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Abstract

This paper examines the effects of ethnic enclaves on the employment probability of ethnic minorities living in England and Wales. Controlling for the endogeneity of residential location we find that living in a high own ethnic concentration area has no systematic effect across all ethnic groups. However, once we disaggregate we find that for some ethnic groups (Indians) enclaves seem to have a positive and significant impact on their employment probability while for other groups (Caribbeans and African-Asians), enclaves have a negative and significant impact. These results are non-trivial and are in accordance with a set of theoretical views in this literature that argue that ethnic spatial concentration can have positive as well as negative effects. The perceived disadvantages of ethnic enclaves are not omnipresent. What seem to be driving this are the differences in the quality of ethnic enclaves where Indian enclaves by being more dynamic in terms of self-employment create more jobs for others within the enclave.

JEL Classification: J2; J7; R2

Keywords: enclaves, employment, ethnic minorities

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1. Introduction

From the end of May to the middle of July in year 2001, towns and cities in Northern England witnessed ethnic disturbances the likes of which Britain had not seen in 20 years. The UK government commissioned three independent reports to examine the causes of the riots and investigate how such instances could be avoided in the future. One theme that emerged from these reports was that increasing segregation of communities had led to isolation, causing fear, misunderstanding and distrust to rise between different communities (Building Cohesive Communities, 2001).

Though segregation is evident in the UK it is not as pervasive as is found in the US (Peach, 1995). In fact, in most countries ethnic minorities are unevenly distributed and they have a high propensity to cluster, perhaps forming ethnic enclaves. In the UK, studies have revealed that ethnic minority groups are heavily concentrated in some parts of the country, particularly in urban centres (Modood et al. 1997; Hatton and Wheatley Price 1999). Furthermore, even within these areas, minority populations are concentrated in specific localities. Hatton and Wheatley Price (1999) using data from the 1991 Census report that "in the London boroughs of Brent, Tower Hamlets, Hackney, Ealing and Lambeth ethnic minorities exceeded 30% of the area's population in 1991". Furthermore, it is not uncommon to have most of these areas with ethnic communities dominated by one particular ethnic group. In Tower Hamlets, for example, their study reports that the Bangladeshi ethnic group constitutes 23% of the local population.

The causes of such clustering are complex. Some studies emphasise the benefits from locating close to one another whereby ethnic enclaves improve access to 'ethnic goods' such as food, education or religious services, not to mention the ability to socially interact in one's own language. This obviously reduces any social interactions with whites (Akerlof and Kranton, 2000). Other studies emphasise discriminatory practices at the individual and institutional level (Yinger, 1995) and also racially driven violence and harassment.

There have been concerns that such concentrations are related to social exclusion, inequality and deprivation (Johnston, Forrest and Poulsen, 2002). Studies, in particular, for the US, have found that such concentrations are deleterious to labour market outcomes (Culter and Glaeser, 1997; Gonzalez 1998). In the UK, there has been little attention paid to ethnic enclaves as a source of labour market disadvantage. A notable exception is a study by Clark and Drinkwater (2002). Using the same dataset as ourselves (the Fourth National Survey on Ethnic Minorities) they examine the effects ethnic enclaves on employment outcomes. They find a lower incidence of self-employment and a higher incidence of unemployment in ethnically concentrated areas. One difficulty with this study is that they do not control for the endogeneity of residential location with respect to employment. In particular, residential location is a household choice variable, and this choice is likely to be driven by unobserved factors that are likely to have a bearing on labour market outcomes.

In this paper we control for the endogeneity of residential location. Our main finding is that, after correcting for endogeneity, living in a high own ethnic concentrated ward has no systematic effect across all ethnic groups. However, once we disaggregate we find that for some ethnic groups (Indians) enclaves seem to have a positive and significant impact on their employment probability while for other groups (Caribbeans and African-Asians), enclaves have a negative and significant impact. These results are non-trivial and are in accordance with a set of theoretical views in this literature that argue that ethnic spatial concentration can have positive as well as negative effects (Cutler and Glaeser, 1997). What matters is not whether an individual resides in an enclave but the quality of the enclave in terms of economic vibrancy.

The paper proceeds as follows. In section 2 we provide a broad overview of the previous literature focusing on enclave formation and the theories and empirical perspectives linking residential choice to labour market outcomes. The dataset utilised is described in section 3 where descriptive statistics are also presented. Section 4 outlines the empirical specifications that we estimate. Section 5 reports our results and the final section summarises the findings and provides some concluding remarks.

2. Previous Literature

The concentration of ethnic groups has been referred to either as enclaves (Gonzalez, 1998) and/or ghettos (Peach 1995). Enclaves can be defined as a concentration of individuals from the same ethnic background within a specific geographical location (Clark and Drinkwater, 1998). Ghettos have been defined as a residential district that is almost exclusively the preserve of one ethnic or cultural group (Peach, 1995). A ghetto, however, need not be an enclave. Ghettos tend to be associated with long-term deprivation with higher levels of unemployment, poverty, crime, drug-abuse, poor housing and very little commercial activity (Neymarc, 1996; Muller, 1996). On the other hand, ethnic enclaves may have relatively high labour force participation rates compared to ghettos, moderate levels of poverty and considerable internal economic activity, Muller (1996). Moreover, a ghetto may be perceived as a permanent home for its residents, whereas an ethnic enclave may be seen as a transit point for new ethnic immigrants.

The formation of ethnically concentrated neighbourhoods may be explained by a whole host of factors. These include a preference for isolation, a need for security against racially driven violence, discrimination and harassment in the housing and labour markets, redlining, the lower incomes of ethnic groups and a desire to share cultural, religious and linguistic benefits (Yinger, 1986; Massey 2001; Ihlanfeldt and Scafidi, 2002). Chain migration processes and extended families may exacerbate these factors.

The available literature, particularly in the US, points to the fact that ethnic concentration plays a vital role in determining ethnic minority's labour market outcomes. Two causal explanations linking segregation with poor labour market outcomes for minority groups have been posited. First, assimilation theory, which stresses the importance of social interactions between the native majority and ethnic minorities for the latter's labour market success (Chiswick 1978; Chiswick et al. 1997). Such interactions improve ethnic minority's social capital and job finding networks (Weinberg, 2000). One aspect of this is that the

acquisition of local valuable human capital such as language may be constrained, among other things, by the concentration of individuals of the same ethnic group (Borjas, 1999). Lazear (1999) also argues that a rapid influx of ethnic immigrants into concentrated areas lowers incentives to adopt the indigenous language simply because there is less necessity to acquire the language. For Britain, Dustmann and Fabbri (2003) find an inverse and significant relationship between ethnic concentration and English language acquisition and Modood *et al.* (1997) find that this negative relationship is stronger for the Pakistani and Bangladeshi ethnic groups in the UK.

Second, the spatial mismatch hypothesis which argues that ethnic minorities have poorer spatial access to jobs and employment information because of their concentration in segregated residential areas with few nearby employment opportunities (Kain 1968). The labour market disadvantage faced by certain ethnic groups reflects a growing suburbanisation of employment opportunities (Arnott 1997; Gobillon, Selod and Zenou, 2003). The weight of evidence suggests that bad job access indeed worsens labour market outcomes, confirming the spatial mismatch hypothesis (Holzer, 1991; Kain, 1992; Weinberg, 2000). The UK research on spatial mismatch is limited and on balance rather unsupportive (Fieldhouse, 1999) though Thomas (1998) offers some supporting evidence.

It needs to be acknowledged, however, that spatial concentration may also a positive impact on minority groups performance (Cutler and Glaeser, 1997). In particular, enclaves may constitute a network where a network raises the opportunities for gainful trade in the labour market (Lazear, 1999), providing information on job opportunities and represents a space whereby ethnic groups are cocooned from discrimination elsewhere and a mechanism for protecting ethnic businesses from competition. The upshot of this is that spatial concentration can have positive as well as negative effects.

On the whole the empirical evidence supports the argument that enclaves are detrimental to labour market outcomes. Weinberg (2000) for the US using 1980 Census Public Use Micro-samples studied the effect of black ethnic minority's residential centralisation on black-white employment differentials in metropolitan areas. The results

reveal that a one-standard-deviation reduction in black residential centralisation (relative to whites) raises employment rates of black adults by about 2.0 percentage points, (relative to whites). He further argued that black residential centralisation accounts for between 48–62% of the black-white employment differential among 18-30 year olds (across all education attainment levels) living in large metropolitan areas.

Another study by Cutler and Glaeser (1997) for the US indicates that blacks in more segregated areas (predominantly black areas of cities) experience worse labour market outcomes than their counterparts in less segregated areas. Segregation or concentration of ethnic groups is disadvantageous because it may create more physical distance between individuals and their jobs. Using Census data from California and Texas, Gonzalez (1998) studied the impact of Mexican enclaves in the US on earnings and concluded that the cultural benefits from enclaves come at a cost of reduced earnings and increased rents. Yuengert (1995) also studied the impact of ethnic concentration on earnings of Mexican immigrants into the USA. Using 1980 Census data he concluded that a 1 percent increase in Mexican immigrants into Mexican enclaves in the USA, reduces enclave residents' earnings by 11 percent relative to the earnings of individuals outside enclaves.

In contrast to these studies, Edin, Fredriksson, and Åslund (2003) found a positive and significant enclave-labour market outcome relationship for Swedish immigrants. After controlling for the endogeneity of residential location their study concludes that living in enclaves improves labour market outcomes (higher earnings), and that the gains appear to be concentrated at the lower end of the observable skill distribution. The earnings gain associated with a one standard deviation increase in ethnic concentration for less skilled immigrants was in the order of 13%, (pp.332). The gains to less skilled immigrants from living in an ethnic enclave they argue is tied to the "quality" of the enclave whereby immigrants in ethnic groups that have high earnings or high self-employment rates benefit more from living in an enclave.

3. Data and descriptive statistics

This study uses the Fourth National Survey on Ethnic Minorities (FNSEM) collected by the PSI, (Modood *et al*. 1997). It is a cross-section survey carried out between 1993 and 1994. Among the many advantages of using this data set is the fact that it over-samples those from minority populations. Targeted ethnic groups were Black Caribbeans, Indians, Pakistanis, Bangladeshis, African-Asians and Chinese. A majority of the selected individuals were interviewed by a member of their own ethnic group either in English or in their own language, thereby maximising the response rate and reducing any potential source of bias. Selecting the economically active, those aged between 16 and 64 for males and between 16 and 59 for females, excluding those wholly retired from work gives a sample of 4,246 individuals. About 78% of the sample for ethnic minority groups is employed.

In our analysis, an enclave is defined as a concentration of ethnic minority individuals from the same ethnic background within a specific geographical location, (Clark and Drinkwater, 2002). In particular, we use electoral ward as our spatial reference unit and rather than defining a threshold level of ethnic concentration beyond which ethnic minority residential area becomes an enclave, we look at the effect of different levels of ethnic concentration on the probability of being in employment.[i] There are 9527 electoral wards in England and Wales and on average each has a population of around 5327 residents. In the raw data, own ethnic group ward density is categorised into 7 bands: up to 1.99%; 2-4.99%; 5-9.99%; 10-14.99%; 15-24.99%; 25-32.99%; 33% or more. From this we construct three ethnic concentration dummies (1-9.99%, 10-24.99% and 25% plus). This allows us to maintain a large enough sample size for each concentration level and ethnic group to warrant estimation. Ethnic enclaves are defined as those where ethnic concentration is 25% or more.

The mean values of the different variables used in the analysis are presented in Table 1. The table also shows the means for the control sample of 1,918 whites. The average age for

[i] A ward in the UK is the smallest administrative division used for election purposes.

the usable ethnic minority sample is 34 years old and they have on average stayed in the UK for about 20 years. 60% of the ethnic sample reside in wards with own ethnic group concentration of less than 10% and around 14% reside in wards with own ethnic group concentration of 25% or more. About 22% of the ethnic minority sample is Caribbean, 24% Indian, 23% Pakistanis and 12% Bangladeshi origin. Also included are those of African-Asian origin (14%). They were born in East Africa but have historical roots in South-Asia. A small number from the Chinese group of about 5% are also included in the sample.

Disaggregation of the non-white sample into different ethnic groups shows that concentration is highest for the South-Asian communities and lowest for the Chinese and the Caribbean groups, (see Table 2). Over 20% of African-Asian and Pakistani ethnic groups reside in wards with own ethnic concentration of 25% or more. However, very small numbers of the Caribbeans (2%) and Chinese (0%), respectively, live in wards which we classify as ethnic enclaves. This concords with earlier research that finds that the degree of spatial assimilation is lowest amongst the South-Asian groups (Johnston, Forrest and Poulsen, 2002). Table 3 provides some information on the characteristics of the sample across different concentration levels. The first thing to note is the inverse relationship between residential concentration and employment. 81% of the non-whites living in areas with own ethnic concentration of less than 10% are in employment compared to 72% of those resident in wards with own concentration of 25% or more. Rather surprisingly, self-employment activities decline as own ethnic concentration increases. This accords with the view that the deprived nature of highly ethnically concentrated areas may not support high levels of self-employment activities, (Clark and Drinkwater, 2002). Other information reveals that highly concentrated wards display lower language fluency, less inter-marriage, lower educational qualifications, and are depositories of recent migrants. With respect to language proficiency just under 60% of individuals living in high own concentration areas (25% plus) are fluent and not surprisingly, nearly nine in ten individuals in these areas make regular use of languages other than English.

4. Empirical Specification

In this section, we outline the employment probability model estimated for ethnic minorities residing in England and Wales. We develop a reduced form probit model that estimates the probability of observing an individual, with a set of observable characteristics, being in employment against being unemployed but actively looking for a job. The dependent variable is therefore a dichotomous one, taking value 1 if the individual is in employment and 0 otherwise using the ILO definition.[ii] The self-employed are excluded from the analysis.[iii]

Estimation of a simple probit model in which ethnic concentration dummies are included among a standard set of covariates of the employment model is, however, inappropriate. For more recent immigrants gravitating to an ethnic enclave may be regarded as a rational response to imperfect information regarding the host country's labour market. In such cases, ethnic concentration in a particular area acts as a signal of employment prospects. Consequently, there is a potential bias from sorting of more and less successful ethnic individuals across different residential areas.

Researchers have responded to this problem in a variety of ways. Some have adopted an instrumental variable approach, (Cutler and Glaeser, 1997) and other studies benefited from the authorities decision to allocate ethnic minorities without taking into account individual characteristics (assignments were random) (Edin, Fredriksson, and Åslund, 2003). In this study, we control for endogeneity using an instrumental variable (IV) probit model proposed by Newey (1987). This estimator estimates probit models where one or more of the independent variables are endogenous.[iv]

[ii] Due to sample size problems we omit the Chinese ethnic group from the analysis and we combine the Bangladeshi and Pakistani groups on the basis that they are both overwhelmingly Muslim, they face similar levels of relative disadvantage in the labour market (Blackaby et al, 1999) and emanate from rural areas in their origin country.

[iii] We do not examine the effects on earnings, since the response rate for earnings in the FNSEM was poor especially for the South-Asian groups. In any case, it could be argued that the most important dimension of economic disadvantage is employment and not earnings (Blackaby et al. 1997).

[iv] We use the IV probit estimation routine "ivprob" from the Stata computer program.

Assume that individual's probability of being employed is given by the following equation

$$E_i^* = z_i\delta_0 + d_i\gamma_0 + \varepsilon_i = x'_{1i}\beta_0 + \varepsilon_i \quad (1)$$

$$E_i = 1 \text{ if } E_i^* > 0, 0 \text{ otherwise}$$

where $x_{1i} = [z_i, d_i]$ and $\beta_0 = [\delta_0, \gamma_0]$. d_i is the i^{th} observation of the vector of endogenous factors, z_i is a vector of exogenous variables and β_0 is the vector of equation parameters subject to estimation. Here, d_i (the dummy variable) is equal to 1 if the individual resides in an enclave and 0 if he or she does not. Endogeneity issues arise when factors captured by the error term in equation (1) are correlated with the unobserved determinants of residential area choice.

Formally, imagine we have the following equation

$$d_i^* = z_i\delta_1 + y_i\gamma_1 + \mu_i = x'_{2i}\beta_1 + \mu_i \quad (2)$$

$$d_i = 1 \text{ if } d_i^* > 0, \ 0 \text{ otherwise}$$

where d_i^* is the unobservable latent variable underling the willingness to either reside in an enclave or not, $x_{2i} = [z_i, y_i]$, and $\beta_1 = [\delta_1, \gamma_1]$. In this case, y_i is a vector of instrumental variables that have no direct influence on E_i^*. If ε_i from equation (1) and μ_i from (2) are correlated, estimation of equation (1) using standard single equation probit produce a biased estimate of γ_0 because it overlooks the correlation structure between the disturbance terms from the two equations. In our case the independent variable of interest, (ethnic concentration) may be correlated with the disturbance term because it is determined in part, (through a separate equation) by the dependent variable, employment status. Consequently, the results may overstate the effect of ethnic concentration on employment probability. The instrumental variable estimation procedure estimates equation (2) and uses the predicted values as independent variables in equation (1).

5. Empirical Results

Complete sample

Our first set of results focus on the factors that influence residential choice. As stated earlier, we construct a dichotomous variable taking value one if the individual resides in an area with own ethnic concentration of about 25% or more and zero otherwise.[v] Using this as a dependent variable, column 1 of Table 4 presents results for the whole sample. We report marginal effects.

Column one gives the results for the complete sample. Having had an arranged marriage, being Muslim, Hindu or Sikh (relative to Christian), and having a preference for a school of ones own religion for ones children increases the probability of living in an enclave. On the other hand, individuals with spouses from other ethnic groups are less likely to live in high own ethnic concentrated areas. This is somewhat unsurprising since inter-marriage may be regarded as a measure of social assimilation and also a factor producing it (Pagnini and Morgan, 1990).

Furthermore, car ownership, professional occupations, having a UK degree or foreign qualifications and fluency in the English language reduces the probability of living in an enclave. An assimilation process seems to be at play since the probability of living in an enclave also tends to decline with period of stay in the UK. The ethnic group dummies reveal that Caribbeans, African-Asians and Pakistanis are more likely to reside in a high own ethnic concentration area relative to Indians. [vi]

The results for our employment model for the whole non-white sample are presented in columns 2 and 3 of Table 4. For comparison purposes the estimates in column 2 ignore the

[v] For Caribbeans this variable takes a value 1 if the individual resides in an area with own ethnic concentration of $\geq$15% and 0 otherwise since for them there were very few observations in the $\geq$ 25% category (only 2%).

[vi] The Hosmer-Lemeshow goodness-of-fit test generates a $\chi^2_{(8)}$ test statistic of 7.28 (Prob> χ^2 =0.3427) so that we fail to reject our model.

potential endogeneity between employment status and residential choice while those in column 3 control for endogeneity. We control for factors such as education qualifications and potential labour market experience (proxied using age). We also augment this model with a range of variables including marital status and presence of children in the family.

The results in column 2 of Table 4 reveal that those who live in wards with high own ethnic concentration (25% or more) have a lower employment probability though this is only significant at the 10% confidence level. As in most human capital models, we confirm the non-linear trajectory of employment probability with labour market experience. Being married increases the probability of being in employment. This effect is larger for those who are married to or living together as couples with someone outside their own ethnic group (19%) compared to those with partners from their own ethnic group (15%) relative to those who are single. Being married to someone outside ones ethnic group and in particular, to someone within the majority white community, may then be an indicator of assimilation and could be seen as a step up the white social ladder and so be related to better economic outcomes (Meng and Gregory, 2002). Having children particularly of school age (5 and 11) reduces this probability of working and this may occur via the disincentive effects arising from the benefit system that links benefits to family size. To capture the influence of spatial constraints we also included a dummy for whether the respondents are owner-occupiers and whether they have access to a private vehicle.[vii] Having access to a private vehicle opens up the potential area of job search and improves the probability of gaining employment (Raphael and Stoll, 2001).[viii]

In general, the marginal effects on our human capital controls are in line with existing studies. Having a UK degree or A-level, raises the probability of employment by about 20% and 12%, respectively. Having foreign qualifications has a positive but insignificant impact

[vii] The importance of household tenure in predicting unemployment is well established (Hughes and McCormick, 1987) and owner-occupier rates have been found to be higher for Indians relative to whites with black Caribbeans and Bangladeshis more likely to be renting from the social landlord sector than the private sector (DETR, 2000).

[viii] Car ownership and housing tenure may of course be endogenous in the employment equation (Blackaby *et al.* 1997).

on ethnic minorities' employment probability. This perhaps reflects some doubt among native employers about quality of these foreign qualifications (Friedberg, 2000). The results also confirm that being fluent in the English language increases the probability of employment (by about 15%). Language helps to acquire information about optimal job search strategies, it means that employees are able to convince potential employers about the value of their qualifications and certain jobs especially in the service sector require communication skills. In short, proficiency in English may be an entry requirement for most occupations (Dustmann and Fabbri, 2003).

The effects of enclaves, however, may have weak empirical support due to the endogeneity of residential choice. Testing for endogeneity in our data set using the Smith and Blundell test of exogeneity, the results confirmed that for ethnic minorities in England and Wales, own ethnic concentration dummies are indeed endogenous in the employment model. The Smith-Blundell test involves specifying that the exogeneity of one or more right hand side variables is under suspicion. Under the null hypothesis, the models are appropriately specified with all explanatory variables as exogenous. With $\chi^2(1) = 2.79$ and 4.91 with respective p-values of 0.087 and 0.019 (Table 4) we reject the null hypothesis that the two variables capturing ward ethnic concentration in the employment model are exogenous. Therefore, the use of a single probit model is inappropriate. To control for endogeneity problem we use a fully specified instrumental variable (IV) probit estimation routine and the IV estimation results are presented in column 3 of Table 4 for the complete sample.

The efficacy of the IV procedure depends on the quality of the instruments used both at an intuitive and statistical level. In particular, the process of identifying appropriate instruments requires finding variables that are correlated with the right hand side endogenous variable (living in an ethnic enclave) but not directly correlated with the dependent variable (employment status). Two instruments were identified. The first instrument was arranged marriage. Members of the sample were asked if their parents played a part in choosing their

partners.[ix] Though the act of a parent selecting one's mate is beyond an individuals control the act of accepting this selection and abiding by the parents choice may not be. Nevertheless, arranged marriage among ethnic minority groups is one of the most visible evidence of one's adherence to cultural norms. Phillips (1981) notes that cultural forces play an important part in enclave formation in that those with a strong preference to adhere to their cultural values or religious beliefs may prefer to reside close to members of their own ethnic group. One would expect then a greater incidence of arranged marriages within an ethnic enclave. This intuition is supported in Table 3 where 37% of people living in wards with own ethnic group concentration of 25% or more had arranged marriage compared to only 14% in less concentrated areas. On the other hand, there exists no clear association between having an arranged marriage and one's employment status other than the usual marital status and employment status association or the link through living in an enclave.

The second instrument used is preference for a school of their own religion for their children. Individuals in the sample were asked if they preferred a school of their own faith for their own children. In essence, those with such preferences would be expected to gravitate into ethnic enclaves as their school preferences could be more easily accommodated in an enclave than otherwise. From Table 3, 22% of those living in an ethnic enclave prefer such schools compared to 15% in less concentrated areas. As was the case with arranged marriages, there is no clear link between a preference for single faith schools and employment status.

The correlation of these instruments with the enclave variable and lack of correlation with the employment variable were also confirmed by the likelihood ratio test results presented in Table 5. The top half of this table shows the test results for both individual and joint significance of the two instruments in the ethnic concentration model as presented in column 1 of Table 4. With the LR-test statistic of 391.48, we reject the null hypothesis that these two instruments have no impact on residential choice. On the other hand, the bottom part of this table presents the LR-test results for the two instruments in the employment

[ix] This, however, applies only to South Asians and the Chinese and not to Caribbeans.

model. In this case, with a LR-test statistic of 3.29, we fail to reject null hypothesis of no joint significance confirming that the instruments have no direct impact on the probability of being in employment.

The two variables of interest (the own ethnic concentration dummies) in the IV model are signed as before but are insignificant and are smaller in absolute value. For example, in the IV probit model own ethnic concentration of 25% or more is associated with a statistically insignificant 6% decline in employment probability, relative to own concentration of less than 10%. For the single probit model (column 1) the decline is over 8% and is statistically significant at the 10% level. Thus the impact of ethnic concentration on employment probability is overstated in the case of the single probit model; after controlling for endogeneity, we fail to confirm a negative enclave impact on employment probability for ethnic minorities living in England and Wales.[x]

Disaggregation by ethnicity

Table 6 presents the results separately for four ethnic groups. In terms of the determinants of living in an enclave there are no major differences relative to the results in Table 4. Arranged marriage matters for all three South-Asian ethnic groups whilst a preference for an own faith school matters for all groups except African-Asians. For the South-Asian groups, the religious dummies are statistically significant in most cases indicating that cultural traditions and religious affiliations are important in residential choice decisions. One interesting finding is that being an Indian Muslim (column 1), reduces the probability of living in an Indian enclave by 3%. This possibly indicates that Indian Muslims may tend to live close to Bangladeshi and/or Pakistani ethnic groups who are largely Muslim. On the other hand being an African-Asian or Pakistani/Bangladeshi Muslim raises the probability of residing in ones ethnic enclave. Religious affiliation seems to matter more than nationality. Another interesting result is that while length of stay in the UK reduces the

[x] Splitting the sample across gender is instructive. From these IV estimates, we confirm a negative and significant impact of residing in high own ethnic concentration wards on employment outcome for males only (a 7% decline in employment probability for men living in these areas is observed).

probability of living in an enclave for Indians, Caribbeans and African-Asians (though not statistically significant), the opposite seems true for the combined sample of Pakistani/Bangladeshi ethnic group. Again strong religious ties for Muslims may be one reason for such an assimilation-defying finding.

Our estimation of separate employment IV probit models for each ethnic group (Indians, Caribbeans, African Asians and Pakistani/Bangladeshi groups combined) are shown in Table 7. [xi] Though most results are similar, some differences are evident. In particular, we find that the effects of own ethnic concentration varies across the different ethnic groups. Indians living in Indian enclaves benefit in terms of employment prospects. In particular, for this group, living in areas where their concentration is between 10-24.99% of the population increases employment probability significantly by 6%. For Caribbeans on the other hand, living in wards with own concentration of 10-24.99% and 25% or more reduces employment probability by 6% and 9%, respectively. For African-Asians, the negative enclave impact becomes apparent only at high levels of concentration (25% plus). For the Pakistani/Bangladeshi group, despite taking negative signs at both levels of ethnic concentration, the results are not significant at all three conventional levels of precision.

While Caribbean males are 3% less likely to be employed than Caribbean females (column (2)), Pakistani/Bangladeshi combined sample males (column 4) are 2% more likely to be in employment than females. This supports earlier empirical results that isolation highly limits economic opportunities particularly for the predominantly Muslim Pakistani/Bangladeshi female groups (Blackaby et al. 1997). For all groups, the general picture is that the presence of school attending children in the family (age 5-11 years) significantly reduces the probability of working.

Having foreign qualifications seem to matter only for Indians and African-Asians (they raise the probability of working). With the exception of Caribbeans, fluency in English language significantly increases employment probability by 10%, 3% and 11% for Indians,

[xi] We were unable to further split the sample across gender within each ethnic group due to sample size problems.

African Asians and Pakistani/Bangladeshi ethnic groups, respectively. Language fluency for Caribbeans is of little concern since for them English is, on the whole, their first language. The longer the period of stay in the UK (years since migration) the higher the probability of working for all groups. However, this is only significant for African-Asians and Pakistani/Bangladeshi groups. Of the four ethnic groups, these two groups are the most recent arrivals and it is therefore not surprising that length of stay has a bearing on their employment probability.

Discussion

Why might Indian enclaves be good and Caribbean enclaves bad in terms of employment opportunities? To answer this we need to understand the nature or the quality of enclaves across different ethnic groups. Our earlier information in Table 3 revealed that ethnic enclaves exhibit lower employment and self-employment and also display lower language fluency and lower on average educational qualifications. Table 8 gives us some indication of enclave quality across different ethnic groups by focusing on self-employment, employment and owner-occupation. In general the data reveals that Indian and African-Asian enclaves are more vibrant than say Caribbean enclaves. The top panel gives information on ethnic enclaves while the bottom panel lays down the same information for less concentrated areas (less than 10%). From the top panel, it is shown that Indian enclaves record relatively higher employment rate (86%) compared with other ethnic enclaves. The Pakistani/Bangladeshi enclave is the least vibrant in this regard with the employment rate as low as 40%. It is worth noting that for all ethnic groups apart from Indians, higher employment rates are recorded in the less concentrated areas. Indians register a slightly lower employment rate (84%) in wards with own ethnic concentration of less than 10%.

A whole host of evidence including our own (Table 2) reveals that apart from the Chinese, South Asians (Indians, Pakistanis and Bangladeshis) have the highest rates of self-employment relative to either whites or blacks (Clark and Drinkwater, 1998, Cabinet Office 2003). A number of explanations have been posited including poor employment prospects

(Clark and Drinkwater, 2000), discrimination in the labour market (Phelps (1972); Metcalf et al., (1996)), religious or cultural factors (Brown, 2000) and greater access to informal sources of finance and labour through family ties or shared language (Clark and Drinkwater, 1998, 2000; Lofstrom, 2002). In terms of self-employment we find that Pakistani/Bangladeshi enclaves seems more vibrant followed by the African-Asian enclave. Both in high and low ethnically concentrated wards, Caribbeans register the least self-employment activity.

Another indicator of ward or enclave vibrancy is the extent of owner-occupation in housing tenure. The table also reveals the proportion of each ethnic group's population living in an enclave (25% or more) that owns their accommodation. The higher the proportion of owner-occupiers for any enclave, the more vibrant that enclave may be. From the table, about 86% of Indians in an Indian enclave are owner-occupiers compared with 43%, 77% and 65% in Caribbean, African-Asian and Pakistani/Bangladeshi enclaves, respectively. For Indians, the owner-occupation rate in Indian enclaves is even higher that that in wards with less than 10% Indian concentration (the opposite is true for the other ethnic groups).

It is worth delving deeper into self-employment amongst ethnic groups. The crucial point here is that ethnic enclaves may provide a market for self-employed immigrants catering for individuals from the same ethnic group. One might then expect to observe improved employment prospects for those groups with high levels of self-employment since the self-employed may offer employment opportunities to members of their own ethnic group. Table 9 gives some information on the structure of employment in the self-employment sector for ethnic minorities. About a half (49%) of self-employed Indians have employees compared to 42% for the Pakistani/Bangladeshi group, 41% for African-Asians and only 22% for the Caribbeans (Part (A)). The fact that greater percentages of self-employed Indians have employees may offer insight into why Indians in Indian enclaves have a higher probability of working. It is also revealing to disaggregate this across own ethnic concentration. Here we find that nearly a half of self-employed Indians with employees reside in Indian enclaves (concentration is 25% plus). The equivalent figures are much lower for African-Asians and Pakistani/Bangladeshi groups at 24% and 23% respectively.

Part (B) of Table 9 reveals that Indian self-employment activity is on a relatively large scale compared to the other ethnic groups. For example, the Indian ethnic group is the only group that has self-employed individuals with 50 or more employees. Part (C) of Table 9 indicates the ethnic composition of self-employment employees. More than three-quarters of South-Asian self-employed employees are South-Asian. This support the notion that self-employed individuals may be inclined to offer jobs to members of their own ethnic group. Thus for the Caribbean ethnic group, the significant adverse impact of living in an enclave on employment probability could be explained by their lower incidence in self-employment activity and that only 22% of the self-employed Caribbeans have employees. Despite half of Caribbean self-employed in enclaves having employees the small-scale nature of their self-employment activities fails to lessen the negative and significant enclave effect on employment probability.[xii] A lack of employment opportunities in the local vicinity for Caribbean's could also be supported by the larger absolute value of the car ownership dummy in Table 7. Though, car ownership matters for three of the four ethnic groups the largest marginal effect of car ownership on employment probability is for Caribbeans. As pointed out earlier, car ownership ameliorates any spatial constraint thereby improving employment opportunities. As such, this may possibly reflect the unavailability of employment offers within their own immediate local areas.

Another argument revolves around the industrial characterisation of ethnic employment. Clark and Drinkwater (1998) note that "…white and black self-employees are far more evenly dispersed across the three broad industrial groupings (services, production and construction) than their Asian counterparts ……and that around 90% of Asian self-employees are in the service sector compared with 57% for whites and 70% for blacks. Further disaggregation reveals that almost 50% of all Indian self-employees work in retail distribution (shops)…" (pp.385). Thus it could be argued then that South Asians (or Indians) are better represented in the types of self-employment activities that are likely to operate successfully in enclaves (e.g. retailing or selling of culturally based foodstuffs) than blacks

[xii] This proportion is less reliable since the sample size in its calculation was very small i.e. N=26.

giving South Asian enclaves an extra economic vibrancy and offering more employment opportunities to other enclave residents.

6. Conclusions

In this paper, the effects of ethnic enclaves on the employment probability of ethnic minority groups living in England and Wales is examined using the Fourth National Survey of Ethnic Minorities. Estimation results based on the full sample of ethnic minorities using single probit equation models (that do not correct for endogeneity problem) showed that living in high own ethnic concentration wards (25% plus) significantly reduces the probability of employment. However, despite observing a negative effect, the result falls short of statistical significance when we control for the potential endogeneity between employment and residential location. This suggests that our non-IV estimations are biased.

Estimating the effects for each of our ethnic groups we find that enclaves reduce the probability of working but only for two groups, namely Caribbeans and African-Asians. Somewhat surprisingly we find that Indians living in Indian enclaves benefit in terms of an increased employment probability. Thus our empirical findings indicate considerable heterogeneity in the non-white population in the UK in terms of the enclave effect on employment probability. As such our results suggest that the perceived disadvantages of enclaves are not omnipresent and to borrow from Cutler and Glaeser (1997) enclaves can be good or bad. What seem to be driving this are the differences in the quality of ethnic enclaves. Indian enclaves by being more dynamic in terms of self-employment may create more jobs for others within the enclave. However, future research needs to test the sensitivity of the results to different measures of segregation (Culter and Glaeser, 1997; Reardon and Firebaugh, 2000) and to test explicitly the argument that the quality of ethnic enclaves is what determines the labour market success of ethnic group members.

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Table 1:Variable means

Variable	Whites	Non-whites
Employed (ILO)	0.900	0.776
In self employment	0.135	0.158
In paid employment	0.761	0.647
Male	0.426	0.600
Age	36.66	33.89
Spouse from own ethnic group	0.752	0.625
Spouse from different ethnic group	0.005	0.080
Single	0.243	0.295
Children in family aged 1-4 years	0.350	0.407
Children in family aged 5-11years	0.415	0.508
Children in family aged 12-15 years	0.278	0.328
Children in family aged 16 years and over	0.372	0.370
Highest qualification: UK Degree or equivalent	0.148	0.118
Highest qualification: UK A-level or equivalent	0.236	0.149
Highest qualification: UK O-level or equivalent	0.332	0.255
No UK qualifications	0.284	0.478
Foreign qualifications	0.033	0.206
Fluent in English		0.726
Use other languages regularly		0.706
Years since migration		20.01
UK born		0.332
Arrived pre 1960		0.036
Arrived 1960-1969		0.365
Arrived 1970-1979		0.351
Arrived 1980-1989		0.180
Arrived 1990-1994		0.068
Caribbean		0.220
Indian		0.239
African-Asian		0.144
Pakistani		0.234
Bangladeshi		0.117
Chinese		0.046
Lives in North of England[b]	0.291	0.160
Lives in the Midlands	0.280	0.262
Lives in South or South east England	0.430	0.578
Has religion	0.645	0.848
Hindu	0.000	0.208
Sikh	0.000	0.182
Muslim	0.005	0.301
Christianity and other religions[c]	0.995	0.309
In good health	0.933	0.921
Racially harassed		0.116
Had arranged marriage		0.164
School religion preference	0.179	0.183
Unemployment rate in local ward 0-4.99%	0.193	0.051
Unemployment rate in local ward 5-9.99%	0.534	0.281
Unemployment rate in local ward 10-14.99%	0.163	0.305
Unemployment rate in local ward 15-19.99%	0.077	0.159
Unemployment rate in local ward 20% or more	0.033	0.204
Area has 0-9.99% own ethnic group		0.604
Area has 10-24.99% own ethnic group		0.259
Area has 25% or more own ethnic group		0.137
N	**1918**	**4246**

Source: FNSEM

Notes: [b]Includes Yorkshire and Humberside area.

[c]Other religions include Buddhist, Confucian, Jain, Parsi/Zorastrian, Rastafarian, Jewish and all others.

Table 2:Variable means by ethnicity

Variable	Indian	Caribbean	African Asian	Pakistani	Bangladeshi	Chinese
Employed (ILO)	0.848	0.768	0.867	0.586	0.459	0.946
In self employment	0.190	0.067	0.200	0.239	0.135	0.248
In paid employment	0.686	0.712	0.694	0.458	0.389	0.677
Male	0.641	0.465	0.649	0.692	0.724	0.604
Age	34.41	34.52	34.57	31.96	33.20	33.17
Spouse from own ethnic group	0.739	0.386	0.742	0.732	0.782	0.603
Spouse from different ethnic group	0.056	0.139	0.052	0.031	0.027	0.131
Single	0.205	0.475	0.206	0.237	0.191	0.266
Children in family aged 1-4 years	0.331	0.433	0.390	0.491	0.527	0.310
Children in family aged 5-11years	0.472	0.474	0.491	0.595	0.674	0.434
Children in family aged 12-15 years	0.320	0.256	0.243	0.450	0.522	0.346
Children in family aged 16 years and over	0.423	0.317	0.320	0.385	0.428	0.414
Highest qualification: UK Degree or equivalent	0.120	0.114	0.144	0.075	0.039	0.228
Highest qualification: UK A-level or equivalent	0.134	0.197	0.187	0.091	0.060	0.132
Highest qualification: UK O-level or equivalent	0.192	0.378	0.225	0.174	0.198	0.267
No UK qualifications	0.554	0.311	0.444	0.660	0.703	0.373
Foreign qualifications	0.305	0.080	0.254	0.212	0.177	0.281
Fluent in English	0.641	0.960	0.788	0.487	0.395	0.693
Use other languages regularly	0.884	0.240	0.917	0.939	0.972	0.774
Years since migration	20.95	28.22	20.13	18.77	15.46	16.39
UK born	0.328	0.548	0.148	0.268	0.113	0.199
Arrived pre 1960	0.026	0.116	0.006	0.015	0.014	0.013
Arrived 1960-1969	0.387	0.680	0.234	0.326	0.180	0.153
Arrived 1970-1979	0.356	0.115	0.580	0.339	0.291	0.413
Arrived 1980-1989	0.158	0.067	0.145	0.225	0.404	0.288
Arrived 1990-1994	0.073	0.022	0.035	0.095	0.111	0.133

Lives in North of England[a]	0.082	0.059	0.109	0.500	0.126	0.189
Lives in the Midlands	0.375	0.263	0.174	0.235	0.209	0.177
Lives in South or South east England	0.543	0.678	0.717	0.265	0.665	0.634
Has religion	0.959	0.698	0.983	0.989	0.992	0.397
Hindu	0.345	0.009	0.596	0.001	0.022	0.000
Sikh	0.533	0.000	0.201	0.000	0.00	0.000
Muslim	0.061	0.009	0.139	0.988	0.953	0.000
Christianity and other religions[b]	0.061	0.982	0.064	0.011	0.025	1.000
In good health	0.922	0.917	0.957	0.900	0.865	0.941
Racially harassed	0.106	0.154	0.119	0.103	0.065	0.114
Had arranged marriage	0.374	0.000	0.140	0.616	0.580	0.018
School religion preference	0.099	0.227	0.077	0.273	0.228	0.119
Unemployment rate in local ward 0-4.99%	0.048	0.037	0.103	0.013	0.007	0.113
Unemployment rate in local ward 5-9.99%	0.324	0.223	0.452	0.155	0.134	0.384
Unemployment rate in local ward 10-14.99%	0.341	0.328	0.318	0.310	0.172	0.174
Unemployment rate in local ward 15-19.99%	0.138	0.203	0.046	0.192	0.212	0.188
Unemployment rate in local ward 20% or more	0.149	0.209	0.081	0.330	0.475	0.141
Area has 0-9.99% own ethnic group	0.522	0.622	0.550	0.529	0.662	1.000
Area has 10-24.99% own ethnic group	0.286	0.355	0.210	0.251	0.181	0.000
Area has 25% or more own ethnic group	0.192	0.023	0.240	0.220	0.157	0.000
N	1016	934	610	994	497	195

Source: FNSEM

Notes: [a]Includes Yorkshire and Humberside area. [b]Other religions include Buddhist, Confucian, Jain, Parsi/Zorastrian, Rastafarian, Jewish and all others.

Table 3:Variable means by own ethnic concentration

Variable	1-9.99%	10-24.99%	25% plus
Employed (ILO)	0.806	0.736	0.721
In self employment	0.181	0.123	0.116
In paid employment	0.650	0.658	0.633
Male	0.610	0.536	0.677
Age	34.11	33.93	32.88
Spouse from own ethnic group	0.602	0.616	0.748
Spouse from different ethnic group	0.121	0.024	0.007
Single	0.277	0.360	0.245
Highest qualification: UK Degree or equivalent	0.146	0.075	0.078
Highest qualification: UK A-level or equivalent	0.148	0.143	0.163
Highest qualification: UK O-level or equivalent	0.255	0.290	0.188
No UK qualifications	0.451	0.492	0.571
Foreign qualifications	0.218	0.184	0.195
Fluent English	0.757	0.733	0.583
Use other languages regularly	0.678	0.684	0.869
Years since migration	20.96	22.17	19.36
UK born	0.331	0.379	0.250
Has religion	0.808	0.868	0.979
Hindu	0.187	0.197	0.304
Sikh	0.158	0.215	0.214
Muslim	0.294	0.252	0.404
Christianity and other religions[a]	0.361	0.336	0.078
In good health	0.926	0.911	0.916
Racially harassed	0.132	0.111	0.077
Had arranged marriage	0.140	0.143	0.365
School religion preference	0.147	0.181	0.217
N	**2214**	**1218**	**814**

Source: FNSEM

Notes: [a]Other religions include Buddhist, Confucian, Jain, Parsi/Zorastrian, Rastafarian, Jewish and all others.

Table 4: Enclave and employment probit models (complete sample)

	Dependent variable: enclave=1 if own ethnic concentration is >= 25% [a]		Single equation probit Dependent variable: ILO employed=1		IV Probit Dependent variable: ILO employed=1	
	Marginal effect	Robust z-statistics	Marginal effect	Robust z-statistics	Marginal effect	Robust z-statistics
Area has 10-24.99% own group			-0.033	(0.11)	-0.019	(0.72)
Area has 25% or more own group			-0.084	(1.86)+	-0.058	(1.51)
Age	-0.003	(1.48)	0.042	(4.45)**	0.049	(2.81)**
Age squared/100	0.001	(0.26)	-0.052	(4.64)**	-0.056	(2.88)**
Male	-0.012	(0.73)	-0.063	(1.06)	-0.059	(1.55)
Arranged marriage	0.044	(2.13)*				
School religion preference	-0.003	(1.48)				
Spouse from own ethnic group	0.023	(0.68)	0.149	(4.28)**	0.128	(2.43)*
Spouse from different ethnic group	-0.029	(1.80)+	0.191	(4.12)**	0.185	(2.55)*
Children in family aged 1-4 years	0.044	(1.26)	-0.034	(1.26)	-0.016	(0.33)
Children in family aged 5-11 years	0.013	(1.22)	-0.082	(3.42)**	-0.083	(2.41)*
Children in family aged 12-15 years	0.054	(1.79)+	-0.053	(2.09)*	-0.044	(2.23)*
Owner-occupier	-0.006	(0.91)	0.134	(3.44)**	0.121	(2.83)**
Own car	-0.085	(3.19)**	0.091	(2.47)*	0.084	(2.44)*
Manager, professional or employer	-0.055	(2.08)*	0.134	(3.21)**	0.120	(2.12)*
Highest qualification: UK Degree or equivalent	-0.043	(2.28)*	0.197	(4.24)**	0.184	(2.51)*
Highest qualification: UK A-Level or equivalent	-0.012	(0.39)	0.117	(2.78)**	0.076	(1.99)*
Highest qualification: UK O-Level or equivalent	-0.041	(1.69)+	0.060	(1.72)+	0.053	(0.88)
Foreign qualification	-0.049	(2.37)*	0.035	(1.04)	0.027	(0.79)
Fluent in English language	-0.084	(2.11)*	0.154	(3.87)**	0.083	(2.20)*
In good health	-0.007	(0.67)	0.107	(4.30)**	0.083	(2.19)*
Lives in North of England[a]	-0.015	(1.82)+	0.103	(3.45)**	0.089	(0.64)
Lives in the Midlands	-0.042	(2.86)**	0.128	(5.02)**	0.105	(2.32)*
Years since migration	-0.005	(1.78)+	0.029	(1.98)*	0.016	(1.60)
UK born	-0.038	(1.45)	-0.231	(2.61)**	-0.222	(2.93)**
Unemployment rate in local ward 5-9.99%	0.072	(1.69)+	-0.048	(0.55)	-0.051	(1.35)
Unemployment rate in local ward 10-14.99%	0.066	(1.85)+	-0.057	(0.64)	-0.052	(0.88)
Unemployment rate in local ward 15-19.99%	0.047	(1.27)	-0.038	(0.42)	-0.091	(1.02)
Unemployment rate in local ward 20% plus	0.022	(0.20)	-0.033	(1.43)	-0.067	(2.04)*
Caribbean	0.261	(3.53)**	-0.081	(1.19)	-0.035	(1.43)
African-Asian	0.134	(2.48)*	0.010	(1.00)	0.016	(1.49)
Pakistani	0.123	(2.44)*	-0.120	(2.65)**	-0.111	(1.79)+
Bangladeshi	0.162	(2.59)**	-0.130	(2.51)*	-0.142	(2.01)*
Muslim	0.087	(2.44)*				
Hindu	0.124	(1.94)+				
Sikh	0.052	(2.61)*				
N	991		1885		949	
Pseudo R^2	0.1419		0.1943		0.2082	
Log. Likelihood	-701.44		-913.33		-412.81	
Wald test $\chi^2(31)$	163.77		336.85		231.26	
	0.0000					
Smith-Blundell test of exogeneity $\chi^2(1)$ [b]						
Area has 10-24.99% own group	2.792 (0.0865)		2.792 (0.0865)			
Area has 25% or more own group	4.912 (0.0187)		4.912 (0.0187)			

Notes: + significant at 10%; * significant at 5%; ** significant at 1%. [a]Includes Yorkshire and Humberside area. [b]p-values in parentheses

Base categories: being single, children in family aged 16 years or over, no UK qualifications, living in South/South East England, living in areas with local unemployment rate of less than 5%, being Indian and living in areas with own ethnic concentration of less than 10%.

Table 5: Validity of instruments; likelihood ratio test

	LR-test $\chi^2(k)$	Prob > χ^2	Verdict
Enclave model			
Has had an arranged marriage	19.67	0.0000	Reject H_o
Preference for own religion school	7.43	0.0042	Reject H_o
Joint significance (k=2)	391.48	0.0000	Reject H_o
Employment model			
Has had an arranged marriage	1.42	0.5847	Accept H_o
Preference for own religion school	1.57	0.5469	Accept H_o
Joint significance (k=2)	3.29	0.2672	Accept H_o

Notes: *k* = number of restrictions.

Table 6: Determinants of ethnic concentration by ethnic group

Dependent variable: enclave=1 if own ethnic concentration is >= 25% [a]	Indian	Caribbean	African Asian	Pakistani & Bangladeshi
Age	-0.003	0.002	-0.011	-0.005
	(0.53)	(0.74)	(1.84)+	(1.34)
Age squared/100	0.002	0.003	0.013	0.003
	(0.40)	(1.26)	(1.79)+	(1.32)
Male	-0.021	-0.091	-0.040	0.055
	(0.47)	(1.04)	(0.74)	(1.19)
Arranged marriage	0.026	~	0.038	0.075
	(1.98)*		(2.44)*	(2.99)**
School religion preference	0.043	0.083	0.022	0.091
	(2.17)*	(2.29)*	(0.81)	(2.31)*
Spouse from own ethnic group	0.019	0.017	0.020	0.047
	(0.31)	(2.59)**	(0.25)	(2.16)*
Spouse from different ethnic group	-0.030	-0.025	-0.018	-0.025
	(1.77)+	(1.99)*	(1.49)	(1.61)
Presence of children 1-4 years old	0.064	0.012	0.016	0.046
	(1.91)+	(0.76)	(0.97)	(1.69)+
Presence of children 5-11years old	0.026	0.041	0.009	0.032
	(1.36)	(1.60)	(0.49)	(1.48)
Presence of children 12-15 years old	0.037	0.092	0.021	0.065
	(1.31)	(2.19)*	(1.47)	(1.84)+
Owner-occupier	0.108	-0.011	0.087	-0.022
	(1.71)+	(2.67)**	(1.11)	(0.46)
Own car	-0.017	-0.006	-0.221	-0.090
	(0.28)	(1.04)	(2.23)*	(2.01)*
Manager, professional or employer	-0.041	-0.081	-0.021	-0.173
	(0.64)	(2.19)*	(0.26)	(3.06)**
Highest qualification: UK Degree	-0.027	-0.024	-0.177	-0.025
	(1.42)	(1.84)+	(2.12)*	(0.28)
Highest qualification: UK A-level	-0.005	0.038	-0.036	-0.091
	(0.09)	(2.89)**	(0.48)	(1.02)
Highest qualification: UK O-level	0.021	-0.002	-0.147	-0.078
	(0.36)	(0.39)	(2.12)*	(1.40)

Foreign qualifications	-0.037	-0.002	-0.142	-0.035
	(0.80)	(0.75)	(2.37)*	(0.78)
Fluent in English	-0.073	-0.014	-0.024	-0.123
	(1.88)+	(1.21)	(1.27)	(2.46)*
In good health	-0.009	-0.006	-0.010	-0.002
	(0.18)	(0.74)	(0.98)	(0.09)
Lives in North of England	-0.009	-0.031	-0.004	-0.053
	(1.25)	(1.88)+	(0.49)	(1.80)+
Lives in the Midlands	-0.025	-0.091	-0.015	-0.017
	(1.32)	(2.44)+	(1.34)	(1.448)
Years since migration	-0.006	-0.001	-0.005	0.006
	(1.81)+	(2.11)*	(1.09)	(1.77)+
UK born	-0.040	-0.052	-0.016	0.035
	(1.72)+	(2.67)**	(1.33)	(1.18)
Unemployment rate in local ward 5-9.99%	0.031	0.087	0.045	0.072
	(0.81)	(2.14)*	(1.43)	(1.25)
Unemployment rate in local ward 10-14.99%	0.037	0.075	0.041	0.052
	(1.04)	(2.08)*	(1.21)	(1.43)
Unemployment rate in local ward 15-19.99%	0.011	0.046	0.052	0.064
	(0.87)	(1.25)	(1.98)*	(2.26)*
Unemployment rate in local ward 20% plus	0.009	0.034	0.016	0.024
	(0.41)	(1.09)	(1.35)	(0.67)
Muslim	-0.027	~	0.056	0.583
	(2.29)*		(2.34)*	(4.94)**
Hindu	0.286	~	0.046	~
	(2.04)*		(0.91)	
Sikh	0.305	~	-0.052	~
	(2.50)*		(0.46)	
N	251	242	244	254
Pseudo R^2	0.1654	0.2739	0.1474	0.1572
Log. Likelihood	-157.66	-119.56	-148.96	-218.49
Wald test $\chi^2(k)$	48.48	49.24	44.33	34.61
Prob>χ^2	0.0000	0.0000	0.0018	0.0124

Notes: Robust z-statistics in parentheses, + significant at 10%; * significant at 5%; ** significant at 1%. [a] greater than or equal to 15% for Caribbeans.
Base categories are single, children in family aged 16 or over, having no UK qualification, living in South/South East England, Christian and being Indian.

Table 7: Employment IV probit model by ethnic group

Dependent variable: ILO employed=1	Indian	Caribbean	African Asian	Pakistani & Bangladeshi
Area has 10-24.99% own group	0.062	-0.064	0.005	-0.016
	(2.00)*	(1.86)+	(0.58)	(0.72)
Area has 25% or more own group	0.041	-0.091	-0.023	-0.036
	(1.29)	(2.79)**	(1.87)+	(1.12)
Age	0.019	0.059	0.093	0.078
	(2.27)*	(2.31)*	(2.93)**	(1.18)
Age squared/100	-0.017	-0.068	-0.108	-0.088
	(2.29)*	(2.19)*	(3.11)**	(1.32)
Male	-0.066	-0.034	-0.076	0.023
	(0.17)	(2.04)*	(1.03)	(2.25)*
Spouse from own ethnic group	0.122	0.136	0.131	0.124
	(1.79)+	(2.34)*	(3.02)*	(2.55)*
Spouse from different ethnic group	0.143	0.196	0.176	0.194
	(2.11)*	(2.41)*	(2.13)*	(2.21)*
Children in family aged 1-4 years	-0.047	-0.004	-0.031	-0.033
	(1.03)	(0.08)	(0.82)	(0.71)
Children in family aged 5-11 years	-0.087	-0.074	-0.073	-0.085
	(1.89)+	(2.41)*	(2.04)*	(1.81)+
Children in family aged 12-15 years	-0.024	-0.051	-0.041	-0.036
	(1.99)*	(0.91)	(2.12)*	(2.64)**
Owner-occupier	0.093	0.182	0.098	0.177
	(2.07)*	(2.81)**	(2.44)*	(2.91)**
Own car	0.066	0.145	0.073	0.134
	(1.52)	(2.31)*	(1.84)+	(2.46)*
Manager or professional	0.143	0.083	0.117	0.093
	(2.95)**	(1.29)	(2.30)*	(1.79)+
Highest qualification: UK Degree or equivalent	0.103	0.152	0.054	0.261
	(2.43)*	(3.65)**	(2.19)*	(2.51)*
Highest qualification: UK A-level or equivalent	0.044	0.101	0.024	0.034
	(0.69)	(1.42)	(0.49)	(2.08)*
Highest qualification: UK O-level or equivalent	0.085	0.022	0.019	0.014

	(1.63)	(0.33)	(0.43)	(0.19)
Foreign qualifications	0.071	0.018	0.032	0.017
	(1.92)+	(0.73)	(1.91)+	(1.11)
Fluent in English	0.096	0.028	0.028	0.110
	(1.77)+	(1.21)	(1.81)+	(2.92)**
In good health	0.071	0.082	0.077	0.093
	(1.93)+	(2.32)*	(2.13)*	(1.56)
Lives in North of England[a]	-0.030	0.104	0.078	0.023
	(1.02)	(1.16)	(1.62)	(3.11)**
Lives in the Midlands	0.059	0.135	-0.069	0.079
	(1.27)	(2.40)*	(1.34)	(4.46)**
Years since migration	0.015	0.012	0.024	0.023
	(1.51)	(0.51)	(2.29)*	(2.00)*
UK born	-0.173	-0.244	-0.132	-0.129
	(1.79)+	(2.43)*	(1.82)+	(1.83)+
Unemployment rate in local ward 5-9.99%	-0.074	-0.035	-0.067	-0.049
	(0.71)	(0.69)	(0.71)	(0.44)
Unemployment rate in local ward 10-14.99%	-0.047	-0.044	-0.046	-0.052
	(0.42)	(2.07)*	(0.51)	(1.37)
Unemployment rate in local ward 15-19.99%	-0.062	-0.101	-0.052	-0.060
	(0.45)	(2.32)*	(1.80)+	(1.57)
Unemployment rate in local ward 20% plus	-0.071	-0.102	-0.043	-0.069
	(1.80)+	(1.82)+	(1.15)	(1.77)+
N	242	239	222	246
Pseudo R^2	0.1594	0.2503	0.2149	0.1496
Log. Likelihood	-164.21	-158.67	-73.49	-196.37
$\chi^2(27)$	61.22	114.58	43.97	119.84
Prob>χ^2	0.000	0.000	0.003	0.000

Notes: Absolute value of z-statistics in parentheses, + significant at 10%; * significant at 5%; ** significant at 1%. [a]Includes Yorkshire and Humberside area.

Base categories are: being single, children in family aged 16 or over, having no UK qualification, living in South or South East of England, living in areas with local unemployment rate of less than 5% and living in areas with own ethnic concentration of less than 10%,

Table 8: Enclave quality measures

Own ethnic concentration = 25% plus [a]				
	Indian	Caribbean	African-Asian	Pakistani& Bangladeshi
Self-employed	0.094	0.064	0.129	0.156
Employed	0.862	0.699	0.854	0.398
Owner occupiers	0.864	0.433	0.772	0.645
N	**243**	**383**	**171**	**706**
Own ethnic concentration <10%				
	Indian	Caribbean	African-Asian	Pakistani& Bangladeshi
Self-employed	0.210	0.079	0.231	0.220
Employed	0.843	0.764	0.901	0.610
Owner occupiers	0.817	0.573	0.832	0.679
N	**464**	**551**	**298**	**428**

Source: FNSEM.
Notes: [a]15% plus for the Caribbeans

Table 9: Employee composition in self-employment sector [a]

	All groups	Indian	Caribbean	African Asian	Pakistani & Bangladeshi	Chinese
			(A) With employees (%)			
All areas	0.376	0.488	0.217	0.411	0.421	0.541
Area has 0-9.99% own ethnic group	0.457	0.527	0.179	0.421	0.521	0.541
Area has 10-24.99% own ethnic group	0.388	0.417	0.263	0.563	0.344	0.000
Area has 25% plus own ethnic group	0.306	0.471	0.501	0.235	0.231	0.000
			(B) Number of employees (%)			
Have 1 – 5 employees	0.745	0.667	0.692	0.757	0.722	0.900
Have 6 – 10 employees	0.126	0.150	0.154	0.081	0.167	0.100
Have 11 – 24 employees	0.101	0.133	0.154	0.081	0.111	0.000
Have 25 – 49 employees	0.024	0.033	0.000	0.081	0.000	0.000
Have 50 - 99 employees	0.004	0.017	0.000	0.000	0.000	0.000
			(C) Employment composition (%)			
Have Black employees	0.108	0.111	0.545	0.161	0.114	0.000
Have Chinese employees	0.074	0.044	0.000	0.000	0.023	0.632
Have Asian employees	0.498	0.745	0.273	0.733	0.826	0.000

Source: FNSEM

Notes: [a] In some cases sample sizes here very small for some groups. Therefore, caution should be exercised when interpreting these proportions.