely to be employees than those who have a degree (Odds ratios (ORs) = 0.77). In terms of ethnic minority differences, Pakistani individuals are less likely to be employees than the White British group, while Indian, Caribbean, and African persons are significantly more likely to be employees than the White British. One's migration history is also an important determinant of being an employee, with first-generation and second-generation migrants both being less likely to be employees than non-migrants (the ORs are 0.78 and 0.8, respectively). Again, no substantial differences in the pattern of individual variables were found on one's chances of being an employee in the neighbourhood effect model. Individuals from ethnic minorities living in higher ethnic concentration neighbourhoods are less likely to be employees, and areas with a higher level of deprivation area are positively associated with individuals' odds of being an employee.

Table 4 presents the determinants of working for an employer who runs a pension scheme among all employees. The effect of age is non-linear, with the odds of working for an employer who runs a pension scheme increasing up to age 49 years and then falling. Having a lower socio-economic status is negatively associated with one's odds of working for an employer offering a pension scheme, for example having educational qualifications lower than a degree, renting one's home from a Local Authority/Housing Association or privately, and belonging to a lower NS-SEC class. Indian, Pakistani, Bangladeshi, other Asian, and other ethnic groups are significantly less likely to work for an employer who offers a pension scheme than the White British group, while first-generation and second-generation migrants are significantly different from the non-migrant group, with the former being less likely to work

Table 4. Multilevel logistic regression (odds ratios) of working for employer offering a pension scheme.

	Working for employer offering pension scheme	
	Model 1	Model 2
Fixed part (no. of respondents: 16,318)		
Age (ref: 25–29)		
30–34	1.24***	1.24***
35–39	1.21***	1.21**
40–44	1.26***	1.27***
45–49	1.49***	1.49***
50–54	1.55***	1.55***
55–59	1.34***	1.33***
60–64	1.42***	1.41***
Female (ref: male)	1.05	1.05
Marital status (ref: married)		
Single	0.97	0.97
Divorced/separated	0.97	0.97
Widowed	1.10	1.09
Education (ref: degree)		
Other high	0.75***	0.75***
A-level	0.65***	0.66***
GCSE	0.58***	0.58***
Other qualification	0.52***	0.53***
No qualification	0.39***	0.40***
House tenure (ref: own outright)		
Owned with mortgage	1.12*	1.11*
Local authority rent	0.64***	0.65***
Housing association rented	0.68***	0.68***
Rented from employer	1.12	1.11
Rented private	0.67***	0.67***
Other	1.03	1.03
Ethnic (ref: White British)		
Other White	0.90	1.08
Mixed	0.96	1.04
Indian	0.60***	0.76**
Pakistani	0.57***	0.78*
Bangladeshi	0.46***	0.65**
Other Asian	0.74*	0.83
Caribbean	1.17	1.31*
African	0.99	1.18
Polish	0.78	0.91
Other ethnic	0.75*	0.80
Five-class NS-SEC (ref: management and professional)		
Intermediate	0.83***	0.83***
Lower supervisory and technical	0.50***	0.50***
Semi-routine, routine, and never worked/long-term unemployed	0.43***	0.43***

Continues

Table 4. (Continued)

	Working for employer offering pension scheme	
	Model 1	Model 2
Migration history (ref: non-migrant)		
Second generation	1.41***	1.43***
First generation	0.70***	0.71***
Level 2 neighbourhood effects		
Enclave (ref: 0 ~ 5%)		
6% ~ 19%		0.81**
20% ~ 60%		0.62***
>60%		0.46***
White British		—
Factor		0.98
Level 2 variance	0.225***	0.221

*** $p < 0.01$.** $p < 0.05$.* $p < 0.1$.

GCSE, general certificate of secondary education; NS-SEC, National Statistics Socio-economic Classification.

for an employer offering a pension scheme and the latter being more likely to do so. In terms of the neighbourhood effect, individuals from ethnic minorities living in higher ethnic concentration neighbourhoods are less likely to work for an employer who offers a pension scheme. There is no significant effect of the level of neighbourhood deprivation on an individual's determinants of working for an employer who runs a pension scheme.

Finally, Table 5 illustrates the determinants of being a member of the pension scheme among employees working for an employer who offers such a scheme. Among those aged up to 54 years, the odds of being the member of pension scheme increase with the age group; the opposite is true for those aged above 55 years. Being married is positively associated with being a member of the employer's pension scheme. Again, lower socio-economic status (e.g. educational qualifications lower than a degree) is negatively associated with one's odds of being a member of an employer's pension scheme. In terms of differences between ethnic minorities, the Pakistani, Bangladeshi, and Polish groups are significantly less likely to be members of a pension scheme than the White British group. By contrast, Caribbean individuals are significantly more likely to be members of a pension scheme than

Table 5. Multilevel logistic regression (odds ratios) of being a member of employer's pension scheme.

	Being member of employer's pension scheme	
	Model 1	Model 2
Fixed part (no. of respondents: 11,754)		
Age (ref: 25–29)		
30–34	1.30***	1.31***
35–39	1.74***	1.74***
40–44	2.33***	2.31***
45–49	2.77***	2.74***
50–54	2.99***	2.93***
55–59	2.61***	2.56***
60–64	2.10***	2.03***
Female (ref: male)	1.00	1.00
Marital status (ref: married)		
Single	0.90*	0.91
Divorced/separated	0.77***	0.78***
Widowed	1.00	1.01
Education (ref: degree)		
Other high	0.64***	0.65***
A-level	0.64***	0.65***
GCSE	0.49***	0.51***
Other qualification	0.54***	0.55***
No qualification	0.50***	0.53***
House tenure (ref: own outright)		
Owned with mortgage	1.11	1.11
Local authority rent	0.57***	0.63***
Housing association rented	0.57***	0.62***
Rented from employer	1.30	1.27
Rented private	0.58***	0.58***
Other	0.72	0.73
Ethnic (ref: White British)		
Other White	0.83	0.77
Mixed	0.96	0.95
Indian	0.81	0.80
Pakistani	0.60***	0.62**
Bangladeshi	0.66*	0.73
Other Asian	0.78	0.75
Caribbean	1.35*	1.31
African	0.85	0.84
Polish	0.46**	0.42***
Other ethnic	0.82	0.81
Five-class NS-SEC (ref: management and professional)		
Intermediate	0.85**	0.86**
Lower supervisory and technical	0.52***	0.54***
Semi-routine, routine, and never worked/long-term unemployed	0.38***	0.39***

Continues

Table 5. (Continued)

	Being member of employer's pension scheme	
	Model 1	Model 2
Migration history (ref: non-migrant)		
Second generation	0.84	0.84
First generation	0.76**	0.76**
Level 2 neighbourhood effects		
Enclave (ref: 0 ~ 5%)		
6% ~ 19%		1.18
20% ~ 60%		0.97
>60%		0.90
White British		
Factor		0.88***
Level 2 variance	0.091*	0.093*

*** $p < 0.01$.** $p < 0.05$.* $p < 0.1$.

GCSE, general certificate of secondary education; NS-SEC, National Statistics Socio-economic Classification.

the White British group, possibly because of their association with work in the public sector, most notably health and rail services, although this result becomes insignificant after considering the neighbourhood effects. One's migrant history is also important, as first-generation migrants are significantly less likely to be members of an employer's pension scheme than non-migrants. In terms of the neighbourhood effect, no significant differences are found for individuals from ethnic minorities living in enclave areas. Finally, areas with a higher level of deprivation are negatively associated with being a member of an employer's pension scheme.

DISCUSSION AND CONCLUSION

This paper aimed to investigate the neighbourhood effects on pension protection among key ethnic minority groups in England and Wales. Addressing the two research questions identified in the Introduction, (a) the inclusion of neighbourhood characteristics does not appear to make a substantial difference to the patterning of the effects of individual variables on labour market performances and pension protection; however, (b) neighbourhood effects do have an independent effect on individuals' labour market performance and pension protection, taking a

range of demographic and socio-economic factors into account. Consistent with previous research (Clark & Drinkwater, 2002), women from ethnic minorities living in areas with a high own-ethnic-group concentration experience a lower likelihood of being in paid employment (this effect is not seen among men) and a lower likelihood of being an employee than comparable individuals who live in less ethnically dense areas, other things being equal. In addition, the results show that individuals from ethnic minorities living in areas with a high concentration of their own ethnic group (enclave) also experience a lower likelihood to work for an employer who offers a pension scheme. However, there is no further significant impact of the enclave on one's chance of being a member of an employer's pension scheme.

Regarding the deprived neighbourhood effect, the paper shows that higher deprivation is associated with a lower likelihood of being in paid employment among men, which is consistent with previous research (e.g. Clark, 2009; van Ham & Manley, 2009). However, higher deprivation at the neighbourhood level is positively associated with one's individual chances of being an employee, possibly because of the relatively deprived nature of ethnically concentrated areas in Britain serving to depress self-employment opportunities (Clark & Drinkwater, 2007). Furthermore, there is a negative relationship between deprived neighbourhood and an individual's membership in an employer's pension scheme; high deprivation reflects a high rate of unemployment, social renting, and no qualifications. If respondents think that they might lose their job in the future, they may be less likely to become a member in an employer's pension scheme and more likely to increase their disposable income; on the other hand, lower education may relate to lower financial/pension education as individuals experiencing a higher level of deprivation (higher rate of no qualifications) may be less informed about and aware of pension protection and make 'irrational decisions' on retirement planning (Strauss, 2008). Additionally, greater occupational mobility (and insecurity) may influence people's decisions to become members of an employer's pension scheme.

This paper also tested the neighbourhood effects in larger geographical scales (middle-layer super output area) and did not find substantially

different neighbourhood effects on individuals' labour market performance and employer's pension membership using the middle-layer super output area scales compared with using the LSOA scales. The median distance from work to home is 5 miles in the Understanding Society dataset, which indicates that most people work within the LSOA scales and this is the most appropriate level of analysis. Patacchini and Zenou (2012) found that the effect of the social contacts on finding a job for the ethnic reduces very rapidly with distance, which might be the reason for the lack of substantial differences found in the larger area.

Differences between BME groups and the White British in terms of labour market participation and employer's pension membership are also clear and are consistent with other research (Vlachantoni *et al.*, 2015). Most ethnic minorities in the UK are less likely to be in paid employment than the White British, with the exception of Polish women. Among individuals who are in paid employment, it is the Indian, Caribbean, and African persons who are more likely to be employees than the White British. The improvement in the educational level of the Indian group over time may account for the lower likelihood of individuals in this group to be self-employed and their greater likelihood of being employees (Clark & Drinkwater, 2007). Most BME groups are less likely than the White British to be working for an employer offering a pension scheme, which may be explained by lower financial/pension awareness (e.g. among Pakistanis and Bangladeshis) (Barnes & Taylor, 2006). Polish individuals are more likely to be in paid employment but significantly less likely to be members of an employer's pension scheme than the White British, indicating that short-term economic migration by this group may hinder their pension investment while in the UK (Burrell, 2009; Trevena *et al.*, 2013).

Those in older age groups are more likely to be members of an employer's pension scheme than younger individuals. The increasing capacity to contribute to an occupational pension scheme for individuals on higher salaries at a later part of their working life might account for these differences by age (ONS, 2012b). It may also reflect that younger people are less likely to believe that planning for the future (retirement) is important than older people (Clark *et al.*,

2008). The socio-economic status of individuals (e.g. higher education or occupational social class) also determines one's labour market performance and pension protection.

In the coming decades, the population of BME heritage will increase in size and will also continue to age (AgeUK, 2013). It is likely that ethnic concentration will still be the dominant characteristic in terms of the spatial distribution for the BME groups. From this study, living in an ethnic enclave is associated with a disadvantage in terms of being in paid employment, being employees, and working for an employer who offers a pension scheme. Such findings have implications for the design of incentives for working-age individuals to take up employment, which offers benefits in the form of second-tier pension membership. Lower human capital and poor spatial access to one's work are barriers for ethnic minorities to find work outside their enclave. From a policy perspective, support with finding and accessing job information and incentives to seek work outside their enclave would be useful for BME groups. The government could also support financial subsidies for BME groups, which allow them to pay for their transport from living areas to the working place.

Finally, from the perspective of facilitating better pension protection among individuals from BME groups, providing guidance on the importance of pension protection and policies to encourage more employees to make financial provisions for their retirement through the type of employment they take up, could also be considered. Encouraging younger individuals to make pension plans during their working age can make a significant difference to their retirement income prospects (Clark *et al.*, 2008). In this respect, it would be important for the government to disseminate such guidance not only to individuals from BME groups or those living in deprived areas but also among younger, first-generation migrants and those in low socio-economic statuses (education level lower than degree and lower NS-SEC class than management and professional).

ACKNOWLEDGEMENT

The research for this article was supported by the ESRC's Secondary Data Analysis Initiative, Grant Number ES/K003518/1.

NOTES

- (1) The available data from the 2011 Census data in England and Wales were merged to the Understanding Society in this study.
- (2) It is well known that there is a trade-off between caring responsibilities and paid employment, particularly for women (Evandrou & Glaser, 2003), and the health status (self-rated health and LLSI) also determines people's employment status. Thus, we include variables that capture individuals' care provision in the household. However, these variables are only used in the model for the odds of being 'in paid employment' because of there being no significant effect in the differences of these predictors on one's chances of being an employee, working for employer who offers a pension scheme, and being a member of an employer's pension scheme. The variable 'Five class NS-SEC' is used only in the models exploring whether an individual works for an employer who offers a pension scheme and whether they are a member of that pension scheme as it reflects both occupational social-economic and industry.
- (3) The median distance from work to home in the Understanding Society dataset is 5 miles.
- (4) The factor analysis generated one factor with a communality of 76%. The factor is positively correlated with the three variables, which means that the higher factor scores in terms of unemployment rate and social renting and no qualifications stand for higher deprivation in the neighbourhood.

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