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**Is ethnicity or religion more important in explaining
inequalities in the labour market?**

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Is ethnicity or religion more important in explaining inequalities in the labour market?

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Abstract

The disadvantage experienced in the labour market by many of the ethnic groups currently living in Britain has long been established. This study builds on earlier research by taking into account religious affiliation, examining whether ethnicity or religion is the more important determinant of how minority groups fare in the labour market. We estimate these effects by focussing on cases where ethnicity and religion cross-cut each other.

The results demonstrate a strong ‘Muslim penalty’ for women from different ethnic groups. There were also ethnic penalties which persisted despite allowing for religion, in particular for Black Caribbean and Black African women. For men the results were broadly similar although the Muslim penalty did not extend to White British Muslims. Looking just at the second generation indicated that Muslim disadvantage had decreased compared with the immigrant generation but for some groups there was evidence of increased disadvantage.

Keywords: ethnicity, religion, labour market, inequalities

Introduction

There is a considerable volume of literature on the disadvantage in the labour market experienced by members of ethnic minority groups in Britain. Most studies of ethnic inequalities start by looking at gross differences in various outcomes, such as rates of employment, economic activity, unemployment, income or access to higher level occupations, comparing different ethnic groups with the White British majority. Such analyses show major differences between the groups, with most ethnic groups having poorer outcomes than the White British group. After controlling for various differences between the groups such as age, qualifications, whether born in the UK etc. there remain unexplained differences which are generally referred to as ‘ethnic penalties’ (Heath and McMahon, 1997; Berthoud 2000; Heath and Cheung, 2006; Simpson et al., 2006; Clark and Drinkwater, 2007). These are various possible explanations for these of which discrimination is certainly one. Others include differences in social capital and social networks (especially ‘bridging’ social capital) or differences in preferences and priorities, for example for childcare over paid employment.

Much of the research published thus far has looked just at ethnicity but religion may also be important in affecting labour market outcomes. This could be because of discrimination along religious rather than purely ethnic lines – a phenomenon that might be particularly marked since 9/11 and the subsequent rise in ‘Islamophobia’. Wearing distinctive dress such as the hijab or a turban allows easy identification of adherents of some religions which may lead to discrimination. Or, particularly since the rise of Islamophobia, Muslims might experience the equivalent of what in Northern Ireland was called the ‘chill factor’, feeling

unwelcome in various establishments and therefore not even applying for jobs. Alternatively, it could be the case that membership of particular religious institutions around the mosque or gurdwara, rather than simple membership of an ethnic minority, affects patterns of social relationships and bridging and bonding social capital. Or it could be that traditional family (or other) values affect whether adherents of different religions are likely to choose to be in the labour market and, if so, the sorts of occupations they choose to enter, or the ease or barriers they face in obtaining their goals. Finally, strict adherence to some religions entails practices such as regular prayers or observance of the Sabbath which may affect labour market behaviour directly.

To some extent ethnicity and religion cross-cut. Thus some, but not all, ethnic groups contain members with different religious affiliations, and most religious groups have rather different ethnic compositions. Although there are some groups, such as people of Pakistani heritage, where it is not practicable to disentangle the effects of their ethnicity from that of their religion, in other cases such as Indian and Black African groups it is practicable to separate their effects, at least as measured by the official classification of ethnicity. However we must remember that the official classifications are very blunt instruments and that, for example, the Black African category lumps together people from many quite different ethnicities. Similarly, within the broad category of Muslim there are many different branches. Nevertheless, even though a more fine-grained analysis would be much preferable, it is possible to make some progress in determining whether there are general patterns of disadvantage associated with particular religions that can be detected in the labour market experience of members of different ethnic groups. Similarly it is of interest to determine whether there are any general patterns of disadvantage associated with particular ethnic groups and which are shared among co-ethnics belonging to different religions. Indeed, to talk about an 'ethnic' or a 'religious' penalty does imply that such general patterns of disadvantage, shared by members of the ethnic or religious group respectively, actually exist. The alternative is that we may simply find a large range of distinct patterns of disadvantage that are unique to each specific ethno-religious combination. If so, a rather different terminology might be required, and, more importantly, nuanced context-specific explanations would be needed for the disadvantages rather than across-the-board explanations in terms of racial discrimination or religious values.

While there is a great deal of literature on ethnic penalties, there is relatively little empirical research on religious penalties (apart from that on Catholic disadvantage in Northern Ireland). The principal studies that consider religion as well as ethnicity are Brown (2000), Lindley (2002), Model and Lin (2004) and Berthoud and Blekesaune (2007). Brown (2000) and Lindley (2002) both report results based on the 1994 Fourth National Survey of Ethnic Minorities (FNSEM). Brown (2000) studied the separate effects of ethnicity and religion only among the South Asian population, without comparisons with the White British group. He found considerable differences on various measures of economic activity between the religious sub-groups within an ethnic group. For example, there were clear differences between Hindus, Sikhs and Muslims in the Indian group, while Indian Muslims differed significantly from other South Asian Muslims. However, there was no across-the-board pattern either of Muslim or of ethnic Indian disadvantage.

Lindley (2002) studied all the ethnic groups covered by the FNSEM (i.e. Black Caribbeans, Indians, Pakistanis, Bangladeshis, African Asians and Chinese) but Black Africans and other ethnic groups were not included in this survey. She compared employment and earnings of different ethnic groups within five main religious groups and compared them

with the White group. She provides evidence of a substantial disadvantage to Muslims compared to other non-white groups which could not be attributed to other characteristics likely to affect labour market outcomes and maintains this “supports the existence of religious discrimination towards Muslims, although such unexplained differences may well contain unmeasurable components such as motivations and attitudes towards employment” (p.439). However, she also showed that these religious differences could not wholly explain the differences between white and non-white unemployment and that the Muslim ‘effect’ on unemployment varied very considerably between the different ethnic groups, being much higher for Pakistani Muslim men than for other Muslim men (a similar result to Brown’s).

Another study based on the FNSEM and 1991 Canadian Census data (Model and Lin, 2002) looked at second-generation religious groups, comparing the position of Hindus, Sikhs and Muslims to native-born white Christians. However, the main focus was on contrasting those born in Canada with equivalent groups born in Britain, based on the hypothesis that non-Christians would fare better in Canada than Britain. This was not substantiated since it was found that Canada’s Muslims fared less well on labour force participation and Hindus and Sikhs less well on unemployment than their British counterparts, although British Muslims fared less well on unemployment.

The 2006 ONS report *Focus on Ethnicity and Religion* includes a chapter on labour market participation (Bradford and Forsyth, 2006) which presents descriptive analyses using 2001 Census data based on combinations of ethnic and religious groups. They demonstrate significant differences in employment and unemployment rates, levels of qualifications and types of occupation. However, they did not control for key differences between the groups such as age, qualifications, or whether born in the UK.

Berthoud and Blekesaune (2007) also examine ethnic and religious groups in combination, although in the context of a much broader study of disadvantage associated with various characteristics of which religion and ethnicity were just two. Their analysis of religion is restricted to consideration of employment rates and uses the Longitudinal Study which is derived from successive censuses so the most recent data are from 2001. They found that the largest employment penalties were faced by the Muslim groups, particularly the women, and those with ‘other religions’. They found little difference between Muslims in different ethnic groups but had too few Black African Muslims to analyse separately. They also found that black men faced considerable employment penalties irrespective of their religion. They concluded that among women religion is more important than ethnicity for predicting employment penalties while among men both religion and ethnicity are important.

This research certainly suggests that religion, especially Islam, may well be important in accounting for disadvantages in the labour market and cannot simply be equated with ethnicity. However, much of this research is now relatively old, especially that based on the 1994 FNSEM. A great deal has happened since then, especially heightened awareness of Islam since 9/11 and perhaps rising Islamophobia which might well lead to increased rates of discrimination against Muslims and/or to a ‘chill factor’ deterring Muslims from applying for certain kinds of work. In addition many respondents to the 1994 survey would have been first-generation migrants, for whom there may be many additional potential explanations; lack of language fluency in English is an important factor in the labour market and its inclusion is one of the 1994 survey’s strengths. However, it is also quite possible that additional unmeasured factors such as foreign qualifications and foreign human and social capital may have lower returns in the British labour market. With a growing second

generation, problems of language fluency and foreign human capital will be less prevalent making a new study especially appropriate.

As we noted earlier religion (and ethnicity for that matter) may affect labour market experiences in a number of ways:

- Members of particular (especially non-Western) religious groups may be subject to discrimination (as suggested by theories of symbolic racism);
- Members of some religious groups may feel unwelcome in seeking work in establishments where they have few co-religionists and may be deterred from applying because of the ‘chill factor’;
- Members of particular religious groups may have shared values or practices, directly or indirectly arising from their religion that lead them to prioritise, say, family responsibilities rather than paid employment or that may conflict with British organization of paid labour (eg mixed gender workplaces);
- Religious institutions may foster social networks based on co-religionists and thus limit ‘bridging’ social capital (bridging social capital being expected to bring benefits in terms of access to job information and opportunities through ‘mainstream’ social networks).

While it is impossible to distinguish these different explanations without detailed evidence on experiences and expectations of discrimination, attitudes towards gender roles and social networks, one aspect we can explore is whether religion shows a consistent pattern within ethnic groups. If there are shared religious beliefs or practices that affect participation in the labour market, then we should find a consistent effect that would be more or less invariant across ethnic groups.

However, if we were to find very different effects of religion within different groups, then this would lead us to doubt the presence of distinctive and shared religion-based beliefs or shared experiences or perceptions of discrimination. At the very least, there would need to be additional, *ethnic-specific*, factors to account for the pattern. This might of course be because religious practice varies across different ethnic contexts – for example African Christians might be more orthodox and strict in their religious observance than White British Christians. In other words, there might be an interaction between religion and ethnicity (or between religion and generation, with the first generation born and raised in Africa showing more marked religious patterns than the second generation). In addition, specific ethnic minorities (as measured by official classifications) may be culturally diverse, and religious differences may simply be a proxy for unmeasured ethnic differences or cultural differences within an ethnic group.

Testing whether there are invariant or ethnic-specific effects of religion might therefore give us some pointers as to whether there are shared processes associated with religion that disadvantage its members, but it will not allow us to determine whether the processes involve discrimination or shared values – an invariant effect might just as plausibly be due to employer discrimination as to religious beliefs. However, on theoretical grounds we might expect women’s labour force participation to be influenced more by their own values and attitudes, while men’s unemployment might be expected to be due more to employer discrimination. This is not to say that anticipated discrimination plays no role in women’s decisions whether to enter the labour market, or that men’s attitudes to work play no role in whether or not they obtain work. It is simply that we would expect attitudes and values to play a relatively larger role in the former case.

We might also expect to find a clearer picture of invariant effects of religion in the second generation whereas specific and unique ethno-religious differences might be more widespread in the first generation. In the first generation, the migrants may still share many of the particularistic cultural traditions and practices of their origin community, in addition to the unmeasured differences in language and human capital discussed earlier. In the second generation, however, these distinct origin-community effects may be reduced as the British-born generation have shared British qualifications and experiences, a shared British experience of practising their religion, and a shared experience of discrimination at the hands of the White British majority. (On the shared experience of discrimination see Wood et al., 2009.)

The central research questions to be examined therefore are:

- 1) whether there are differences between religious groups in their labour market experiences that are invariant across ethnic groups;
- 2) whether instead there are interaction effects between religion and ethnicity;
- 3) whether the shared effects of religion are more apparent on women's labour market activity than, say, on men's unemployment;
- 4) whether there are similar effects in the second generation – those born in the UK or who arrived before school age – as in the first generation.

Methodology

Data

In order to have sufficient numbers in the different combinations of ethnic and religious groups to attempt to separate out the contributions of ethnicity and religion to labour market outcomes, very large samples are required. Few datasets are available with both big enough samples and the relevant variables needed. The research described above has either used data based on the 2001 Census or the 1991-2001 Longitudinal Study, or the 1994 FNSEM. All have the disadvantage of being now somewhat out of date while the social context has changed considerably too. We therefore decided to use the Annual Population Survey (APS), 2005 being the most recent year available when we started our analysis; we added the 2006 data when it became available. This provides a nationally representative sample of the general population of Great Britain, combining results from the Labour Force Survey (LFS) and the English, Welsh and Scottish LFS boosts. The sample size of the APS is somewhat smaller than the Census-based datasets but has sufficient cases for our purposes and a reasonable range of relevant variables. In particular it includes year of arrival and hence age at arrival) for those not born in the UK. There are some variables which we suspect are important in determining labour market outcomes and would have liked to have included which are not available, such as proficiency in the English language. This was included in the FNSEM but not on any suitable dataset since 1994.

Since we are interested in labour market behaviour we restrict our analyses to the working-age population (16-59 for women, 16-64 for men). For reasons given below, we exclude full-time students¹. We also exclude the 2005 APS boost sample which was not asked questions about qualifications. In addition we exclude a very small number of cases with missing information on one of the key variables used in our analyses. Since men and

¹ We also excluded a small number of individuals who, while not coded as full-time students, gave as their reason for being economically in active that they were in fact students – though presumably not full time)

women have significantly different labour market behaviour we consider them separately. Our analyses are therefore based on samples of 119,240 men and 118,061 women who were non-students of working age.

Ethnic and religious groups

We distinguish ethnic and religious groups according to the official classifications used on the APS with a few modifications. We need to minimise the number of different groups in order to have sufficient numbers in each to analyse. We amalgamate those in the Other Black category who were born in the UK with the Black Caribbean group. Most of those identifying with ‘Other Black’ appear to be second and third generation from a Black Caribbean background who reject the label ‘Caribbean’. Those remaining are incorporated into the ‘Other ethnic groups’ category. We thus started with fourteen ethnic groups as shown in Table 1. Note that some of these groups are quite small, particularly the various mixed-background groups. We retain the largest of these (the mixed White and Black Caribbean group), as a separate category but group the others in a residual category. For our main analyses we therefore work with eleven ethnic groups

TABLE 1 HERE

Table 2 shows the eight religious groups with the number of men and women in each. Again there are some rather small groups, particularly the Buddhist and Jewish categories, which will constrain the analyses we can carry out. Since almost all those of Jewish religion were in the White British ethnic group we combined the Jewish category with the other religions.

TABLE 2 HERE

If we cross-classify all the ethnic and religious groups (Table A1 in the annex) we find that many of the combinations have either none or very few individuals. Moreover, some ethnic groups are almost homogenous with respect to religion as are some religious groups with respect to ethnicity. For example, almost all Pakistanis and Bangladeshis are Muslim while most Sikhs are Indian. This leads to an identification problem (see further below) and means that we should not model the effects of religion and ethnicity as two separate variables using all the categories shown. Instead we have used a combined ethno-religious group variable formed from the 29 combinations which gave large enough groups for analysis (a strategy similar to that followed by Berthoud and Blekesaune 2007). These combinations are shaded in Table A1 in the annex. We aimed to have a minimum of 100 cases in each category but we wanted to use the same groups for men and women which means that some of the groups turn out to be slightly smaller than this, which will affect the level of difference we can detect. We also need to bear in mind that the analyses of unemployment are based on fewer cases as they include only those who are economically active.

Dependent variables

Official statistics generally distinguish three main categories of economic activity: in employment (either as an employee or self-employed), unemployed and economically inactive. Unemployment, according to the ILO definition used for official statistics (ONS, 2007), entails not having a job, having actively sought work in the past four weeks and being available to start work within two weeks or waiting to take up a job already obtained. The economically-inactive are thus those who are neither in employment nor unemployed. Among the working-age population they comprise mainly those of working age looking after

children or the home, the long-term sick and those who have retired. On this basis we can potentially examine three economic activity rates:

- The employment rate: the proportion employed of the total working-age population;
- The economic inactivity rate: the proportion economically inactive of the total working age population;
- The unemployment rate: the proportion unemployed of the economically active population.

The situation of full-time students is different from that of other economically-inactive people as theirs is usually a temporary state prior to entering the labour market. Some of course do have jobs which further complicates the picture and many will be expecting to go on to relatively advantaged positions in the labour market: higher education for example is usually associated with lower risks of unemployment. Moreover, the proportion of students is both small and varies considerably between the different ethnic groups. For these reasons we exclude students when calculating any of the rates described above.

Although the employment rate is important in terms of government policy and is used in setting targets for reducing differences between ethnic groups, it has a weakness compared to the other two measures. It is based on the whole working-age population, including both the unemployed, who are economically active, and the economically inactive. The relative proportions of these latter groups, as we shall see, vary between different ethnic and religious groups. We prefer to think in terms of sequential outcomes: activity vs inactivity and then employment vs unemployment among the economically active. On this basis we concentrate on economic inactivity and unemployment rates rather than employment rates.

Independent variables

We allow for differences between men and women in different ethnic and religious groups in terms of a number of relevant variables.

Age: because of different patterns of immigration and fertility rates, the age structure of the different ethnic groups varies considerably. Age is often found to have a non-linear relationship with labour market outcomes so we include an age-squared term to allow for this. (As is usual when including a quadratic function, we have centred age on the overall sample mean.)

Highest educational qualification: the APS does not code in full non-UK qualifications; however, it does distinguish degrees. This allows us to derive 3 categories of qualifications for the whole sample: degree, other qualifications, no qualifications.

Whether UK born/educated: Because of different patterns of immigration over the years, the proportions of the different ethnic minorities who are born in the UK vary considerably. Those who arrive in the UK as children and who were educated in the UK will have British qualifications, which may help them in the labour market. Hence we take into account the age at arrival for those who were not born in the UK. Those who arrived at younger ages are also likely to have higher levels of proficiency in the English language (which has been shown to affect labour market outcomes. See Schellekens, 2001) so ideally we would want to control for this. Unfortunately, however, such information is not available on the APS (or on any of the Census-based datasets) although age at arrival may proxy for this. We therefore classified the sample on the following basis:

- Born in UK
- Not born in UK, arrived before age 5
- Educated in UK: arrived between ages 5 and 15 (often termed the 1.5 generation)
- Young adult migrant: not born in UK, arrived between ages 16 and 30
- Older migrant: not born in UK, arrived age over 30

We found that arriving before the age of 5 had no impact on economic activity compared with those born in the UK so we will not consider this group as first-generation migrants in later analyses but will include them with the second generation.

Marital status and dependent children (for women): For women labour market behaviour varies according to marital status and the presence and ages of children. We have therefore classified women as married/cohabiting or unpartnered and with or without children aged under 16.

The distributions of these socio-demographic variables across our eleven main ethnic groups are shown in Table A2 in the annex. There are many differences between the groups. These may in part explain differences in labour market outcomes so will be taken into account in the logistic regression models described below.

Analysis methods

A problem in testing our hypotheses is the identification problem noted above. For example, in the case of religiously homogeneous ethnic groups such as Muslim Pakistanis or Muslim Bangladeshis, we cannot determine whether differences between these groups and the White British Christian reference group are due to culture or religion as narrowly defined: the two concepts are inextricably confounded. Hence we initially test our hypotheses excluding these groups from the analysis and examine only ethnic groups where there is some religious diversity. This gives us estimates of the separate effects of ethnicity and religion which we can then compare with the estimates for the ethno-religious groups where the two concepts cannot be separated. This provides us with a more robust and conservative set of estimates.

Our main method of analysis is then to carry out logistic regressions for each of the outcome measures running a number of different models. *Model 1* estimates the effect of ethnicity separately for men and women on labour market outcomes without including religion but controlling for age, age squared, highest educational qualification, whether born in the UK or age at arrival and, for women, marital status and presence of dependent children. This corresponds to the standard model used to assess ‘ethnic penalties’.

Model 2 includes both an ethnic and a religion variable but because of the identification problem described above only eight ethnic groups (White British, Other White, Indian, Chinese, Other Asian, Black Caribbean, Black African and Other ethnic group) and three religious groups (Christian, Muslim and No religion) are included, plus a residual category in both cases. This provides us with estimates of the independent effects of ethnicity and religion covering those cases where they cross-cut rather than coincide.

Model 3 includes the composite variable described above which combines the main religious and ethnic groups into 29 substantive categories and therefore enables us to include all groups and combinations, including those where the two cannot be disentangled. This in effect fits all the possible interaction effects between ethnicity and religion. By comparing

the results of Models 2 and 3 we are therefore able to assess whether the hypothesis that the effects of religion are invariant across ethnic groups is to be preferred to the hypothesis that there are unique effects of each particular ethno-religious combination.

Some variants on these models are described later. Sample sizes and goodness of fit statistics are given in Table A3.

Results

Summary of labour market outcomes by ethnic group

Table 3 provides a brief overview of the differences between the ethnic groups with respect to our two main labour market outcomes: the percentage economically inactive and the percentage of the economically active who were unemployed. We can see some marked differences between ethnic groups for each of the economic activity measures. Since these rates do not take into account compositional differences between the groups (for example in their educational levels) we move on to the models which look at ethnicity and religion together, controlling for other relevant variables.

TABLE 3 HERE

Logistic regression models

We carried out four sets of models, two each for men and women, with economic inactivity and unemployment as the dependent variables. Each table shows the fitted log odds ratios for the three models described above. Coefficients that are significantly different from the relevant reference category ($p < .05$) are shown in bold. Positive coefficients indicate greater risks of being inactive or of being unemployed (ie indicate 'penalties').

Women's economic inactivity

Taking women's economic inactivity as the dependent variable, we control for age, age squared, educational qualifications, whether born in the UK, whether married/partnered and whether with dependent children (Table 4a).

TABLE 4a HERE

The first column shows the estimates from Model 1, which includes ethnicity (along with the control variables) but not religion. Four Asian groups (Indian, Pakistani, Bangladeshi and Other Asian, but not the Chinese), the mixed White and Black Caribbean group and the Other ethnic group have higher rates of economic inactivity than those of the White British group with similar demographic characteristics. The rates for Other White, Chinese, Black Caribbean and Black African groups do not differ significantly from those for the White British group. These results are closely comparable to those found by previous researchers (Lindley et al., 2004; Dale et al., 2006).

Model 2 includes ethnicity and religion as main effects using the eight ethnic groups and three categories of religion that cross-cut each other (that is, excluding ethnic groups such as Pakistanis or religious groups such as Sikhs where the two cannot be disentangled). The main effects of ethnicity are shown in the second column while the main effects of religion are shown in the bottom row of the table. Here we see that Muslims in particular and also those with no religion have significantly higher rates of inactivity than Christians, while

many of the estimates for the ethnic groups have changed considerably from those of Model 1, suggesting that Model 1 may well have incorrectly attributed to ethnicity differences that might be better attributed to religion. For example, the coefficient for Indian women in Model 2 (-0.24) is now significant but negative whereas it was significant but positive in Model 1. This suggests that Indian women are more likely to be economically active than White British women once we control for at least some differences in the religious composition of this group. Black African women are also now significantly more likely to be economically active than White British women once we take religion into account.

Model 3 includes all the combinations of ethnic and religious groups that sample sizes allow. The coefficients show comparisons with the White British Christian reference group. It is perhaps most instructive to look down the columns and to compare the estimates for the co-religionists in different ethnic groups with the overall estimate for religion in the bottom row of the table from Model 2. This enables us to judge, in an informal way, whether the effects of religion are invariant across ethnic groups.

The clearest picture emerges for Muslims. What stand out here are the consistently high coefficients for Muslim women in all of the ethnic groups: in every case they are significantly less likely to be economically active than the White British Christian women. Furthermore the estimates range between 1.02 and 1.78, all relatively close to the main effect from Model 2 of 1.45. This suggests a consistent, and more or less invariant, Muslim effect independent of ethnicity. We therefore carried out a formal test, constraining all the Muslim coefficients to be the same and comparing the results with the model allowing these eight separate Muslim coefficients to vary freely. The results are summarised in Table A4 in the annex. Although the fit of the models judged by the change in the log-likelihood favours the full model with all the ethno-religious combinations, comparison of the values for the Bayesian Information Criterion (BIC), which takes the complexity of the models into account, indicates that we should prefer the more parsimonious model which constrains the Muslim effect to be same for all ethnic groups.

Looking down the columns for the other religions (and no religion), we see a somewhat less consistent pattern of relationships although there is still a fair degree of similarity across ethnic groups. Thus in the Christian column we see that seven out of the nine estimates are not significantly different from the main effect of zero, while in the case of the 'no religion' column all five estimates are quite close to the main effect of 0.21. Overall then, there does seem to be a high degree of consistency within other religions.

We can also look along the rows to see whether there appear to be any consistent ethnic effects which are independent of religion. This is not so straightforward as there is less religious diversity within each ethnic group and hence less evidence on which to base a judgement. What are most striking are the big differences within some of the ethnic groups according to their religion. For example, Black African Christian women are much more likely and Black African Muslim women much less likely to be economically active than the reference group with a difference of 1.88 in the estimates.

With respect to women's economic activity, therefore, Model 2 appears to give quite a reasonable picture of the overall story, with a relatively large and consistent Muslim effect and rather small ethnic effects. It is particularly striking that the religious effect calculated from Model 2, estimated on a subsample that excludes the Pakistanis and Bangladeshis, actually fits these two cases rather well leaving only a modest need for any additional ethnic

effect. In other words the overall ‘ethnic’ effects for Pakistanis and Bangladeshis estimated in Model 1 at 1.62 and 1.65 respectively are closely approximated by the Model 2 main effect for Muslim religion of 1.45.

Women’s unemployment

We next examine the results of similar analyses for women’s unemployment (Table 4b), bearing in mind that economically-inactive women are excluded from the base for this analysis. This means that the base numbers for the cells are smaller than for the analysis of economic inactivity so coefficients need to be larger in order to reach statistical significance.

TABLE 4b HERE

Model 1, which includes ethnicity alone, shows that women in six ethnic groups had higher risks of unemployment than the White British comparison group: Pakistanis, Bangladeshis, Indians, Black Caribbeans and Black African. The coefficients for White and Black Caribbeans and Other Asians were also quite high although not statistically significant while the Other White and Chinese groups had similar levels of unemployment to the White British women. (Again, this is closely in line with previous research on ethnic penalties.)

Moving to Model 2 which includes the main effects for eight ethnic minority groups and three cross-cutting religion groups, we see that both the Muslim and No religion groups are significantly more likely to be unemployed than the Christian reference group. Looking at ethnicity, the only coefficient which changes much is for Indian women, which is no longer significantly different from that for the White British women.

Model 3 includes the combined ethno-religious variable and again we see, looking down the columns, a very strong and fairly consistent Muslim disadvantage. Muslim women in all ethnic groups except the (rather small) Other White group were far more likely to be unemployed than White British Christian women. Looking along the rows we also see a consistent ethnic disadvantage for Black Caribbean and Black African women and for the White and Black Caribbean mixed background group which suggests a consistent disadvantage in being black.

Women’s unemployment, then, presents a similar picture to women’s economic activity. There is a consistent albeit rather smaller effect of Muslim religion, the main effect from Model 2 being 0.84 for unemployment compared with 1.45 for economic inactivity. However, there is also a rather consistent Black effect on unemployment that was not present in the case of economic inactivity. As before, the Muslim effect estimated from Model 2 seems to approximate quite closely to the ‘ethnic’ effects calculated in Model 1 for Pakistanis and Bangladeshis. The formal test described above also shows that a model with a single Muslim effect should be preferred to the model with different Muslim effects for each ethnic group (BICs shown in Table A4). But we also find that the Black effects from Model 2 approximate quite closely to the Black Caribbean, Black African and mixed White and Black Caribbean ethnic effects in Model 1.

Men’s economic inactivity

Tables 5a and 5b show results for similar analyses for men. Looking first at economic inactivity (Table 5a), under Model 1 we see that several groups were more likely than White British men to be economically inactive: Pakistani, Bangladeshi, Other Asian, Black Caribbean, Black African and the Other ethnic group categories.

TABLE 5a HERE

Under Model 2 we see the significant high coefficient for Muslim men and also the significant coefficient for those with no religion, indicating the importance of religion in explaining rates of economic inactivity for men as well as women. As with women, the Muslim coefficient is larger than any of the ethnic main effects (0.85 compared with the largest ethnic main effect of 0.58), although the contrast is not as dramatic as it was for women.

Model 3 then includes the combined ethno-religious groups. Again, looking down the columns, we see that almost all the coefficients for the Muslim groups are significant and of more or less similar magnitude, indicating that male Muslim groups are consistently more likely to be economically inactive than most other groups, the one exception being Indian Muslim men who are not significantly different from the White British Christian group. However, the formal test indicates that a model with a single Muslim effect is to be preferred over the more complex model (see Table A4). There also appears to be a penalty for the main black groups: both Black Caribbean and Black African Christians are more likely to be economically inactive than White British Christians.

Men's unemployment

The results for male unemployment are shown in Table 5b. Those for Model 1, with ethnicity alone, present a picture familiar from other studies. Men in most other ethnic groups are significantly more likely to be unemployed than White British men, the exception being the Chinese.

TABLE 5b HERE

Under Model 2 we again see a substantial and significant Muslim main effect (0.63), albeit somewhat smaller than the corresponding coefficient for women. However, completely unlike the story for women, we also see a number of ethnic main effects that are much larger than the Muslim main effect. Most notably the Black Caribbean and Black African ethnic effects in Model 2 are 1.40 and 1.23 respectively.

The results for Model 3, which includes the combined ethno-religious variable, show coefficients almost all of which are significant and positive indicating that members of most ethno-religious combinations are more likely to be unemployed than White British Christians. Indeed all of the non-significant coefficients are fairly high and positive and many are for quite small groups. Looking down the columns, we see that all the Muslim groups with the exception of Indian Muslim men have large (and in all but one case significant) coefficients. This is once again suggestive of a fairly consistent Muslim effect (see Table A4 for the formal test), although in the case of unemployment we do see much more variation in the Muslim column than we had seen previously (the estimates ranging from 0.28 for Indian Muslim men to 2.06 for African Muslims). Looking along the rows, however, we also see very large and fairly consistent black effects, much larger in the case of unemployment than they had been for economic activity.

Overall, then, some clear patterns stand out.

- First, there is a clear and more or less invariant Muslim effect which is biggest in the case of women's economic activity and smallest for men's unemployment, but is nonetheless quite clear in all four cases.
- Second, there is also a much smaller and not quite so consistent pattern associated with 'no religion'.
- Third, there is a clear and consistent black effect that is evident for women's unemployment (but not women's economic activity), men's economic activity and men's unemployment, being much the largest for male unemployment.
- In the case of most outcomes, the apparent 'ethnic' effects estimated for Pakistanis and Bangladeshis in models that do not control for religion prove to be explicable largely or wholly by the main effect of Muslim religion estimated on the basis of other Muslim groups where religion cross-cuts rather than coincides with ethnicity.
- Some anomalies do however remain where the coefficient for the particular ethno-religious combination is substantially different from what would have been expected given the main effects.

The most notable anomalies involve Indian Christian and Indian Muslim men with respect to unemployment (and to a lesser extent with respect to economic inactivity). Thus we might have expected Indian Christians to have low risks of unemployment given the non-significant main effects for Indians and for Christians. In fact they have a positive, and significant coefficient of 0.64. Conversely Indian Muslims have a lower-than-expected coefficient for unemployment. This is of similar to the findings for Indian Muslim men by Brown (2000) and Lindley (2002). One possibility is that we are, as suggested earlier, dealing with unmeasured ethnic or cultural distinctions within the broad category of 'Indian'. For example, in India itself Christianity is especially prevalent among the Scheduled Tribes – non-Hindu indigenous groups among whom missionary activity was particularly strong. They form quite distinct ethnic groups within particular Indian states, and are also relatively disadvantaged. In contrast, in India Muslims tend to be skilled manual or self-employed workers, very different from the largely rural origins of Pakistani and Bangladeshi Muslims. More detailed ethnographic research is really needed to understand these cases.

We should also note that there are other cases where we have not been able to estimate separate ethnic and religion effects. For example in the case of Hindus, Buddhists and Sikhs we do not have enough cross-cutting cases to be able to estimate main effects without falling into the identification trap. However, we do have Buddhists from two ethnic backgrounds – White British and Other Asian – and we do have Hindus from two ethnic backgrounds – Indian and Other Asian. In almost all the relevant cases we find that the coefficients for these combinations are not well-predicted by the ethnic main effects that we have been able to estimate. Furthermore the Buddhist effects tend to be quite similar to each other, as do the Hindu effects. We are therefore inclined to believe that there are in fact additional religious effects, though of smaller magnitude than the Muslim effect.

The second generation

The above analysis controlled for whether people were born in the UK or, if not, their age on arrival. As discussed above, we do not have information about English language proficiency, foreign qualifications other than degrees or other information to look in greater detail at the position of the migrant generation. We therefore examine separately the second generation which provides a sharper focus on the labour market penalties experienced by different ethnic and religious groups since it in essence removes the potential problems caused by unmeasured confounding variables. We have adopted a conservative definition of the second

generation: those who were either born in the UK or who arrived before the age of 5 who would have had their whole education in the UK and so would be unlikely to have an English language handicap.

Table 6a gives the results for second-generation women's economic inactivity using the same three models that we reported in Table 4a for the full sample, while Table 6b shows results for women's unemployment. Note that, because the sample size is now much reduced, we reduce the number of parameters that we fit in Models 2 and 3.

TABLES 6a and 6b HERE

We know from the earlier analyses that the variables we used to control for whether people were born in the UK or their age on arrival were significant in all analyses so we would expect the coefficients for the second generation to be lower than those for the total sample. Indeed this, for the most part, is what we find. The most striking result is the reduction in coefficients for all the Muslim groups for both economic inactivity and unemployment. In the case of economic inactivity the Muslim main effect falls from 1.45 in the overall sample to 1.15 for the second-generation sample, while the main effect for unemployment falls from 0.84 to 0.60. There is somewhat more variation in the size of the Muslim effects for the different ethnic groups than before, which may in part be due to the smaller sample sizes and hence larger standard errors for these estimates. On the other hand, the second-generation results confirm the previous finding that the Pakistani and Bangladeshi 'ethnic' effects are very close to the overall 'Muslim' effect estimated from Model 2.

Tables 7a and 7b show the results for second-generation men. Clearly many of the coefficients are still significant demonstrating that the disadvantages experienced by many groups of men have not disappeared in the second generation.

TABLES 7a and 7b HERE

The most striking results again are the decline in the Muslim main effect estimated in Model 2. Whereas for the full sample, the Muslim main effects were 0.85 for men's economic inactivity and 0.63 for men's unemployment, in the case of the second generation these coefficients have fallen to 0.60 and a non-significant 0.10 respectively. This contrasts with the continuity in the size of those ethnic main effects that we are able to estimate. In particular the Black Caribbean main effect for economic inactivity moves from 0.36 in the full sample to 0.45 in the second-generation sample, while that for Black Caribbean male unemployment moves from 1.40 to 1.50. The Indian and Other White coefficients also change very little. As before, if we look down the Muslim column at the coefficients for the separate ethno-religious combinations, we also see more variability in the male unemployment coefficients than for other outcomes, and we should also recognize that in the case of male unemployment in the second generation, the Pakistani and Bangladeshi coefficients (from Model 1) are not very close to the main Muslim effect (from Model 2). However, the coefficients for our two previous anomalous groups – Indian Christians and Indian Muslims – are no longer significant and are broadly in line with expectations.

Discussion

Returning now to our central research questions we can conclude, first, that there are indeed differences between religious groups in their labour market experiences that are invariant across ethnic groups. These are most notable in the case of Muslims although possibly not restricted to Muslims. Second, these differences between religious groups are most evident in the case of women's economic inactivity and least evident in the case of men's unemployment. Third, they are reduced in magnitude in the second generation, and in the case of men's unemployment the religious effect becomes non-significant and close to zero in the second generation. Fourth, there is a clear and consistent black effect that is more or less invariant across religious groups. This is largest and most evident for men's unemployment, is reduced in magnitude but still evident for men's economic activity and for women's unemployment, and is not evident for women's economic activity. These black effects, unlike the Muslim effects, show no sign of declining in the second generation. It may be worth noting that the two largest main effects that we found in our analyses where we focussed on cases where religion and ethnicity cross-cut (ie for Model 2) were the Black Caribbean coefficient of 1.40 (1.50 in the second generation) for men's unemployment and the Muslim coefficient of 1.45 (1.15 in the second generation) for women's economic inactivity.

While we did find some anomalies for which ad hoc explanations may well be necessary, one of our most striking findings was that the Pakistani and Bangladeshi coefficients were often very close to the estimated effects of Muslim religion (as estimated in models that excluded Pakistanis and Bangladeshis). In other words these effects should probably be regarded as religious rather than purely ethnic ones.

These patterns are consistent with our suggestion that the religious differences in economic activity may be due primarily to differences in values and patterns of social relationship whereas the black differences in unemployment may be due primarily to discrimination. To be sure, as we emphasized earlier, religious differences in economic activity could be due to the 'chill factor' and to the way in which Muslim women are, or expect to be, treated at work. Much more detailed research using different methodologies would be needed to investigate this. But the fact that the religious differences decline across generations whereas the Black effect does not, suggests that values and cultural practices may be more important in the former and discrimination more important in the latter. At the very least the differences in the patterns involving the Black and the Muslim effects across generations and outcomes suggest that rather different processes are at work. Both religious and ethnic differences are clearly present in the data, but the underlying mechanisms that generate these differences are surely rather different.

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Table 1 Distribution of men and women by ethnic group

Ethnic group	Men		Women	
	N	%	N	%
White British	104556	87.7	102284	86.6
Other White	6011	5.0	6073	5.1
White & Black Caribbean	191	0.2	231	0.2
White & Black African	75	0.1	97	0.1
White & Asian	140	0.1	172	0.1
Other mixed	147	0.1	205	0.2
Indian	2286	1.9	2214	1.9
Pakistani	1442	1.2	1513	1.3
Bangladeshi	500	0.4	583	0.5
Other Asian	821	0.7	1041	0.9
Black Caribbean	830	0.7	1083	0.9
Black African	869	0.7	1061	0.9
Chinese	339	0.3	497	0.4
Other ethnic group	1033	0.9	1007	0.9
Total	119240	100.0	118061	100.0

Table 2 Distribution of men and women by religion

Religion	Men		Women	
	N	%	N	%
Christian	88790	74.5	91720	77.7
Muslim	3330	2.8	3393	2.9
Buddhist	322	0.3	396	0.3
Hindu	1242	1.0	1167	1.0
Sikh	674	0.6	644	0.5
Jewish	404	0.3	376	0.3
Other religion	932	0.8	1001	0.8
No religion	23546	19.7	19364	16.4
Total	119240	100.0	118061	100.0

Table 3 Labour market outcomes by ethnic group

	White British	Other White	White and Black Caribbean	Indian	Pakistani	Bangla-deshi	Chinese	Other Asian	Black Caribbean	Black African	Other ethnic group	All
Men	<i>percentages</i>											
Employed	81.5	82.2	73.8	83.9	74.2	68.6	82.3	81.5	71.3	76.8	73.3	81.2
Economically inactive	14.4	12.9	10.5	10.1	18.0	18.0	12.4	12.2	15.8	11.9	18.0	14.3
<i>Base</i>	104556	6011	191	2286	1442	500	339	821	830	869	1395	119240
Unemployed	4.8	5.6	17.5	6.6	9.6	16.3	6.1	7.2	15.3	12.9	10.7	5.2
<i>Base (economically active)</i>	89495	5236	171	2054	1183	410	297	721	699	766	1144	102176
Women	<i>percentages</i>											
Employed	74.2	72.5	60.6	65.3	26.5	21.3	69.6	60.2	68.9	63.7	56.4	72.5
Economically inactive	22.9	23.7	32.0	30.2	68.4	73.1	26.8	35.4	24.9	28.8	37.5	24.3
<i>Base</i>	102284	6073	231	2214	1513	583	497	1041	1083	1061	1481	118061
Unemployed	3.8	5.1	10.8	6.5	16.1	21.0	4.9	6.8	8.2	10.5	9.8	4.2
<i>Base (economically active)</i>	78830	4636	157	1546	478	157	364	673	813	755	926	89335

Shaded cells indicate statistically significant difference from White British - $p < .05$

Table 4a Women's economic inactivity: log odds

Controls for age, age squared, highest quals, born in UK, married, dependent children

Ethnic group	1 Ethnicity only	2 Main effects	3 Combined ethno-religious groups						
			Christian	Muslim	No religion	Buddhist	Hindu	Sikh	Other religion
White British	0.00	0.00	0.00	1.33	0.22	0.29			0.23
Other White	-0.05	-0.07	-0.06	1.52	0.02				0.49
White and Black Caribbean	0.41		0.52						
Indian	0.17	-0.24	-0.24	1.16			0.14	0.01	
Pakistani	1.62			1.72					
Bangladeshi	1.65			1.78					
Chinese	0.03	-0.07	0.19		-0.09				
Other Asian	0.26	-0.03	-0.21	1.02		0.49	0.35		
Black Caribbean/other black	-0.01	0.02	0.05		0.09				
Black African	-0.11	-0.33	-0.44	1.44					
Other ethnic group	0.53	0.23	0.17	1.50	0.20				
Main effects (model 2)			0.00	1.45	0.21				

Table 4b Women's unemployment: log odds

Controls for age, age squared, highest quals, born in UK, married, dependent children

Ethnic group	1 Ethnicity only	2 Main effects	3 Combined ethno-religious groups						
			Christian	Muslim	No religion	Buddhist	Hindu	Sikh	Other religion
White British	0.00	0.00	0.00	1.28	0.32	0.96			0.46
Other White	0.04	0.03	0.07	0.48	0.23				-0.19
White and Black Caribbean	0.49		0.86						
Indian	0.38	0.00	0.32	0.90			0.35	0.58	
Pakistani	1.03			1.14					
Bangladeshi	1.14			1.28					
Chinese	0.06	-0.12	0.07		-0.20				
Other Asian	0.21	-0.02	-0.54	0.90		0.60	0.97		
Black Caribbean/other black	0.54	0.56	0.55		0.87				
Black African	0.49	0.45	0.45	1.16					
Other ethnic group	0.65	0.50	0.52	1.32	0.74				
Main effects (model 2)			0.00	0.84	0.30				

Table 5a Men's economic inactivity: log odds

Controls for age, age squared, highest quals, born in UK

Ethnic group	1 Ethnicity only	2 Main effects	3 Combined ethno-religious groups						
			Christian	Muslim	No religion	Buddhist	Hindu	Sikh	Other religion
White British	0.00	0.00	0.00	0.98	0.17	1.06			0.33
Other White	0.05	0.05	0.02	1.30	0.29				0.45
White and Black Caribbean	0.07		0.08						
Indian	-0.06	-0.42	0.06	0.24				-0.06	0.02
Pakistani	0.60			0.69					
Bangladeshi	0.62			0.74					
Chinese	0.22	0.12	-0.04		-0.04				
Other Asian	0.37	0.06	0.16	0.99		0.49	0.19		
Black Caribbean/other black	0.34	0.36	0.39		0.40				
Black African	0.49	0.41	0.49	1.20					
Other ethnic group	0.89	0.58	0.25	1.64	0.70				
Main effects (model 2)			0.00	0.85	0.18				

Table 5b Men's unemployment: log odds

Controls for age, age squared, highest quals, born in UK

Ethnic group	1 Ethnicity only	2 Main effects	3 Combined ethno-religious groups						
			Christian	Muslim	No religion	Buddhist	Hindu	Sikh	Other religion
White British	0.00	0.00	0.00	0.65	0.28	1.32			0.43
Other White	0.18	0.20	0.19	0.96	0.44				0.90
White and Black Caribbean	0.91		0.59						
Indian	0.47	0.14	0.64	0.28				0.64	0.61
Pakistani	0.54			0.67					
Bangladeshi	1.07			1.20					
Chinese	0.38	0.24			0.81				
Other Asian	0.49	0.26	0.35	1.09			0.86		
Black Caribbean/other black	1.38	1.40	1.42		1.61				
Black African	1.23	1.23	1.12	2.06					
Other ethnic group	0.88	0.93	0.52	1.66	0.52				
Main effects (model 2)			0.00	0.63	0.29				

Table 6a 2nd generation women's economic inactivity: log odds

Controls for age, age squared, highest qual, married, dependent children

Ethnic group	1 Ethnicity only	2 Main effects	3 Combined ethno-religious groups						
			Christian	Muslim	No religion	Buddhist	Hindu	Sikh	Other religion
White British	0.00	0.00	0.00	1.19	0.22	0.31			0.24
Other White	0.05	0.04	0.06	0.84	0.19				0.62
White and Black Caribbean	0.49		0.57						
Indian	0.22	-0.15	0.55	0.91			-0.21	0.21	
Pakistani	1.35			1.43					
Bangladeshi	1.06			1.20					
Chinese	0.25		0.66		-0.02				
Other Asian	-0.08		-0.15	0.51		0.07			
Black Caribbean/other black	0.04	0.05	0.03		0.35				
Black African	0.09		0.08	0.44					
Other ethnic group	0.34	0.45	0.03	1.28	0.18				
Main effects (model 2)			0.00	1.15	0.22				

Table 6b 2nd generation women's unemployment: log odds

Controls for age, age squared, highest qual, married, dependent children

Ethnic group	1 Ethnicity only	2 Main effects	3 Combined ethno-religious groups						
			Christian	Muslim	No religion	Buddhist	Hindu	Sikh	Other religion
White British	0.00	0.00	0.00	1.16	0.33	1.04			0.44
Other White	0.17	0.16	0.20		0.44				0.20
White and Black Caribbean	0.51		0.84						
Indian	0.21	-0.15	0.58	0.64			0.01	0.55	
Pakistani	0.87			1.01					
Bangladeshi	0.67			0.82					
Chinese	-0.01		0.08		-0.41				
Other Asian	0.52		-0.14	-0.26		1.40			
Black Caribbean/other black	0.58	0.60	0.57		0.99				
Black African	0.60		0.65						
Other ethnic group	0.50	0.20	0.46	1.05	0.74				
Main effects (model 2)			0.00	0.60	0.32				

Table 7a 2nd generation men's economic inactivity: log odds

Controls for age, age squared, highest qual

Ethnic group	1 Ethnicity only	2 Main effects	3 Combined ethno-religious groups						
			Christian	Muslim	No religion	Buddhist	Hindu	Sikh	Other religion
White British	0.00	0.00	0.00	1.07	0.17	1.06			0.32
Other White	0.10	0.09	0.07	1.30	0.31				1.00
White and Black Caribbean	0.00		0.02						
Indian	0.02	-0.38	-0.82	0.11			0.09	0.00	
Pakistani	0.64			0.69					
Bangladeshi	0.48			0.49					
Chinese	-0.28		0.05						
Other Asian	1.03		1.03	1.78			0.71		
Black Caribbean/other black	0.47	0.45	0.51		0.43				
Black African	0.21		-0.07	1.58					
Other ethnic group	0.57	0.09	0.26	1.15	0.85				
Main effects (model 2)			0.00	0.60	0.18				

Table 7b 2nd generation men's unemployment: log odds

controls for age, age squared, highest qual

Ethnic group	1 Ethnicity only	2 Main effects	3 Combined ethno-religious groups						
			Christian	Muslim	No religion	Buddhist	Hindu	Sikh	Other religion
White British	0.00	0.00	0.00	0.59	0.28	1.37			0.43
Other White	0.25	0.25	0.21	0.31	0.57				1.50
White and Black Caribbean	0.94		0.61						
Indian	0.59	0.25	-0.27	0.47			0.76	0.68	
Pakistani	0.33			0.44					
Bangladeshi	0.91			0.95					
Chinese	0.56				1.05				
Other Asian	0.08		-0.10	0.98					
Black Caribbean/other black	1.49	1.50	1.54		1.51				
Black African	1.23		1.14	2.28					
Other ethnic group	0.66	1.10	0.40	1.33	0.56				
Main effects (model 2)			0.00	0.10	0.28				

Table 8a Women' s economic inactivity: comparison of reduced and full main effects models

Controls for age, age squared, highest quals, born in UK, married, dependent children

Ethnic group	2 Reduced main effects	Full main effects	3 Combined ethno-religious groups						
			Christian	Muslim	No religion	Buddhist	Hindu	Sikh	Other religion
White British	0.00	0.00	0.00	1.33	0.22	0.29			0.23
Other White	-0.07	-0.07	-0.06	1.52	0.02				0.49
White and Black Caribbean		0.38	0.52						
Indian	-0.24	-0.17	-0.24	1.16			0.14	0.01	
Pakistani		0.38		1.72					
Bangladeshi		0.40		1.78					
Chinese	-0.07	-0.09	0.19		-0.09				
Other Asian	-0.03	-0.02	-0.21	1.02		0.49	0.35		
Black Caribbean/other black	0.02	0.02	0.05		0.09				
Black African	-0.33	-0.32	-0.44	1.44					
Other ethnic group	0.23	0.15	0.17	1.50	0.20				
Reduced main effects (model 2)			0.00	1.45	0.21				
Full main effects			0.00	1.37	0.37	0.21	0.42	0.31	0.19

Table 8b Women' s unemployment: comparison of reduced and full main effects models

Controls for age, age squared, highest quals, born in UK, married, dependent children

Ethnic group	2 Reduced main effects	Full main effects	3 Combined ethno-religious groups						
			Christian	Muslim	No religion	Buddhist	Hindu	Sikh	Other religion
White British	0.00	0.00	0.00	1.28	0.32	0.96			0.46
Other White	0.03	0.02	0.07	0.48	0.23				-0.19
White and Black Caribbean		0.44	0.86						
Indian	0.00	-0.07	0.32	0.90			0.35	0.58	
Pakistani		0.23		1.14					
Bangladeshi		0.34		1.28					
Chinese	-0.12	-0.20	0.07		-0.20				
Other Asian	-0.02	-0.12	-0.54	0.90		0.60	0.97		
Black Caribbean/other black	0.56	0.56	0.55		0.87				
Black African	0.45	0.43	0.45	1.16					
Other ethnic group	0.50	0.44	0.52	1.32	0.74				
Reduced main effects (model 2)			0.00	0.84	0.30				
Full main effects			0.00	0.91	0.33	0.30	0.84	0.47	0.63

Table 9a Men' s economic inactivity: comparison of reduced and full main effects models

Controls for age, age squared, highest quals, born in UK

Ethnic group	2 Reduced main effects	Full main effects	3 Combined ethno-religious groups						
			Christian	Muslim	No religion	Buddhist	Hindu	Sikh	Other religion
White British	0.00	0.00	0.00	0.98	0.17	1.06			0.33
Other White	0.05	0.04	0.02	1.30	0.29				0.45
White and Black Caribbean		0.07	0.08						
Indian	-0.42	-0.39	0.06	0.24			-0.06	0.02	
Pakistani		-0.24		0.69					
Bangladeshi		-0.22		0.74					
Chinese	0.12	0.04	-0.04		-0.04				
Other Asian	0.06	-0.01	0.16	0.99		0.49	0.19		
Black Caribbean/other black	0.36	0.36	0.39		0.40				
Black African	0.41	0.37	0.49	1.20					
Other ethnic group	0.58	0.53	0.25	1.64	0.70				
Reduced main effects (model 2)			0.00	0.85	0.18				
Full main effects			0.00	0.96	0.41	0.18	0.84	0.30	0.41

Table 9b Men' s unemployment: comparison of reduced and full main effects models

Controls for age, age squared, highest quals, born in UK

Ethnic group	2 Reduced main effects	Full main effects	3 Combined ethno-religious groups						
			Christian	Muslim	No religion	Buddhist	Hindu	Sikh	Other religion
White British	0.00	0.00	0.00	0.65	0.28	1.32			0.43
Other White	0.20	0.17	0.19	0.96	0.44				0.90
White and Black Caribbean		0.91	0.59						
Indian	0.14	-0.05	0.64	0.28			0.64	0.61	
Pakistani		-0.17		0.67					
Bangladeshi		0.36		1.20					
Chinese	0.24	0.22			0.81				
Other Asian	0.26	0.12	0.35	1.09			0.86		
Black Caribbean/other black	1.40	1.39	1.42		1.61				
Black African	1.23	1.16	1.12	2.06					
Other ethnic group	0.93	0.61	0.52	1.66	0.52				
Reduced main effects (model 2)			0.00	0.63	0.29				
Full main effects			0.00	0.83	0.45	0.29	0.44	0.68	0.60

Table A1 Ethnic groups by religion

Men	Religion							Total
	Christian	Muslim	No religion	Buddhist	Hindu	Sikh	Other religion	
White British	81698	98	21556	166	16	11	1011	104556
Other White	4518	157	1186	14	2		134	6011
White & Black Caribbean	131		58				2	191
White & Black African	46	7	18	1	1		2	75
White & Asian	69	18	47		2	2	2	140
Other mixed	85	17	31	2			12	147
Indian	209	329	63	4	1016	625	40	2286
Pakistani	12	1397	14		1	1	17	1442
Bangladeshi	1	490	2		5		2	500
Chinese	76	5	201	47			10	339
Other Asian	243	203	68	85	174	28	20	821
Black Caribbean	644	5	151	1	3		26	830
Black African	668	138	44		3		16	869
Other ethnic group	390	466	107	2	19	7	42	1033
Total	88790	3330	23546	322	1242	674	1336	119240

Women	Religion							Total
	Christian	Muslim	No religion	Buddhist	Hindu	Sikh	Other religion	
White British	83418	114	17601	107	9	13	1022	102284
Other White	4781	167	959	13	1	1	151	6073
White & Black Caribbean	153	2	71	1			4	231
White & Black African	67	11	18				1	97
White & Asian	88	23	48	3	2	3	5	172
Other mixed	130	9	52	7			7	205
Indian	232	316	54	7	967	596	42	2214
Pakistani	16	1455	9		5	1	27	1513
Bangladeshi	4	571	3		4		1	583
Chinese	156	4	241	79	1		16	497
Other Asian	423	161	91	173	142	24	27	1041
Black Caribbean	946	4	107	4	3		19	1083
Black African	827	185	28		7	1	13	1061
Other ethnic group	479	371	82	2	26	5	42	1007
Total	91720	3393	19364	396	1167	644	1377	118061

The shaded cells are those shown in Table 3 and used in analyses

Table A2 Socio-demographic characteristics

	White British	Other White	White and Black Caribbean	Indian	Pakistani	Bangladeshi	Chinese	Other Asian	Black Caribbean	Black African	Other ethnic group	All
Men												
Average age (years)	42.8	40.7	32.1	39.7	36.9	36.1	39.9	39.0	40.6	37.8	37.3	42.4
	<i>percentages</i>											
Born in UK	97.9	51.2	91.6	29.1	32.7	14.6	16.5	8.0	63.3	18.2	27.2	90.6
Arrived in UK aged under 16	1.5	6.1	4.7	21.7	24.1	39.0	22.4	13.8	18.3	9.4	11.4	3.0
Arrived in UK aged 16-30	0.4	31.2	3.7	38.9	37.0	37.4	42.8	49.9	14.3	46.5	44.2	4.7
Arrived in UK after age 30	0.1	11.5	0.0	10.3	6.2	9.0	18.3	28.3	4.1	25.9	17.1	1.7
Degree	18.1	18.8	12.0	32.4	16.2	14.0	42.5	28.3	11.4	30.0	25.6	18.6
Sub-degree quals	67.2	65.7	68.6	50.7	51.9	47.2	38.1	55.4	67.7	57.7	56.8	66.2
No quals	14.8	15.6	19.4	16.9	32.0	38.8	19.5	16.3	20.8	12.3	17.6	15.2
<i>Base</i>	<i>104556</i>	<i>6011</i>	<i>191</i>	<i>2286</i>	<i>1442</i>	<i>500</i>	<i>339</i>	<i>821</i>	<i>830</i>	<i>869</i>	<i>1395</i>	<i>119240</i>
Women												
Average age (years)	40.6	38.7	32.2	38.1	35.0	33.9	38.8	38.2	39.3	36.6	36.9	40.2
	<i>percentages</i>											
Born in UK	97.8	43.8	94.4	29.2	34.1	19.4	16.9	7.1	62.4	13.1	31.3	89.4
Arrived in UK aged under 16	1.5	5.8	2.6	19.7	17.6	25.0	13.1	8.5	21.3	9.1	10.9	2.9
Arrived in UK aged 16-30	0.5	38.9	3.0	43.3	43.5	45.6	52.5	57.4	13.1	54.0	41.0	5.9
Arrived in UK after age 30	0.1	11.4	0.0	7.9	4.8	9.9	17.5	27.0	3.1	23.8	16.8	1.7
Degree	17.0	22.0	13.9	24.3	12.1	8.2	36.2	20.3	17.9	19.8	24.2	17.5
Sub-degree quals	66.4	62.5	69.7	55.0	45.9	43.6	41.9	57.7	68.7	61.7	56.6	65.3
No quals	16.5	15.5	16.5	20.7	42.0	48.2	21.9	22.0	13.4	18.5	19.2	17.1
Married/cohabiting	67.3	67.6	31.6	76.1	70.5	71.0	72.0	76.4	33.3	43.4	58.5	66.9
Children under 16 in family	43.3	39.9	58.4	50.3	67.2	73.4	37.4	53.3	54.7	60.8	52.9	44.1
<i>Base</i>	<i>102284</i>	<i>6073</i>	<i>231</i>	<i>2214</i>	<i>1513</i>	<i>583</i>	<i>497</i>	<i>1041</i>	<i>1083</i>	<i>1061</i>	<i>1481</i>	<i>118061</i>

Table A3 Sample sizes and model fit statistics

Women's economic inactivity		N	Df	Log-likelihood
<i>All women</i>		118061		
Model 1	Ethnicity only		20	115105
Model 2	Ethnicity and religion main effects		21	114603
Model 3	Ethno-religious combinations		39	114568
	Full main effects		26	114595
<i>Second generation women</i>		107282		
Model 1	Ethnicity only		16	103921
Model 2	Ethnicity and religion main effects		14	103764
Model 3	Ethno-religious combinations		35	103738
Women's unemployment				
<i>All unemployed women</i>		89335		
Model 1	Ethnicity only		20	28097
Model 2	Ethnicity and religion main effects		21	28013
Model 3	Ethno-religious combinations		39	27995
	Full main effects		26	28009
<i>Second generation unemployed women</i>				
Model 1	Ethnicity only		16	24660
Model 2	Ethnicity and religion main effects		14	24603
Model 3	Ethno-religious combinations		35	24588
		N	Df	Log-likelihood
Men's economic inactivity				
<i>All men</i>		119240		
Model 1	Ethnicity only		18	82340
Model 2	Ethnicity and religion main effects		19	82179
Model 3	Ethno-religious combinations		37	82122
	Full main effects		24	82154
<i>Second generation men</i>		109626		
Model 1	Ethnicity only		14	75661
Model 2	Ethnicity and religion main effects		12	75583
Model 3	Ethno-religious combinations		33	75545
Men's unemployment				
<i>All unemployed men</i>		102176		
Model 1	Ethnicity only		18	38027
Model 2	Ethnicity and religion main effects		19	37921
Model 3	Ethno-religious combinations		37	37884
	Full main effects		24	37913
<i>Second generation unemployed men</i>		93913		
Model 1	Ethnicity only		14	33894
Model 2	Ethnicity and religion main effects		12	33830
Model 3	Ethno-religious combinations		33	33805

Table A4 Changes in log likelihood

Women's economic inactivity	N	Df	Log-likelihood	BIC[†]	
Full ethno-religious combinations		39	114568	-228681	
With single Muslim category		32	114600	-228826	**
Difference		7	32*		
	118061				
Women's unemployment		Df	Log-likelihood		
Full ethno-religious combinations		39	27995	-55545	
With single Muslim category		32	27999	-55633	**
Difference		7	4		
	89335				
Men's economic inactivity		Df	Log-likelihood		
Full ethno-religious combinations		37	82122	-163812	
With single Muslim category		30	82197	-164043	**
Difference		7	75*		
	119240				
Men's unemployment		Df	Log-likelihood		
Full ethno-religious combinations		37	37884	-75341	
With single Muslim category		30	37940	-75534	**
Difference		7	56*		
	102176				

[†]BIC = $-2\ln L + K\ln(N)$ where L= log-likelihood, K= degrees of freedom, N= sample size

* Difference significant $p < .05$

** Preferred model with lower BIC