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Ethnic minority women's poverty and economic well being

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Executive Summary

This report aims to enrich the study of economic inequality in UK by providing a deeper understanding of the economic well-being of ethnic minority women. A society that aims to be a fair and equal society and "to protect the rights of individuals and advance equality of opportunity for all" (The Equality Act 2010) must implement policies to achieve that goal, policies whose effectiveness depends on our understanding of the nature and mechanisms of creating and perpetuating inequalities. Inequalities based on gender and ethnicity are some of the key concerns of architects of a fair and equal UK. An understanding of these inequalities, however, is incomplete without looking into the opportunities and constraints that ethnic minority women face because these may be different from what White British women or men in their own ethnic groups do. Additionally, as most children live with their mothers, we can learn about the economic position of children and the poverty risks they face by looking at the economic position and poverty risks of women of different ethnic groups, especially women with children. This report constitutes the first comprehensive attempt to establish the evidence base on ethnic minority women's poverty, economic well-being and economic disadvantage.

In this report we used secondary analysis of survey data. We pooled data from the annual cross-sectional Family Resources Survey (FRS) from 2003/04 to 2007/08 and its derived dataset, Households Below Average Income (HBAI) across the years 2003/04 to 2007/08. This is a nationally representative sample survey of private households in UK with an annual target sample size of 24,000. Our analysis covered households from Great Britain only, due to differences in coding ethnic group in Northern Ireland. Our total sample comprised 103,822 adult men, 116,857aduilt women and 69,142 dependent children. We also used the Millennium Cohort Study (MCS) sweeps 1-4 for section 2.8 of the report. This a longitudinal study of a representative sample of around 18,000 children born in 2000-2001 in the UK, who are followed over time.

Research findings

Our findings cover differences in individual and equivalent household income across women of different ethnic groups and between women and men. They cover the extent of income inequality faced by women of different ethnic groups and the income sources which contribute most to that inequality. And they explore the impact of inequality on poverty by using simulations of more equal scenarios as a heuristic device. The findings cover both all women and women living with dependent children. For the latter we also examine variations in material deprivation and in poverty persistence.

Average economic well-being of different ethnic groups and relative position

We focused on the largest ethnic minority groups in the UK – Indian, Pakistani, Bangladeshi, Chinese, Black Caribbean and Black African women and examined their average economic well-being using two income measures: own net income and equivalent net household income. While a woman's own income is an indicator of her financial control and personal resources, equivalent household income (net household income adjusted for family structure and size) is arguably a better indicator of her actual economic position. We examined median as well as mean (average) income since mean income is sensitive to extreme values. We investigated poverty rates of these women and how they compared with poverty rates for men, as poverty is a direct measure of relative economic disadvantage.

Women of all ethnic groups have lower individual incomes than men in the same ethnic groups. Pakistani and Bangladeshi women have the largest gap and Chinese and Black Caribbean women the lowest.

- Chinese, Black Caribbean and Black African women have the highest average individual incomes, followed by White British and Indian women, and Pakistani and Bangladeshi women have the lowest.
- Men and women with children have higher average individual incomes than those without, and more so for White British, Indian and Chinese groups. But this difference is greater for men than women. Exceptions to this pattern are Pakistani men and women and Bangladeshi women. The broad groupings in rank of individual income remain the same for men and women with and without children.
- Women's ranking by individual incomes is different from that by equivalent household incomes, which reflects differences in men's (partners') incomes and number of children across ethnic groups. Chinese, Indian and White British women have the highest average equivalent household incomes, followed by Black African and Black Caribbean women, and Pakistani and Bangladeshi women have the lowest.
- Men and women with children have lower equivalent household incomes than those without, except for Chinese men and women. That is, higher individual incomes do not necessarily translate into greater economic wellbeing overall.
- Almost all women benefit economically from sharing with others (i.e. mean individual income is lower than mean equivalent household income), with Indian, Chinese and White British women benefitting the most. But Black Caribbean and Black African women gain hardly at all. The gain is lower for women with children.
- The general patterns are similar whether we use median or mean incomes, although median incomes are mostly lower than the mean income, since income distributions are heavily skewed to the right, i.e., a large proportion of the group have lower incomes and a few have high incomes. The ranking of Chinese women drops to third place if we look at median individual income instead of mean individual income reflecting very large income dispersion within the group.
- Poverty rates are higher for women in all ethnic groups compared to White British men. Pakistani and Bangladeshi women having the highest poverty rates at around 50 per cent.
- Indian and Chinese women have higher poverty rates than White British women even though they have similar or higher mean incomes, again reflecting a higher level of income dispersion.
- Women with children have higher poverty rates than those without across all ethnic groups. And children's poverty rates are higher than those of men and women from the same ethnic group.
- The average ratio of the individual incomes of women to that of their spouse or partner is higher for Black Caribbean and Black African women than other groups.

Average experience of women relative to each other

The comparison of average economic well-being of one group vis-à-vis another masks a number of different stories within it as the women in each of these ethnic groups are not homogeneous in terms of their socio-economic characteristics, many of which influence their potential income. In this section we take a look at selected characteristics, namely age and family composition. While age composition has implications for individual income, family composition has implications for both own and equivalent household incomes

- White British women are evenly distributed across different age groups while Pakistani, Bangladeshi, Chinese and Black African women are relatively younger. Women with children are, as expected, comparatively younger.
- Income gaps between ethnic groups do not vary much by age except at the extremes and the pattern of mean incomes by age are relatively similar across groups: individual incomes rise steeply to a peak in the middle years and decline sharply after that. Mean household incomes show much less variation across age groups.
- In most ethnic groups, the majority of women live in families without children. The exceptions are Bangladeshi, Black African and Pakistani women.
- A higher proportion of Black African and Black Caribbean women are lone parents, around 18 per cent compared with six per cent of all women for other groups.
- Most Indian, Pakistani, Bangladeshi and Chinese children live with two parents, but only around three quarters of White British children and half of Black Caribbean and Black African children do.
- Women of most ethnic groups who are living in couples live with men of the same ethnic group. The exceptions are Chinese and Black Caribbean women: a substantial proportion of these women who are living in couples live with White British partners.
- The average number of children per household, among households with children, is highest for Pakistani and Bangladeshi women at between 2.3-2.4 children on average, followed by Black African women at around two children. Other households with dependent children have an average of 1.6-1.7 children per household.

Ranges of Income and women's economic inequalities: between and within group comparisons

Average income measures tell us very little about the experience of all women in the group, unless incomes are highly concentrated (or similar). We therefore compare entire distributions of individual and household incomes of men and women in different ethnic groups. We also summarise this information on income dispersion by using four different inequality measures: 90:10 ratio, 75:25 ratio, mean logarithmic deviation and the gini coefficient.

- There is substantial income dispersion in women's income for all groups, especially for Chinese women, though much less for Black Caribbean women.
- The dispersion is higher for individual incomes than equivalent household incomes, because of a high proportion of zero incomes, where women are out of the labour market and therefore have no labour earnings and also have no other sources of income attributable specifically to them.
- Pakistani and Bangladeshi women have very high levels of non-employment (both economic inactivity and unemployment): around 80 per cent, compared with around 30-50 per cent for other women.
- Individual income is less dispersed among women with children while equivalent household income is more dispersed. This is also confirmed by inequality measures.
- Almost all four individual income inequality measures indicate inequality is higher for ethnic minority groups than the White British majority, except for income inequality of Black Caribbeans measured by the gini coefficient.
- By almost all measures, individual income inequality is the lowest for White British, Black Caribbean and Black African groups, followed by Indian, Bangladeshi, Chinese and Pakistani groups, in that order.
- Individual income inequality is higher for women than men.

- Equivalent household income inequality is lower than that for individual income inequality. By almost all measures equivalent household inequality is the lowest for Bangladeshi group, followed by Pakistani, White British and Black Caribbean (the relative ordering for these three groups varies by measure). Higher up on the scale are Black African, Indian and Chinese ethnic groups, in that order.
- Women's within-group income equality is much higher than that between groups.
- Chinese adults with children have the highest level of individual income inequality, White British, Black Caribbean and Black Africans have the lowest level and Pakistani, Bangladeshi and Indian groups a middle level. This holds for almost all inequality measures, although the relative position within these three broad categories changes when we use different inequality measures.

Income composition and the contribution of income sources to inequalities

To get a handle on the differences in incomes between different groups, we investigated the contribution of different sources of income (earnings, benefit receipts, pension income, etc,) to overall income. We also examined the contribution of these different sources of income to income inequalities.

- For most groups of women, around 50 per cent of their individual income derived from either employment or self-employment. Even among Pakistani women, over 40 per cent of individual incomes derive, on average, from these labour earnings while for Bangladeshi women the share was nearer 30 per cent. Self employment income is not a major contributor to women's individual incomes, except for Chinese women. Labour income constitutes a higher proportion of men's income than women's.
- Pension income makes up a substantial share of incomes only for White British women.
- Benefit income makes up a correspondingly large share of incomes where earnings are low, as for Pakistani and Bangladeshi women. It is also a substantial absolute component of income for Black Caribbean and Black African women, who have much higher incomes than Pakistani and Bangladeshi women. For women with children benefit income and tax credits are more important income sources than for those without.
- The sources of household income are largely comparable across groups, with labour income making up between around 65 and 70 per cent of total household income for households with women from most groups, except for Bangladeshi women for whom it comprises around 55 per cent.
- The other important household income sources for most groups are non-pension benefits and tax credits. But pensions are important for White British women and 'other income' for Chinese women.
- Labour income from both earnings and self-employment is the main factor contributing to income inequality for both men and women and for both individual and household incomes, although it contributes slightly more to individual income inequality for men than among women. Compared to all women this is more the case for women with children and compared to all men this is less the case for men with children.
- The share of inequality contributed by self-employment income is disproportionately large compared to its share of average household income.
- Benefit income contributes slightly to individual income inequality, but reduces inequality at the household level, and more so for women with children. It contributes more to individual income inequality for women with children.
- These patterns largely hold across ethnic groups and for men and women.

- Pension income is a more important contributor to individual income inequality for women without children than those with dependent children. The opposite is the case for 'other income'.

Simulations: Effect of elimination of within and between group income inequalities

We asked how much would poverty rates for women in different ethnic groups fall if we were to eliminate within and between group income inequalities. So, we hypothetically assigned the mean and median group income to every woman in their ethnic group (to measure the impact of eliminating within group income inequality) and the mean and median age-adjusted income of White British women to women in other ethnic groups (to measure the impact of eliminating between group income inequality).

- Equalising women's individual income within each group reduces their poverty rates by around 80 per cent for Chinese women, 50-60 per cent for White British, Indian and Black Caribbean women, 30 per cent for Black African women and just 4-6 per cent for Pakistani and Bangladeshi women. The impact is less for men's poverty rates except for Pakistani and Bangladeshi groups. For White British women with children, equalising individual income within group increases poverty rates and reduces it for Chinese, Indian and Black African women with children.
- Equalising women's individual (age-adjusted) income between groups reduces poverty rates substantially for almost all groups, but less so for White British women and very little for Black Caribbean women. The impact on men's poverty rates is largely the same. Equalising women's individual incomes between groups increases the poverty rates for Black Caribbean women with children.
- In general the impact of within and between group individual income equalisation reduces poverty more for all women than women with children.
- Equalising within and between group household equivalent income reduces poverty rates of women to zero for all except Bangladeshi women (for whom it becomes almost 100 per cent). Women with low incomes are very sensitive to the position of the poverty line. The simulation of incomes raises the income for a large number of women and thus raises the poverty line and Bangladeshi women's simulated incomes fall just below this.
- The same patterns are found for women with children. But for men, poverty rates drop substantially but not to near zero in all cases as a result of equalising women's incomes.
- The impact on eliminating women's inequality on children's poverty rates is similar to that on the poverty rates of women with children as most children live in households with women, only 1.2 per cent live in men-only households.
- Equalising to the median instead of mean incomes has a less favourable impact in most cases as median incomes are typically lower than mean incomes.

Deprivation and ethnicity

We used measures of material deprivation which in conjunction with income measures provide a more complete picture of economic disadvantage for these women. These measures may also provide a better picture of longer term effects of poverty.

- Many families with children have almost zero levels of deprivation while few have very high levels.
- Deprivation scores vary across ethnic groups from mean values of 11 among Chinese children to 31 among Bangladeshi children.

- Only 25 per cent of White British and Indian children have scores higher than 22 while 50 per cent or more of Pakistani, Black African and Bangladeshi children have scores above this level, and 25 per cent of children from these groups have scores higher than 45.
- Nearly half of Bangladeshi children have both incomes below 70 per cent of the median and deprivation scores above 25 as compared to only 16-17 per cent of all children. This is also the case for two-fifths of Bangladeshi women, around 30 per cent of Pakistani and Black African women and 20 per cent of Black Caribbean women with children. Rates are lower for men living with children but show a similar pattern.

Poverty persistence among women with children

The analysis up until now has been about relative poverty at a point in time. But the effect of living in poverty for a longer period of time would necessarily have a more detrimental impact on people's lives. In this section, we use a different data source, the Millennium Cohort Study, which allows analysis of poverty persistence for women with children.

- Bangladeshi and Pakistani children have a very high risk of being persistently in poverty. Black Caribbean and Black African children have a lower risk of persistent poverty but higher than that of Indian and White children.
- Indian and White children are less likely to start off poor and have a greater likelihood of exiting poverty.

Conclusions

Diversity between women of different ethnic groups in economic welfare is the main finding of the report.

- Ethnic minority women experience excess poverty, and rates are particularly high for Pakistani and Bangladeshi women, but also high for Black African women and relatively high for Caribbean and Indian women.
- Overall there would appear to be three types of experience. First Indian and White British women have moderate average individual incomes but relatively high average equivalent household incomes. Black Caribbean and Black African women have high individual but low household incomes. Finally, Pakistani and Bangladeshi women have both low individual and household income.
- While the poorest groups (Pakistani and Bangladeshi women) have high average material deprivation scores, Black African women also have particularly high scores.
- Within group income inequality contributes far more to overall income inequality among women than between group income inequalities. Differences in labour income are the main contributory factor in income inequality among women.
- Women have different demographic profiles, but differences in age distributions across groups do not account for differences in poverty.

Contents

Introduction **17**

Section 1: All women **21**

1.1 Average economic well being of different ethnic groups and relative position 21
1.2 Average experience of women relative to each other 34
1.3 Ranges of incomes 41
1.4 Women's economic inequalities: between and within group comparisons 50
1.5 Income composition and the contribution of income sources to inequalities 56
1.6 Simulations: Effect of elimination of within and between group income inequalities on poverty rates 71

Section 2: Women living with dependent children **85**

2.1 Average economic well being of women with children from different ethnic groups and relative position 86
2.2 Average experience of women with children relative to each other 95
2.3 Ranges of incomes of women with children 107
2.4 Women's economic inequalities: between and within group comparisons 117
2.5 Income composition and the contribution of income sources to inequalities among women with children 121
2.6 Simulations: Effect of elimination of within and between group income inequalities on poverty rates among women with children 135
2.7 Deprivation among women in families with children 143
2.8 Poverty persistence among women with young children 153

Section 3: Conclusions and key points **157**

Appendix: data and methods **164**

List of Tables

Table 1:	Sample numbers across ethnic groups	25
Table 2:	Poverty rates across ethnic groups	30
Table 3:	Women's income gaps and pay gaps by ethnic group, compared	32
Table 4:	Measures of individual income inequality, by ethnic group	51
Table 5:	Individual income inequality: within and between ethnic group contribution	52
Table 6:	Individual income inequality by ethnic group: within and between sex contribution	53
Table 7:	Measures of equivalent income inequality, by ethnic group	54
Table 8:	Equivalent household income inequality: within and between ethnic group contribution	55
Table 9:	Contributions of income sources to income inequality among women	66
Table 10:	Contributions income sources to individual income inequality by ethnic group and sex	69
Table 11:	Contributions of income sources to household income inequality by ethnic group: women	70
Table 12:	Poverty transitions of men and women as a result of simulating incomes to eliminate within and between group individual and equivalent household income inequalities among women	80
Table 13:	Estimated coefficients from logistic regressions of being a winner and a loser among all women	82
Table 14:	Sample numbers across ethnic groups of men and women in families with children	86
Table 15:	Mean individual weekly income by sex and ethnic groups for overall sample and the sample with dependent children	87
Table 16:	Mean equivalent household weekly income by sex and ethnic groups for overall sample and the sample with dependent children	88
Table 17:	Poverty rates across ethnic groups in families with dependent children	94
Table 18:	Distribution of living arrangements for children by ethnic group	96
Table 19:	Measures of individual income inequality for families with children, by ethnic group	118
Table 20:	Individual income inequality for families with children: within and between ethnic group contribution	119
Table 21:	Individual income inequality by ethnic group of families with children: within and between sex contribution	119
Table 22:	Measures of equivalent household income inequality for families with children, by ethnic group	120

Table 23:	Equivalent household income inequality for families with children: within and between ethnic group contribution	120
Table 24:	Contributions of income sources to inequality, for families with children	131
Table 25:	Contributions income sources to individual income inequality by ethnic group and sex	133
Table 26:	Contributions of income sources to household income inequality by ethnic group: women	134
Table 27:	Poverty transitions of men and women with children as a result of simulating incomes to eliminate within and between group individual and equivalent household income inequalities among women with children	140
Table 28:	Estimated coefficients from logistic regressions of being a winner and a loser among women with dependent children	142
Table 29:	Mean, 25th 50th and 75th percentiles of deprivation scores among dependent children, by ethnic group	146
Table 30:	Mean deprivation scores and 95 per cent confidence intervals for men women and children, by ethnic group	146
Table 31:	Rates of being both deprived and below 70% median , by ethnic group	147
Table 32:	Deprivation scores among those on a low income for men and women with 95 per cent confidence intervals, by ethnic group	151
Table 33:	Deprivation scores among those above the low income threshold for men and women with 95 per cent confidence intervals, by ethnic group	152
Table A1:	Child poverty rates in the MCS and equivalent rates derived from the FRS by mother's or main carer's ethnic group	169
Table A2:	Child poverty rates in the MCS and equivalent rates derived from the FRS by mother's or main carer's ethnic group	169

List of Figures

Figure 1:	Individual and Equivalent Household Income, by sex and ethnic group, ranked by individual income	26
Figure 2:	Men's and Women's Mean Individual and Equivalent Household Income by ethnic group,ranked by value	27
Figure 3:	Men's and Women's Median Individual and Equivalent Household Income by ethnic group, ranked by value	28
Figure 4:	Women's individual and equivalent household income and poverty rates, compared with majority group men's, by ethnic group	29
Figure 5:	Women's individual and equivalent median household income, compared with majority group men's median income, by ethnic group	30
Figure 6:	Individual income gaps for women, by ethnic group	32
Figure 7:	Women's Age Distribution by ethnic group	35
Figure 8:	Age distributions for men and women by ethnic group	36
Figure 9:	White British, Pakistani and Bangladeshi Women's Mean Individual and Equivalent Household Income by age	37
Figure 10:	White British, Black Caribbean and Black African Women's Mean Individual and Equivalent Household Income by age	37
Figure 11:	White British, Indian and Chinese Women's Mean Individual and Equivalent Household Income by age	38
Figure 12:	Distribution of family types among women, by ethnic group	39
Figure 13:	Distribution of ethnic group of women's spouse or partners by ethnic groups	40
Figure 14:	Women's distribution of individual income, by ethnic group	42
Figure 15:	Distribution of employment status among by ethnic groups	43
Figure 16:	Women's distribution of equivalent household income, by ethnic group	44
Figure 17:	Distribution of women's individual income around the median, by ethnic group	45
Figure 18:	Distribution of women's equivalent income around the median, by ethnic group	46
Figure 19:	The distribution of men's and women's individual income for each ethnic group	47
Figure 20:	The distribution of men's and women's equivalent household income for each ethnic group	48
Figure 21:	Women's individual income as a share of joint individual incomes in couples	49
Figure 22:	Lorenz curves for men's and women's individual income	50

Figure 23: Women's Equivalent Household Income Distribution 54

Figure 24: Composition of individual incomes of women by ethnic group 57

Figure 25: Women's average individual income components by ethnic group 58

Figure 26: White British individual income shares, by sex 59

Figure 27: Indian individual income shares, by sex 60

Figure 28: Pakistani individual income shares, by sex 61

Figure 29: Bangladeshi individual income shares, by sex 62

Figure 30: Chinese individual income shares, by sex 63

Figure 31: Black Caribbean individual income shares, by sex 64

Figure 32: Black African individual income shares, by sex 65

Figure 33: Components of total household income by ethnic group, women 65

Figure 34: Impact of equalisation (to the mean) of women's incomes on women's distribution of equivalent household income 74

Figure 35: Impact of equalisation (to the mean) of women's incomes on women's poverty rates with new poverty line, by ethnic group 75

Figure 36: Impact of equalisation (to the mean) of women's incomes on men's poverty rates with new poverty line, by ethnic group. 77

Figure 37: Impact of equalisation (to the median) of women's incomes on women's poverty rates with new poverty line, by ethnic group 78

Figure 38: Impact of equalisation (to the median) of women's incomes on men's poverty rates with new poverty line, by ethnic group 79

Figure 39: Individual and Equivalent Household Income, by sex and ethnic group, ranked by individual income 88

Figure 40: Men's and Women's Mean Individual and Equivalent Household Income by ethnic group, ranked by value 90

Figure 41: Men's and Women's Median Individual and Equivalent Household Income by ethnic group, ranked by value 91

Figure 42: Individual income gaps for women, by ethnic group 92

Figure 43: Women's individual and equivalent household income and poverty rates, compared with majority group men's, by ethnic group 93

Figure 44: Women's individual and equivalent median household income, compared with majority group men's median income, by ethnic group 94

Figure 45: Age Distribution of Women with children by ethnic group 97

Figure 46: Age distributions for men and women with dependent children, by ethnic group 98

Figure 47: Mean Individual and Equivalent Household Income of White British, Bangladeshi and Pakistani Women with dependent children by age band 99

Figure 48: Mean Individual and Equivalent Household Income of White British, Black Caribbean and Black African Women with dependent children by age 100

Figure 49: Mean Individual and Equivalent Household Income of White British, Indian and Chinese Women with dependent children by age 101

Figure 50: Mean Individual and Equivalent Household Income of White British, Indian and Chinese Women with dependent children by age 102

Figure 51: Distribution of family types among women with dependent children, by ethnic group 103

Figure 52: Average number of children per household, for women with dependent children, by ethnic group 104

Figure 53: Distribution of ethnic group of spouse or partners of women with children, by ethnic groups 105

Figure 54: Distribution of individual income of women with children, by ethnic group 107

Figure 55: Distribution of employment status among by ethnic groups 108

Figure 56: Distribution of individual income of women with children and all women, by ethnic group 109

Figure 57: Distribution of equivalent household income of women with children, by ethnic group 110

Figure 58: Distribution of equivalent household income of women with children and all women, by ethnic group 111

Figure 59: Distribution of women's individual income around the median, by ethnic group 112

Figure 60: Distribution of women's equivalent income around the median, by ethnic group 113

Figure 61: Distribution of individual income of men and women with children for each ethnic group 114

Figure 62: Distribution of equivalent household income of men and women with children for each ethnic group 115

Figure 63: Women's individual income as a share of joint individual incomes in couples 116

Figure 64: Composition of individual incomes of women with children by ethnic group 122

Figure 65: Women's average individual income components by ethnic group 123

Figure 66: Individual income shares of White British men and women with children 124

Figure 67: Individual income shares of Indian men and women with children 125

Figure 68: Individual income shares of Chinese men and women with children 126

Figure 69: Individual income shares of Pakistani men and women with children 127

Figure 70: Individual income shares of Bangladeshi men and women with children 127

Figure 71: Individual income shares of Black Caribbean men and women with children 128

Figure 72: Individual income shares of Black African men and women with children 129

Figure 73: Components of total household income by ethnic group, women 130

Figure 74: Impact of equalisation (to the mean) of women's incomes on poverty rates (based on new poverty lines) of women with children by ethnic group 136

Figure 75: Impact of equalisation (to the mean) of women's incomes on poverty rates (based on new poverty lines) of men with children by ethnic group 136

Figure 76: Impact of equalisation (to the mean) of women's incomes on poverty rates (based on new poverty lines) of children by ethnic group 137

Figure 77: Impact of equalisation (to the median) of women's incomes on poverty rates (based on new poverty lines) of women with children by ethnic group 138

Figure 78: Impact of equalisation (to the median) of women's incomes on poverty rates (based on new poverty lines) of men with children by ethnic group 139

Figure 79: Impact of equalisation (to the median) of women's incomes on poverty rates (based on new poverty lines) of children by ethnic group 139

Figure 80: Distribution of deprivation scores by ethnic group, dependent children 145

Figure 81: Distribution of deprivation scores by ethnic group, women with dependent children 147

Figure 82: Average deprivation score among those poor (equivalent incomes below 60 per cent of median equivalent household income), for those in families with children, by ethnic group and sex 149

Figure 83: Average deprivation score among those not poor (equivalent incomes above 60 per cent of median equivalent household income), for those living with children, by sex and ethnic group 150

Figure 84: Poverty transition patterns among women with young children, by ethnic group 154

Figure 85: Poverty persistence among women by ethnic group, under assumptions of equal exit rates 155

Figure 86: Patterns of poverty over four sweeps of the MCS, by ethnic group 156

Boxes

Box 1:	Measures of Economic Well Being	22
Box 2:	Data Sources	24
Box 3:	Income gaps	31
Box 4:	Components of income	56
Box 5:	Equalising within and between group income inequalities among women	75
Box 6:	Measuring Deprivation	144

Introduction

Ethnic minority women's experience of economic inequality is relevant to our understanding of inequality in the UK and to the demands of social justice for a number of reasons.

First, it is of clear concern that women face higher rates of poverty, and poorer outcomes on a range of economic indicators in general. The Government Equalities Office and the Minister for Women and Inequality have drawn attention to these aggregate differences. But women have very diverse experiences and it is highly relevant therefore to identify those groups of women who may face particularly high levels of relative disadvantage and explore the extent of such inequalities. This sheds light both on the extent to which it is meaningful to think of women as a group overall facing economic inequalities, and the extent to which averages across whole groups may mask or disguise particular inequalities that may or may not be addressed by policies targeted at women as a whole. In brief, if we are concerned about the inequality faced by women, we should be concerned about the inequalities faced by particular groups of women.

Second, ethnic inequalities are a clear policy concern, and are fundamental to establishing a just society and one that fosters opportunity and ability. There are clear indications that those from certain ethnic minority groups have poorer labour market outcomes than the majority, both in terms of employment (Berthoud and Blekesaune 2006) and pay (Longhi and Platt 2008; Platt 2006a). These translate into high levels of poverty for some groups. But rates of poverty are higher than average even for those minority groups that are faring relatively well in the labour market. Poverty and labour market position are thus not equivalent. Published statistics give some indication of the differences in poverty rates at the household level and according to the ethnic groups of the 'head of household' (Department for Work and Pensions 2009), but they are not informative about how poverty varies for individuals within the household or according to own ethnic group. Households are not homogenous, either in composition or in ethnicity, and it is only by examining the circumstances of individual women that we can understand their experience of poverty and how that differs with ethnicity. This report, therefore examines the experience of women and explores differences both in their individual and their household incomes. It analyses the extent to which there are variations between men and women of the same group as well as women of different groups, and thereby advances our understanding of variations in women's economic position according to their ethnic group beyond that of labour market divisions.

Third, women's and children's economic well-being are closely linked. Though a minority of women have dependent children living with them at any given point in time, the vast majority of dependent children live with their mother. Thus the extent to which women are living in poverty and suffer income inequalities has implications for the economic well-being of children. In this report we explore the economic experience of men and women with children specifically, in addition to that of all women, and look at the association between women's economic inequality and child poverty.

Fourth, it is informative to understand the extent of dispersion in economic position across women and across women from particular ethnic groups. The recent National Equality Panel report (Hills et al. 2010) drew attention to the fact that inequalities between groups contribute far less to overall inequality than inequalities within group. They also cited the substantial dispersion in economic outcomes across all the groups considered, making the point that average differences may obscure the

extent to which there are well off and badly off people in all groups. Group specific concerns may not pay sufficient attention to those who are worse off from groups in a better average position, or to the existence of substantial gaps between richer and poorer for those groups that are in a worse average position. Looking at within group inequality refines our understanding of the extent to which low incomes are clustered or conversely how relevant 'average' experience is to the majority of women within a group if incomes are highly dispersed. By examining within group inequality we are able to understand better which women are those who are faring badly and how concentrated they are. We can ascertain the extent to which income inequalities are comparable across women from different ethnic groups, both in terms of dispersion and in terms of the income sources that contribute to inequality. Understanding the extent of within group inequalities, the clustering or dispersion of incomes – and where such clustering occurs, and what income sources are contributing most to inequalities among women as a whole and for the different ethnic groups can have implications for how measures to address inequalities are shaped. For example, should the primary focus be on addressing poverty or reducing earnings inequalities? We investigate these questions for all women by ethnic group, women compared to men, and, in Section 2, focusing specifically on women with children as discussed above.

These different concerns are based in particular understandings of where inequality is constituted. Inequality within groups, inequality between groups and poverty are all conceptually distinct, and yet can be linked by drawing out the ways in which they can be mutually constitutive, or contrasting. These distinctions and points of intersection have been the subject of substantial discussion, in the empirical and theoretical literature on inequality. While the different ways that economic inequality can be formulated are covered in this report, the emphasis is partly a matter of perspective and starting point and therefore requires some clarification. We therefore briefly outline distinctions between ways of thinking about income inequality in relation to ethnic minority women, before briefly discussing the treatment of different approaches to inequality in the report. Detailed consideration of actual measures of inequality is left to the relevant sections of the report itself.

Inequality and unequal incomes and poverty

It is important at this point to differentiate between different forms of inequality. Inequality in general is largely taken to be a summary of the extent to which incomes (or other outcomes) are dispersed. What is the difference between the best off and the worst off and how spread out are incomes in between? We explore this question looking at each group of women in their own right, and comparing their distributions and inequality measures between women of different groups.

But this is not the primary concern of this analysis, which is to explore whether there are systematic differences between groups – on average. This is a slightly different conception of inequality related to between group comparisons rather than the distribution as a whole. As Hills et al. (2010) point out, such "between group" differences would generally be considered 'unfair' regardless of one's take on whether inequalities across the distribution as a whole are acceptable or unacceptable. And from a point of view of policy, even if relatively little attention is given to addressing the overall dispersion of incomes – largely driven by growth at the top – we might still want to equalise, if not the whole distributions of subpopulations, at least the average welfare of individual groups to meet the concerns of justice and fairness (Department for Work and Pensions 2005; HM Government 2009). Hills et al. (2010) emphasised the extent to which there was overlap of incomes and earnings across a range of different groups, even when averages differed. We also consider here the question of overlap and whether there are some groups for whom there is little overlap across the main part of their income distributions. But we do not consider the existence of overlap of women's incomes as a reason for being unconcerned about systematic average differences across groups.

Of course, one way of addressing inequalities which does pay some attention to the distribution even if it cannot influence overall trends in inequality is to concentrate on the bottom of the distribution and ensure that there is not growth of those in poverty, regardless of what is happening at the top of the distribution. While poverty and inequality are conceptually distinct the merging of ideas of opportunity with attempts to address poverty brings them together (Atkinson 1987; Platt 2006b), as the discussions in Opportunity for All also demonstrate (Department for Work and Pensions 2005).

The consideration of differences in poverty across women according to their ethnic group, is, then, highly relevant to these concerns. It enables us to examine the extent to which there is clustering of low incomes, even in the presence of wide income dispersion overall, and how that affects some groups more than others. Moreover, the focus on addressing poverty as key to enabling opportunities means that we should be particularly concerned where there are high rates of poverty, whether or not that corresponds to average differences (or inequalities) in income. For example it is possible to conceive, even if unlikely in practice, of a group that has significantly different average income from the majority but where poverty rates are not significantly higher. Conversely two groups could – in theory – have similar average incomes but differences in poverty rates according to how those incomes are distributed, a pattern we do in fact find when comparing groups of women. The analysis of poverty rates therefore complements our understanding of income inequalities.

The extent to which inequality of women from ethnic minority groups 'matters' can also be understood as a purely empirical question. That is, would eliminating inequality between (or within) ethnic groups, reduce inequality, or poverty, or, more specifically, child poverty, which is clearly a primary focus of government policy? The answer to each question may well be different. Moreover, even if inequality does not 'matter' in these terms it may still be considered to matter as an indicator of the openness of society and the extent to which it fosters equal opportunities and well being more generally. Nevertheless, the empirical question of whether it matters is potentially important, and we therefore address it in this report in two ways. We analytically decompose inequality into that contributed by inequalities within group and that contributed by inequalities between groups. And for inequalities in specific income position (inequality as unfairness between groups), we present some simple counterfactuals, asking what would happen if there were no such inequalities. These counterfactual scenarios thus provide a complement to the descriptive investigation of inequality within groups, inequality between groups, and poverty rates.

While our primary focus is on women, the position of women can often only be clarified relative to that of men. Thus it is frequently relevant to include discussion of the economic position of men from different ethnic groups, the extent to which women's patterns of economic well-being are different or similar to them, and the gaps between men's and women's incomes and poverty rates. Throughout the report, therefore, the discussion provides insights into the position of men and women, both relative to each other and from minority groups compared to the majority. The extent of inequality within group is also broken down by sex, to reveal whether within group inequalities are greater or smaller for men or women and whether there is a consistent pattern across groups.

Turning to the how all these questions are addressed across the report: in Section 1 we consider the position of all women, comparing across groups, exploring inequality within groups and comparing women with men both from the same ethnic group and from the majority. We address questions of the extent to which reducing inequalities both within and between groups would alter patterns of poverty, by representing simulations of reducing inequality. We also touch on key demographic differences between women of different groups, including in age and family status.

Family status is explicitly addressed in section 2, where we focus on women with dependent children. Here we again look at similarities and differences across women in terms of their economic position

and between women and men. We also look at differences in rates of deprivation among families with children. We demonstrate how women's and children's economic well-being is intimately linked. Moreover, minority group children make up a larger proportion of all children than minority group women do of all women, and they make up a yet larger share of children in poverty. Thus the extent to which their economic welfare is tied up with that of women – their mothers, has potentially significant implications for child poverty rates. This leads us on to an explicit consideration of the relationship the economic inequalities faced by women and child poverty. Again we simulate the impact of equalising the situation of women within and across groups, but in this instance we focus on the way in which it would impact on child poverty rates. Moreover in Section 2, we use children as well as women as the unit of analysis. That is we look now only at women in families with children but also the implications for the children of those families. This allows an explicit connection between our discussion of ethnic minority women's economic position and the child poverty agenda. Section 2 also includes analysis of two areas which can only be addressed for families with children, material deprivation and poverty persistence.

1. All Women

1.1 Average economic well being of different ethnic groups and relative position

Economic well-being, that is, not simply avoiding poverty, but having a buffer of resources and financial support – is an important route to opportunity and self-realisation, as well as being a demonstration of the achievement of such opportunity.

If women are systematically worse off than men, that indicates a restriction of opportunity and the consequences of more limited opportunities to accumulate or to insure against loss or interruption of earnings or other forms of financial support; and such differences conflict with the espoused ideal of meritocratic society. If there are particular groups of women, who are especially disadvantaged then that suggests that approaches to gender inequality need to explicitly consider the situation of those minority group women. The tendency to neglect the economic position of minority group women within both discussions of ethnic inequalities and discussion of gender inequalities has been regularly highlighted in the past, and the ability to examine such 'intersections' (Brah and Phoenix 2004; Phoenix and Pattynama 2006) was a part of the rationale of bringing together inequalities areas in the creation of the EHRC ; and the lead up period to the transition to the EHRC did, indeed, produce illuminating studies of the gender / ethnicity interface (Botcherby 2006; Equal Opportunities Commission 2007; Platt 2006a).

However, adequately addressing such intersections in an ongoing fashion continues to prove remarkably elusive, especially when it comes to the treatment of economic outcomes. This is partly an obvious result of the complexity of addressing this particular "intersection". Outcomes across ethnic groups are diverse and there is no single majority-minority 'story'. Trying to find common ground between the diverse experience of minority groups across different areas such as employment, income, education and so on is difficult. But the elusiveness of capturing the ethnicity/ gender interface is partly, we would argue, a consequence of a particular vision of what matters, a vision which tends to place an emphasis on labour market outcomes for ethnic minority groups, and requires especial justification for addressing the poverty of women. Such a vision also becomes reinforcing: what we do not know about does not concern us. It is only by specifically setting out to reveal the extent of economic inequalities among and between women that the evidence base for reconfiguring that vision can begin to be developed.

In commissioning this report the GEO has recognised the importance of establishing evidence on economic inequalities at the intersection on ethnicity and gender; and it is only from this point that the further questions of the costs of particular inequalities and the case for addressing them can be further debated and answers developed. We therefore welcome the opportunity uniquely to contribute this first stage towards identifying and understanding the consequences of differential economic welfare across women of different ethnic groups.

Box 1: Measures of Economic Well Being

Individual income

This refers to all sources of income that are payable or due directly to an individual. It is a net measure so it provides a measure of income after tax and other deductions. Income sources include earnings, self-employment income, benefit income, pension income, investment income and other sources of income. Individual income theoretically provides a measure of income over which the individual has control (even if they choose to spend it on others), and makes no assumptions about the extent to which they will share it or benefit from the shared income of others. For a single person living on their own their net individual income is the same as their net household income. This individual income measure can be used, therefore, to evaluate economic welfare on the (extreme) assumption that people live independently even when sharing a household and that they have access only to those resources that they directly receive, and that they benefit from no economies of scale in joint living. Of course this assumption is somewhat implausible, particular in the case of those who receive no income. But it addresses the concerns that have been raised about equivalent household income that it makes overly optimistic assumptions about equal sharing. In practice, the overall amount or proportion of income brought into a household tends to have some bearing on the control over the income, and thus an individual income measure – and individual income as a proportion of household income – can provide some insight into levels of financial independence or control. This may be particularly important in household with children, since there has been a powerful and long standing argument (going back to Eleanor Rathbone and the introduction of Family Allowances) that children's welfare is better served by giving money to the mother than by giving the same amount of money to the father.

Equivalent household income

If individual income provides some insights into individual economic welfare and control over resources, the most commonly used and widely accepted measure of economic position is that of equivalent (or equivalised) household income. This measure is constructed by pooling all the income sources for the household (net of tax and contributions) and adjusting them by a scale, the equivalence scale, that takes account both of the number of people in the household, whether or not they are children or adults and some assumed economies of scale derived from living together. The process of equivalising assumes, quite reasonably, that a given amount of total household income will go further if it is for one person living on their own than if it is shared by a family of four. But it does not assume that it will go twice as far for one person as for a couple, since the couple benefit from economies of scale. That is, it does not cost twice as much for rent, heat, food, kitchen goods etc. for two people as for one. The same equivalised income is allocated to every member of the household. Income can be equivalised normalising to one person as is most common outside the UK, or to a couple, as is done in the standard UK statistics, Households Below Average Income. Normalising to one person means that a single person's individual and equivalent income are the same, and that the total household incomes of all other household types are adjusted downwards to reflect the additional demands made on the income in every type of multi-person household. This is the approach used here. Normalising to a couple uses the couple as a reference point, with the incomes of all others adjusted up or down depending on whether they contain more or fewer than the scale for two adults in total. For example the income of a family of one adult and one child or of a single person would be adjusted upwards to reflect that the same income goes further for them than it would for a couple, while that of a couple and two children would be adjusted downwards to provide a lower equivalent income for each member of the household.

Poverty

Poverty is typically measured relative to the equivalent income distribution. A threshold is calculated at 60 per cent of the median – or midpoint – of everyone's equivalent income. Those whose equivalent income falls below this threshold are regarded as poor. While the composition of those poor is sensitive to the equivalence scale used in calculating incomes and the consequent distribution of equivalent incomes, it is not sensitive to whether incomes are equivalised to a single person or a couple. Poverty risks are calculated as the proportion of any group who fall below the poverty threshold.

Deprivation

Deprivation measures can be considered as indicators of actual standard of living, while income and income poverty are indicative of command over resources and thereby implicitly linked to standard of living. Deprivation indicators are therefore used in poverty statistics to complement income measures of poverty by providing additional information about whether there appears to be a low standard of living among poor households. Deprivation measures have adult and child elements and therefore only apply to families with children. Deprivation indicators are transformed into scores which are weighted to take account of how common or uncommon it is to be deprived on the particular measure, and are then normalised to 1 where 1= total deprivation and 0= not deprived on any of the suite of measures. It is therefore possible to analyse the distribution of deprivation measures across subpopulations of families with children, such as different ethnic groups.

Poverty persistence

It is widely recognised that poverty matters more if it is long term than if it is transient, in its impact on living standards and on future outcomes of those poor, especially children. The monitoring of poverty therefore includes a measure of persistence related to the number of years (three years out of four) at which household members have equivalent incomes below the poverty threshold. The data used for measuring persistent poverty in official low income and child poverty statistics do not have large enough sample sizes to measure persistence across ethnic groups. However, for families with young children, it is possible to use the Millennium Cohort Study to look at mothers' and children's persistence in poverty across different waves of the survey by ethnic group. But due to data differences we do not attempt to replicate the official measure of poverty persistence.

We start by determining the average levels of resources available to women from different ethnic groups. To do this, we operationalise economic well being or 'income' and poverty in different ways. This enables us to give a rounded picture of resources available to women and on the basis of different assumptions about how incomes are shared or controlled. The main measures we use are individual income, equivalent household income and poverty risks (or proportions in poverty). In section 2, we also look at poverty persistence and deprivation. See Box 1 for a discussion of measures.

For most of the measures we use the Family Resources Survey and its derived data set Households Below Average Income in order to evaluate economic well being. These are, however, cross-sectional surveys; so for poverty persistence we use the Millennium Cohort Study. The particular features of the data sources used are briefly described in Box 2. More details on the data and the construction of the data sets for analysis, as well as data acknowledgments, and a brief discussion of methods, can be found in the Appendix to the report.

Box 2: Data Sources

Family Resources Survey (FRS)

The Family Resources Survey contains detailed information on income sources and amounts as well as on housing and related costs and additional individual and household characteristics such as housing tenure; consumer durables; vehicles; occupation and employment; health; and so on. The survey has information on ethnic group at the individual level, which allows us to investigate the economic experience of women and men separately by their own ethnic group (compared to the standard analyses reported by ethnicity of head of household). Given its purpose in supporting benefit forecasting and monitoring of the social security system, the survey is particularly well-suited to analysis of economic well being.

Given consistency in variables across years for the majority of variables, different years of the survey can be pooled to increase sample sizes. This report draws on five years of data: 2003/04-2007/08 in order to provide sufficient numbers of women and subgroups of women to analyse according to the different measures. For the deprivation analysis, we pool waves of data since these measures were first included, that is the four years from 2004/5-2007/8 are pooled.

Weights to take account of sampling design and non-response and to gross up to the population are included and are employed in all analyses. All pooled data are deflated to a single year for consistency of values across the years.

Households Below Average Income (HBAI)

Households Below Average Income are data sets that are derived from the Family Resources Survey and that contain detailed net income variables, equivalent incomes before housing costs (BHC) and after housing costs (AHC) and low income measures. They contain specific weights to gross up to the whole population that are adjusted to take account of top incomes not captured in the survey, as well as to the population of dependent children and for households and benefit units. These weights are used in the calculation (and our recalculation) of poverty thresholds and low income indicator variables. HBAI data from the same years as the FRS data sets are used in this research.

Millennium Cohort Study (MCS)

The Millennium Cohort Study is a study of a sample of children born in 2000-2001, who are followed over time as they grow up. The sample population for the study was drawn from all live births in the UK over 12 months from 1 September 2000 in England & Wales and 1 December 2000 in Scotland & Northern Ireland. The sample was selected from a random sample of electoral wards, disproportionately stratified to ensure adequate representation of all four UK countries, deprived areas and areas with high concentrations of Black and Asian families. This latter aspect makes it valuable for comparisons across ethnic groups, while the fact that it contains income information, and has repeat measures over time, makes it suitable for analysis of poverty persistence – for the particular group of women with children of this age. Weights to adjust for survey design and non response are included and applied in all analyses.

We start by describing the overall pattern of average income for both men and women across seven ethnic groups, looking at both individual income and equivalent household income and what they indicate about the economic well being of women from different ethnic groups. We have selected the main seven ethnic groups which can be considered internally coherent and where sample sizes are

sufficient to enable analysis. That is we exclude the various, heterogeneous 'Other' categories; and the 'mixed groups' when combined (as they need to be in order to be harmonised across England & Wales and Scotland) are not a meaningful category either. This leaves use with White British, Indian, Pakistani, Bangladeshi, Chinese, Black Caribbean and Black African women and men. Table 1 illustrates the (unweighted) sample sizes for the whole group and for men, women and children, from the pooled data that we use in the following analyses.

Table 1: Sample numbers across ethnic groups

	All Adults	Women	Men	Ratio of women to men	Children
White British	196542	103851	92691	1.1	58550
Indian	3767	1925	1842	1.0	1470
Pakistani	2260	1155	1105	1.0	1640
Bangladeshi	706	372	334	1.1	605
Chinese	732	418	314	1.3	207
Black Caribbean	2009	1142	867	1.2	938
Black African	1836	1029	807	1.1	1353

Source: *Family Resources Survey* and *Households Below Average Income 2003/04–2007/08*.

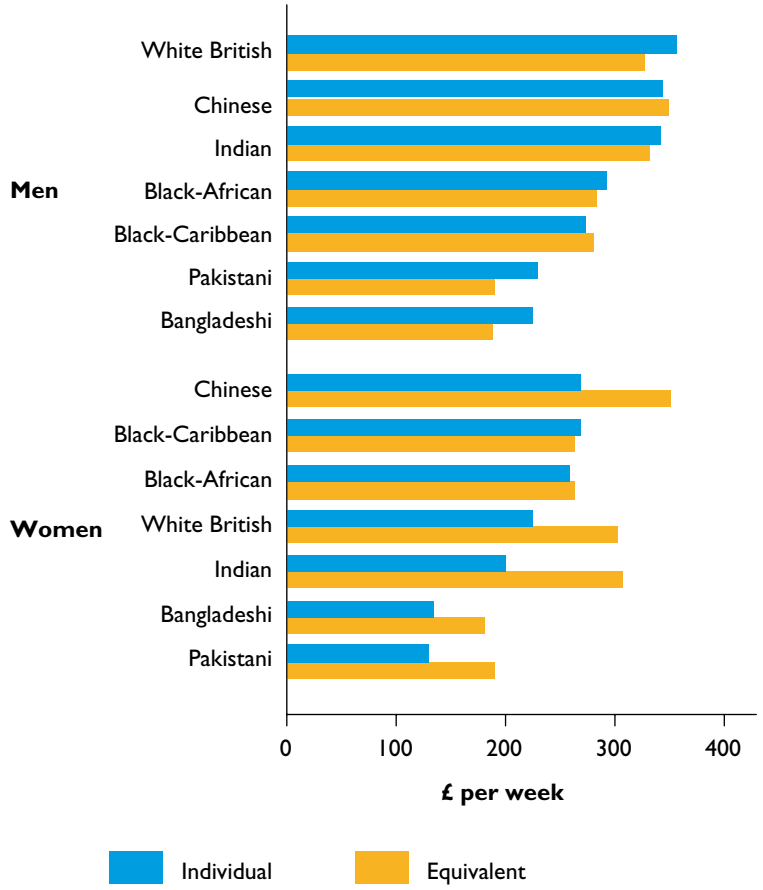
Note: Unweighted counts; but the ratio of women to men is based on weighted counts. Children have been assigned the same ethnic group as that of the head of household and 3.1% of adult women and 1.6% of adult men live in households where their ethnic group is different from that of the head of the household.

Figure 1 shows position of men and women in terms of both equivalent and individual income according to ethnic group. Unlike HBAI, which normalises equivalent income to that which a couple would received (See Box 1, above), we have normalised to that which an individual would expect to benefit from *given their household circumstances and assumptions about within household sharing and economies of scale*. That is, where a single adult is living on their own their equivalent income will be their original net income.

Figure 1 shows that men typically 'lose' by living with others – on average and assuming that income sharing occurs evenly across the household. That is, their individual incomes are typically higher on average than their household incomes, since, when living in a household of more than one, though they benefit from the incomes of other members, they also have to contribute to the support of others, such as children, and / or share with women with lower incomes. The benefits of economies of scale achieved through household sharing do not balance out these 'losses' through sharing, even though in most cases the difference is not large. The exception however, is Black Caribbean and Chinese men. In these two cases, though the difference is marginal, they would appear to have higher incomes per person on a household basis than on an individual basis.

What is perhaps most striking, however, is not the differences between income measures, but the differences between groups. Whichever measure is used, White British, Chinese, and Indian men have the highest average incomes and Pakistani and Bangladeshi men the lowest, with Black Caribbean and Black African men somewhere in the middle.

Figure 1: Individual and Equivalent Household Income, by sex and ethnic group, ranked by individual income

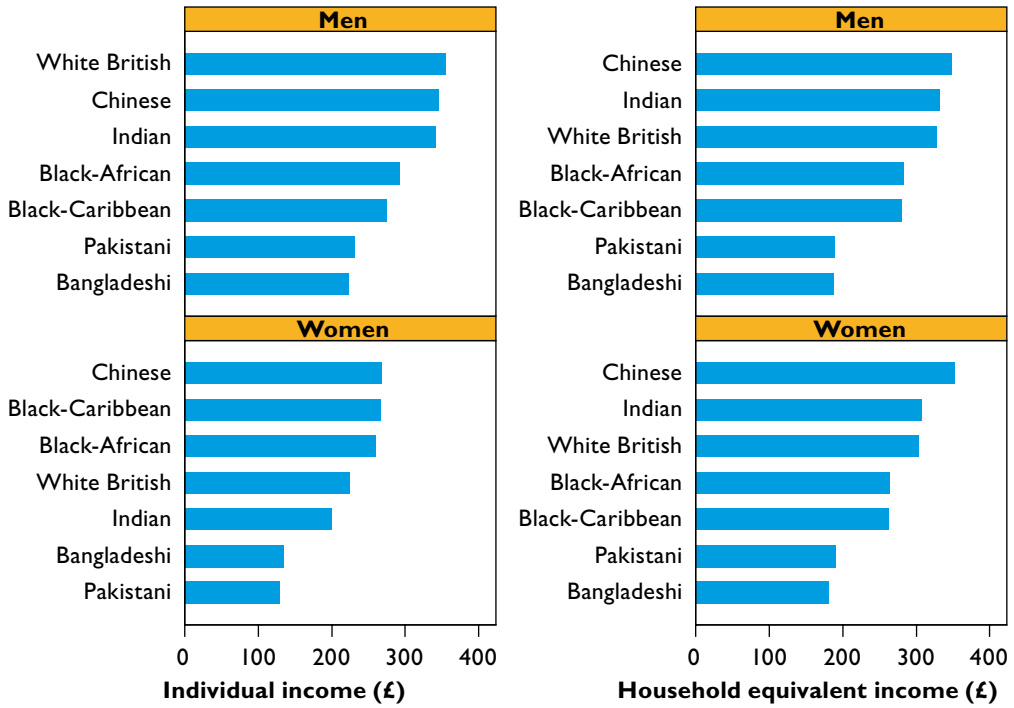


Source: *Family Resources Survey and Households Below Average Income 2003/04–2007/08*.
Note: Equivalent household income has been normalised to one person.

When we turn to women we can see that the pattern is somewhat different. Here in most cases women benefit economically from sharing with others, with the potential gains from household sharing most evident for White British, Indian and Chinese women. These are all groups where men have relatively high average earnings. Of course, women will not necessarily be sharing with men and with men of the same group, but this tends to be the case: the majority of adult White British and Indian women live with a partner of the same ethnic group as themselves, and nearly half of Chinese women do (most of the rest are unpartnered given their youthful age distribution) (Platt 2009). However, Black African and Black Caribbean women's individual incomes and their income following household sharing show very little differences on average. Here any average gains from sharing are balanced out by the additional demands on their incomes of other household members. For example, living with children will reduce household income relative to individual income, even if for those living with other adult earners the pooling is likely to increase their equivalent income relative to their individual income. Once again, however, the most striking differences are to be found not within but between groups, with the low incomes, on either measure, of Pakistani and Bangladeshi women standing out.

These different impressions we receive of women's economic position and inequalities between them becomes clearer if we separate out the two measures of individual and equivalent household income and rank men and women across these two measures, as is shown in Figure 2.

Figure 2: Men's and Women's Mean Individual and Equivalent Household Income by ethnic group, ranked by value



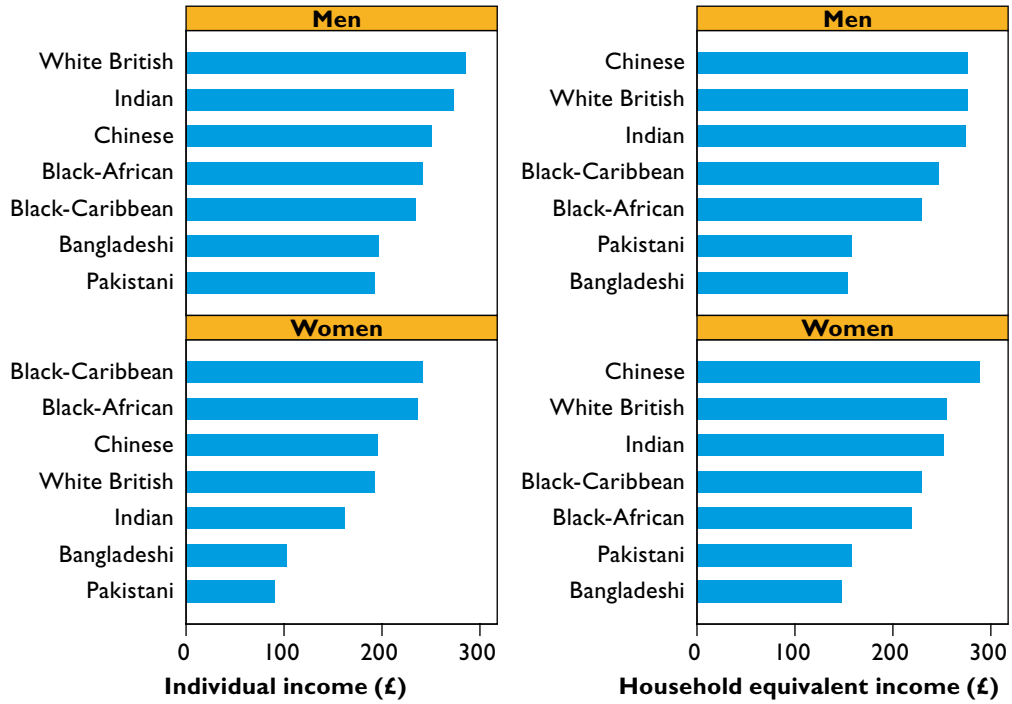
Source: *Family Resources Survey and Households Below Average Income 2003/04–2007/08.*
Note: Equivalent household income has been normalised to one person.

Figure 2 shows that for men the ranking of the top three shifts between individual and household income, but overall there is little difference across the two measures, with a similar pattern of White British, Chinese and Indian men faring best on either measure, with Black Caribbean and Black African men at a mid-point and Pakistani and Bangladeshi men having the lowest individual and household income. For women, however, the choice of measure matters a bit more. Chinese women are in the strongest position and Pakistani and Bangladeshi women have the lowest average incomes across either measure, but in the middle an individual income measure presents Black Caribbean and Black African women as performing more strongly than Indian and White British women, whereas equivalent household income reverses this picture. As noted, the difference between individual and household equivalent income provides us with the ability to oppose different assumptions about sharing with each other. It would appear then that if we are sceptical about household sharing assumptions then the position of Black Caribbean and Black African women in terms of control over resources is quite strong (and, incidentally remarkably similar to the average individual incomes of men from these same groups). However, to the extent that they are living with children, their individual income may not be in any real sense fully their own to control. Nevertheless, their bargaining position in terms of average contribution to the household economy would appear to be strong, whereas Indian and White British women may enjoy a better standard of living when we take account of their household circumstances but may have less benefit from the household income than would appear, because they make a lower average individual contribution and may therefore have less control over resources.

If we use a measure of median rather than mean income, the basic pattern remains very similar. There are shifts in the exact position in the rank, but only between those that are relatively close, such as Black African and Black Caribbean men or between Pakistani and Bangladeshi men (see Figure 3). The one group that does potentially seem to be influenced in relation to its rank at least in terms of

whether the median or mean is used are Chinese women. Their individual incomes do not look as favourable when the median is used. This is doubtless to do with the relatively wide individual income dispersion in this group (and relatively small sample sizes), with some high individual incomes pulling up the mean. We return to this question of income dispersion, which seems particularly striking in the case of Chinese women in section 1.3.

Figure 3: Men's and Women's Median Individual and Equivalent Household Income by ethnic group, ranked by value

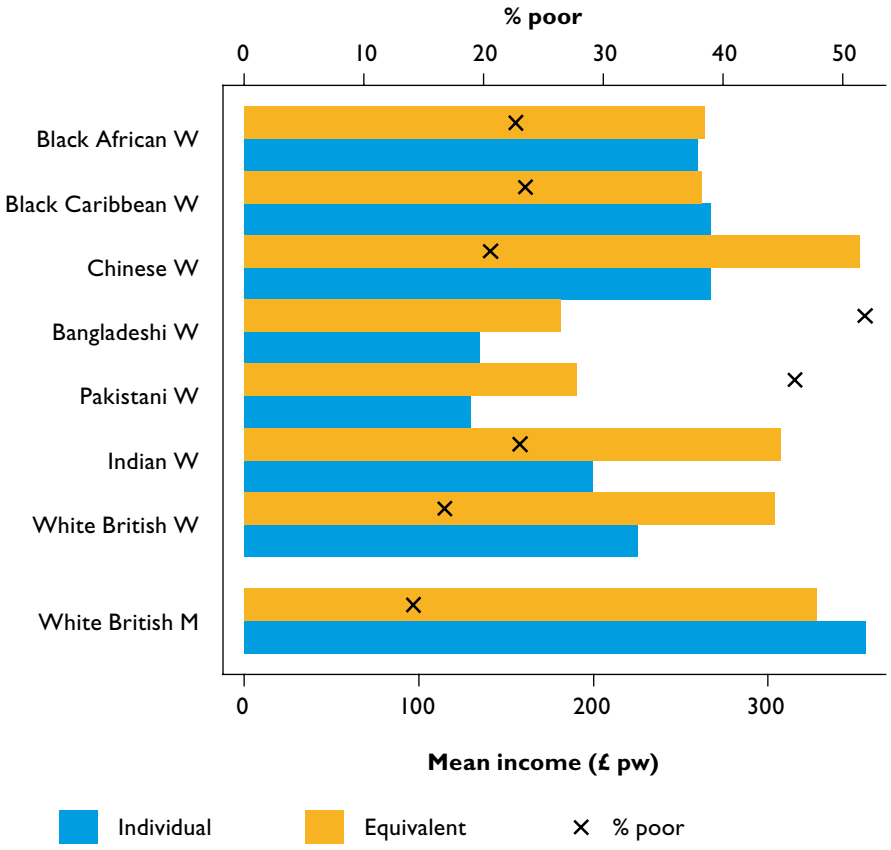


Source: *Family Resources Survey and Households Below Average Income 2003/04–2007/08.*
Note: Equivalent household income has been normalised to one person.

We follow up women's economic position in further in Figure 4, where we add to the existing measures poverty rates. Though the differences in average income are indicative of differences in poverty rates, they cannot clearly show us the extent of clustering below the poverty threshold since we do not know how the incomes vary around the average. Therefore in Figure 4, we concentrate just on women and show simultaneously individual income, equivalent household income and poverty rates. We also use as a reference point the average for majority group men.

Figure 4 shows that poverty rates are generally speaking inversely related to average incomes as we might expect. But poverty rates cannot simply be read off from average incomes (or even median incomes) since it depends on how many and how far people are concentrated below the overall average. We see for example, that Indian women's poverty rates are rather higher than White British women's even though their average incomes are very similar. And Chinese women's poverty rates are also slightly higher than White British women's even with higher average equivalent income. This implies that there is greater income polarisation across these two minority groups than among the White British, with a higher proportion concentrated at the lower end as well as some who are better off. The issue of income dispersion and polarisation is one we discuss further in Section 1.3, below.

Figure 4: Women's individual and equivalent household income and poverty rates, compared with majority group men's, by ethnic group

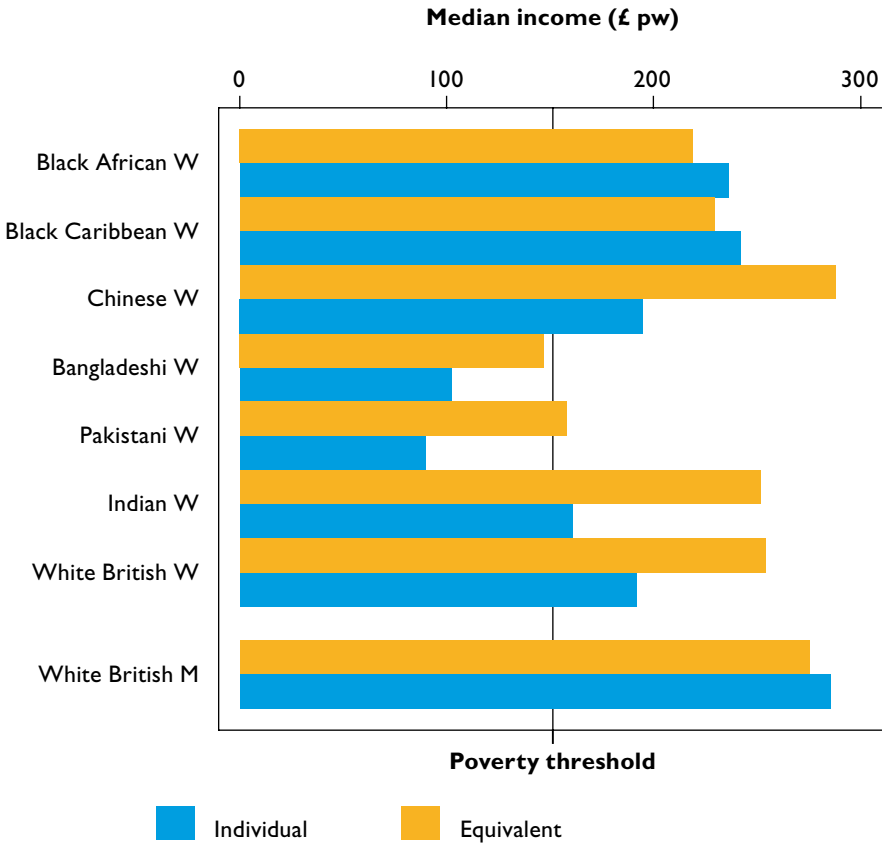


Source: *Family Resources Survey and Households Below Average Income 2003/04–2007/08.*
Note: Equivalent household income has been normalised to one person.

Moreover, we see that the poverty rate of White majority British men is lower than for all groups of women, even though their average household incomes are similar to those of White British and Indian women and even slightly lower than those of Chinese women. We see the extraordinarily high rates of poverty among Pakistani and Bangladeshi women. The low average household incomes do, indeed, translate into high poverty rates that, at above 40 and 50 per cent respectively, dwarf the rates for women from other minority groups and are three or more times the rates for White British men. Pakistani and Bangladeshi women's mean incomes lie above the poverty line, but are nevertheless relatively close to it, and it is clear that the median incomes are just either side of the poverty threshold. This can be seen in Figure 5, which illustrates the women's median rather than mean individual and equivalent income, and shows how the poverty threshold relates to the median equivalent income of each group.

Figure 5 shows a very similar picture for median income as for mean incomes in Figure 3. It also demonstrates that while the median income for most groups is well above the poverty threshold, for Bangladeshi and Pakistani women their median income is round about the poverty threshold; that is, at about 60 per cent of the overall median.

Figure 5: Women's individual and equivalent median household income, compared with majority group men's median income, by ethnic group



Source: *Family Resources Survey and Households Below Average Income 2003/04–2007/08.*
Note: Equivalent household income has been normalised to one person.

We see then that poverty rates among minority group women are high, and do not follow in any exact fashion from their average income positions. In Table 2, for completeness, we set these poverty rates of women in the context of overall group poverty rates and those for men and children.

Table 2 Poverty rates across ethnic groups

	All adults	Women	Men	Children
White British	15.5%	16.7%	14.1%	19.4%
Indian	21.9%	23.0%	20.8%	27.4%
Pakistani	45.9%	46.0%	45.7%	54.6%
Bangladeshi	50.1%	51.9%	48.2%	64.2%
Chinese	20.5%	20.6%	20.5%	31.3%
Black Caribbean	22.2%	23.5%	20.7%	25.6%
Black African	23.9%	22.7%	25.1%	34.7%

Source: *Family Resources Survey* and *Households Below Average Income 2003/04–2007/08.*

We can see that for White British, Indian, Bangladeshi and Black Caribbean women, poverty rates are higher than they are for men of the same group. This is not the case for Pakistani Chinese or Black

African women. Women's poverty rates are in no cases as high as child poverty rates for the same group. But all minority group women have poverty rates that are higher than White British women's and that are higher than the child poverty rate for White British children.

We return to a consideration of poverty differences in more detail in section 1.6 and in Section 2, below. Meanwhile, another way we can illustrate the average relative position of women from different ethnic groups compared to majority group men is to draw on the construction of 'pay gaps', and present these as 'income gaps'. That is, we can consider the extent to which women face 'income gaps' relative to the reference group of majority category men. Box 3 explains the concept of pay gaps and how they are extended here to 'income gaps'.

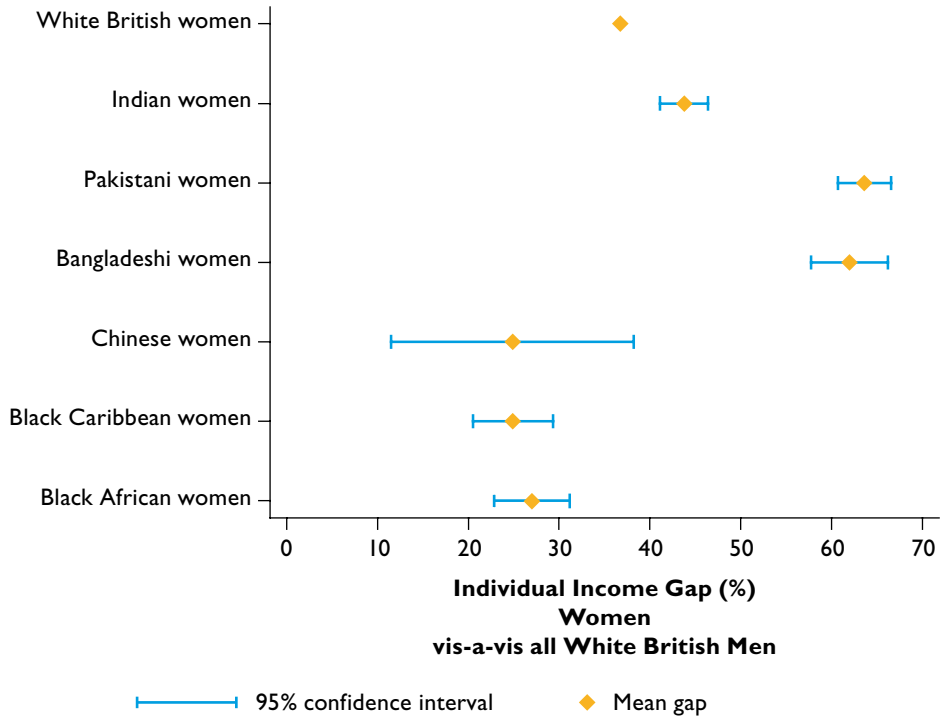
Box 3: Income gaps

Pay gaps are a widely utilised and accepted means for summarising the position of women's pay relative to men's pay. They are calculated as the percentage difference between men's and women's pay. They can be extended to cover other groups such as ethnic minorities or disabled people relative to a reference category (e.g. ethnic majority or non-disabled people). When looking at gender and ethnicity together it makes sense to compare each sex-ethnic group to the majority group of men (Longhi and Platt 2008). It is also possible to extend pay gaps to summarise not just differences in pay but differences in income and again to look at the percentage difference between the minority and the majority reference group.

This is the approach used here. We construct the percentage difference in average income for women of different ethnic groups relative to majority group men. Given that, unlike for women's pay gaps overall, we can be dealing with relatively small samples when focusing on minority group women, it is also possible – and helpful – to calculate confidence intervals for these income gaps. This means we can ascertain the extent to which we can be confident that the income gaps represent real differences in average income, rather than being an artefact of sampling variation.

Figure 6 illustrates income gaps, for individual incomes, along with their 95 per cent confidence intervals. It shows the size of differences in individual incomes with income gaps of approaching 70 per cent for Bangladeshi and Pakistani women. That is, their individual incomes, on average are not much over 30 per cent of White British men's. The confidence intervals also show that their income gaps mark them out from the average individual incomes of women from all other groups. But the gaps for women of all groups are large, compared to individual incomes of majority group men. Even those with the lowest gaps, significantly lower than those for majority group women, that is Black African and Black Caribbean women, face gaps of 20-30 per cent relative to majority group men, even when we pay attention to the potential impact of sampling variation.

Figure 6: Individual income gaps for women, by ethnic group



Source: *Family Resources Survey* and *Households Below Average Income 2003/04–2007/08.*

It is instructive to compare these income gaps with pay gaps, which are 16-17 per cent for women in full-time employment overall.[1] These income gaps therefore give a much stronger impression of women's individual economic disadvantage vis-à-vis majority group men. They also give a somewhat different picture of how different groups fare relative to each other. Table 3 summarises the sizes of the full-time pay gaps illustrated in Longhi and Platt (2008) and compares them with the income gaps shown here, and also shows the ranking between groups according to each.

Table 3: Women's income gaps and pay gaps by ethnic group, compared

	Net income gap	Pay gap (full time)	Rank by pay gap	Rank by individual income
Chinese	24.9	9.4	1	1
Black Caribbean	24.9	13.9	2	1
Black African	27.0	20.9	6	3
White British	36.7	16.2	4	4
Indian	43.8	14.3	3	5
Bangladeshi	62.0	17	5	6
Pakistani	63.6	25.7	7	7

Sources: Column 1: *Family Resources Survey and Households Below Average Income 2003/04–2007/08.* Column 2: adapted from Longhi and Platt (2009), Table 3.1.

[1] Recent 'official' estimates of the gap as measured using ASHE are around 17 per cent, but from recent estimates using pooled Labour Force Survey and broken down by ethnic group, the overall gap came out at 16 per cent (see the discussion in Longhi and Platt 2008).

Table 3 shows not only the difference in income compared to pay gaps, but also that Black African women appear relatively less disadvantaged when focusing on individual income, while for Indian women the reverse is true, their income disadvantage appears much greater than their pay disadvantage.

Of course, part of this is an artefact of the focus on hourly full-time pay rates in headline pay gaps figures, whereas individual incomes will also be influenced by rates of pay in part-time work and by numbers of hours worked per week. (See the discussion in Platt (2006) and in Hills et al. (2010) of breakdowns of weekly earnings.) For example, Platt (2006) found that Black Caribbean and Indian women had weekly pay gaps of around 18 per cent, with Black African and White British women having weekly pay gaps of around 24 per cent and Pakistani and Bangladeshi women facing weekly pay gaps of 33-35 per cent. But it also stems from the fact that pay gaps only provide information about those in employment and not about all women; and emphasises the need to consider a range of measures if ethnic minority women's financial position is to be fully understood.

Summary

This first section has provided an overview of average economic position according to three key indicators: individual income, equivalent household income and poverty. Individual income can tell us about control over resources, while equivalent household income may be a better measure of overall economic well-being, as long as we accept the sharing assumptions implied by it. This first section used both median income and mean income to illustrate the position of women in terms of individual and equivalent income. Women of all groups have lower individual incomes than men of the same group, but differences in economic well-being between women of different ethnic groups tend to be greater than those between women and men of the same ethnic groups. This is particularly pronounced when we look at equivalent household income.

In most cases, women's economic position is stronger according to a measure based on equivalent household income rather than individual income. The potential gains from household sharing are most evident for White British, Indian and Chinese women. However, Black African and Black Caribbean women's average individual and average equivalent household incomes are remarkably similar.

Looking at women's position when ranked by either individual or equivalent household income, Chinese women are in the strongest position and Pakistani and Bangladeshi women have the lowest average incomes across either measure. Between these extremes, Black Caribbean and Black African women have higher incomes on an individual measure than Indian or White British women whereas Indian and White British women have higher equivalent household incomes. Using median rather than mean income makes little difference to this pattern.

Poverty rates are higher for all minority group women compared to White British women. They are particularly high for Pakistani and Bangladeshi women. For White British, Indian, Bangladeshi and Black Caribbean women, poverty rates are higher than they are for men of the same group. This is not the case for Pakistani Chinese or Black African women. Women's poverty rates are in no cases as high as child poverty rates for the same group. But all minority group women have poverty rates that are higher than the rate for White British children.

Subsequent sub-sections take up issues of inequality within groups, and issues of distribution of incomes, as well as exploring the composition of income and trying to shed some light across how these very different income positions arise. Section 1.2 picks up the question of diversity between women on a range of factors, and how it might make sense to consider their incomes in relation to variation in personal circumstances. This is treated in detail in Section 2, where we focus just

on women with children, but section 1.2 addresses the critical issue of age variation, since age and income are linked by life cycle issues and transitions (Dale et al. 2006; Jenkins 2009); and the different ethnic groups have very different proportions at particular phases of the lifecycle.

1.2 Average experience of women relative to each other

The comparison of average economic well-being of one group vis-à-vis another masks a number of different stories, since the women in each of these ethnic groups are not homogeneous in terms of their socio-economic characteristics, many of which can influence their income. These differences are important for a consideration of social justice, since they highlight the extent to which situations and outcomes are shaped by these characteristics associated with particular ethnic groups. A better understanding of the underlying factors and processes that determine these between group inequalities in women's incomes is central to framing policies to address these inequalities. In this section we look at age and family composition in particular.

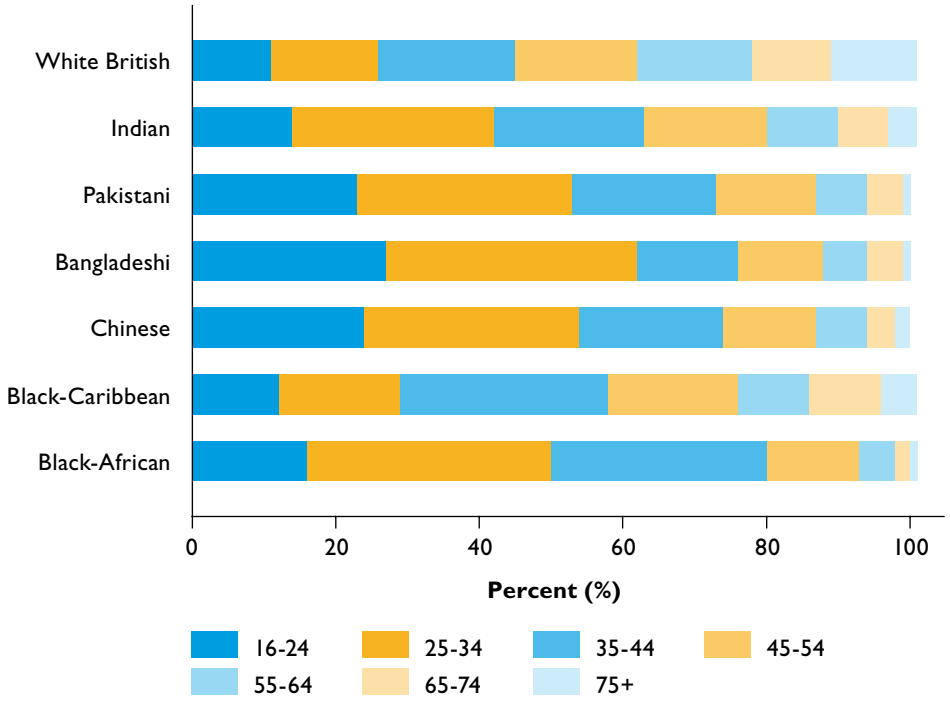
Women at different stages of life have very different earnings potential and likelihood of interruption of earnings (Hills et al. 2010), while among those post working age, women tend to have lower pension entitlements than men, and it is well known that it is the oldest women who are worst off among those of pension age (Ginn 2003). While income inequalities across the life course are of interest in their own right, they are not an explicit concern of this study. Instead we are interested to see how women of different ethnic groups experiencing different age-related or lifestage related circumstances (in particular the presence of dependent children) fare similarly or differently in terms of economic well-being. Given known demographic differences among women from different ethnic groups (Platt 2009), it is more illuminating to look at women from the different groups across the age range, so that we can see if the differences observed in the previous section are a function of demographic variation across the groups, or, conversely, whether there are differences in economic well being between groups at common stages of the life course, and across measures.

It should be noted though that these age profiles of incomes are not necessarily indicative of the income trajectories of the different groups, since different cohorts may have changing patterns of earning and income (See Jenkins (2009) for a comparison of cross-sectional income and individual lifecourse trajectories). It is also quite conceivable that such lifecourse trajectories will change faster for minorities than the majority. For example, changes across generations in particular between migrant and non-migrant generations tend to be more dramatic than for similar cohorts without migrant backgrounds (Dale et al. 2006; Georgiadis and Manning forthcoming 2010; Platt 2005), and within generation changes have also been noted, as well the striking development of immigrant women's earnings profiles in the period following migration (Dickens and McKnight 2008).

With these caveats in mind, then, we turn to explore the differences in demographic profile among women according to ethnic group, before exploring their contribution to average earnings patterns.

Figure 7 illustrates the age composition of women in different ethnic groups. This sets the scene for the discussion of age-income profiles for these groups. Figure 6 reveals some striking differences in these age compositions. White British women are evenly distributed across the different age groups. But Pakistani, Bangladeshi, Chinese and Black African women are relatively young, related to their group-specific migration and fertility histories. Around 50 per cent of adult women from each of these groups are below the age of 35. Indian and Black Caribbean groups have a somewhat older age profile, with around 40 per cent over the age of 45, though still more youthful than the White British, where around 40 per cent are over the age of 55.

Figure 7: Women's Age Distribution by ethnic group



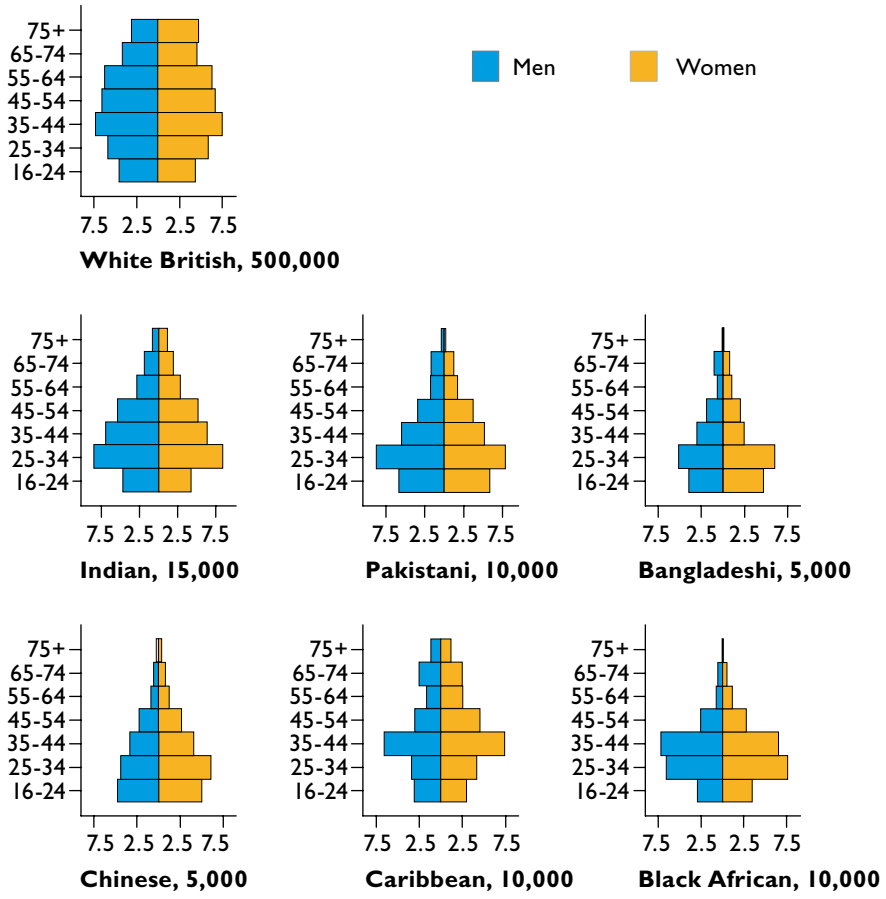
Source: *Family Resources Survey* and *Households Below Average Income 2003/04–2007/08*.

Figure 8, which also includes men's age distributions, illustrates the extent to which women's age distributions are particular to women or whether they are common across groups.

Figure 8, shows that for most groups there are similarities between men and women in their age distributions. However distinctive differences arise in the numbers of older White British women compared to men; and there are more young Bangladeshi and Chinese women than men, while among Black Caribbeans, there are larger numbers of women than men in the 45 plus age bands.

These differences in age might lead us to expect some differences in average incomes across the different groups, since income is related to age. Figures 9-11 allow us to explore the extent to which differences even out when comparing those of similar ages, looking at both individual and equivalent household income and taking two minority groups in turn, using White British women as the common reference point.

Figure 8: Age distributions for men and women by ethnic group



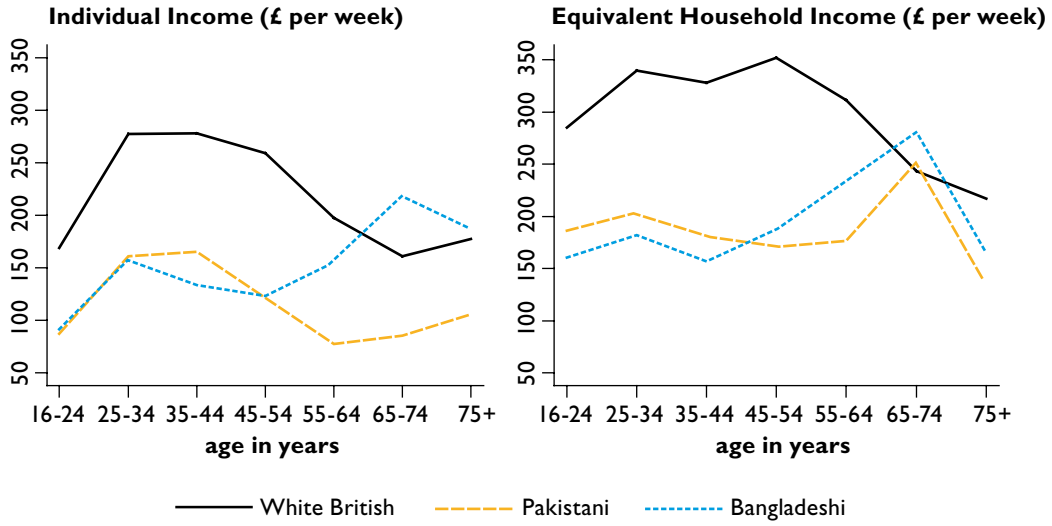
Source: *Family Resources Survey* and *Households Below Average Income 2003/04–2007/08.*

Figure 9 shows that White British women's individual incomes increase sharply from the teenage years till they are in their mid twenties. Their individual incomes then experience a steady decline which becomes sharper as they age. There is a slight increase in the post retirement years, partly, probably, as married women become widowed and become entitled in their own right to residual pension entitlements and state support. The household incomes of White British women are much flatter and are at a higher level. A steep decline is nevertheless experienced after the age of 54 as their own earning capacity and that of other household members, in particular retired partners, diminishes and is not compensated for to the same degree by state support and pension entitlement. Their household incomes continue to decline through the age range, as individual control over income comes at the cost of overall decline in household incomes.

Bangladeshi and Pakistani women of almost all ages have much less average individual and equivalent household income than White British women. The exception is women above the age of 65. The proportion of women in these age groups for Bangladeshi and Pakistani women is very small and the estimates are likely to be less robust for these ages (see discussion of age, above). Figure 7 also showed that Bangladeshi and Pakistani women are much younger than White British women. The income penalty at these ages thus contributes negatively to the overall mean of these groups. The overall picture is one of severe disadvantage across the pre-retirement age range relative to White British women. Moreover, the fact that this relative disadvantage is, if anything greater at the household level indicates that the it is not only the women's individual income generating capacity that disadvantages them, but that their household circumstances across the life course, and therefore

as they make transitions between different household arrangements, do not help them to achieve a better standard of living.

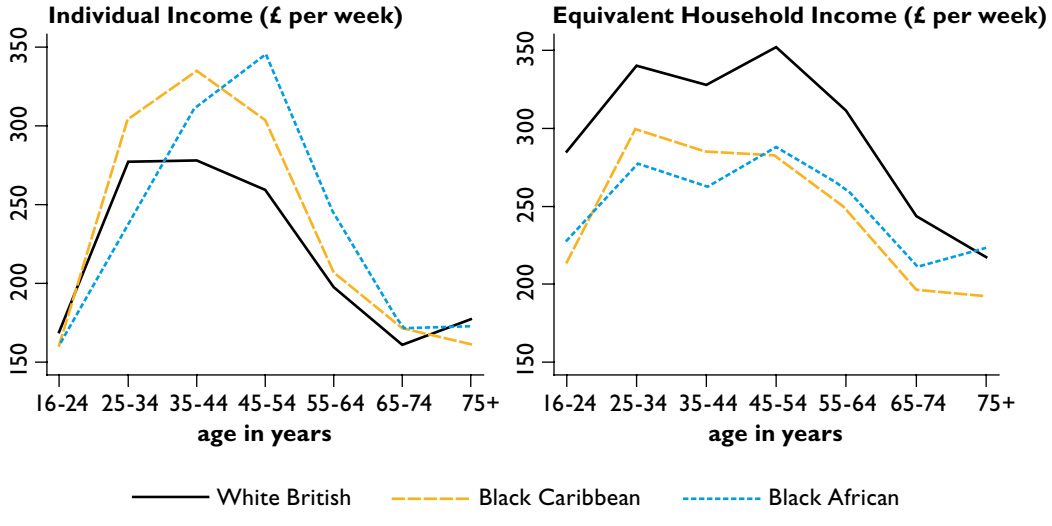
Figure 9: White British, Pakistani and Bangladeshi Women's Mean Individual and Equivalent Household Income by age



Source: *Family Resources Survey* and *Households Below Average Income 2003/04–2007/08.*
Note: Equivalent Household Income has been normalised to 1.

Turning to Black Caribbean and Black African women, Figure 10 shows a rather different story.

Figure 10: White British, Black Caribbean and Black African Women's Mean Individual and Equivalent Household Income by age



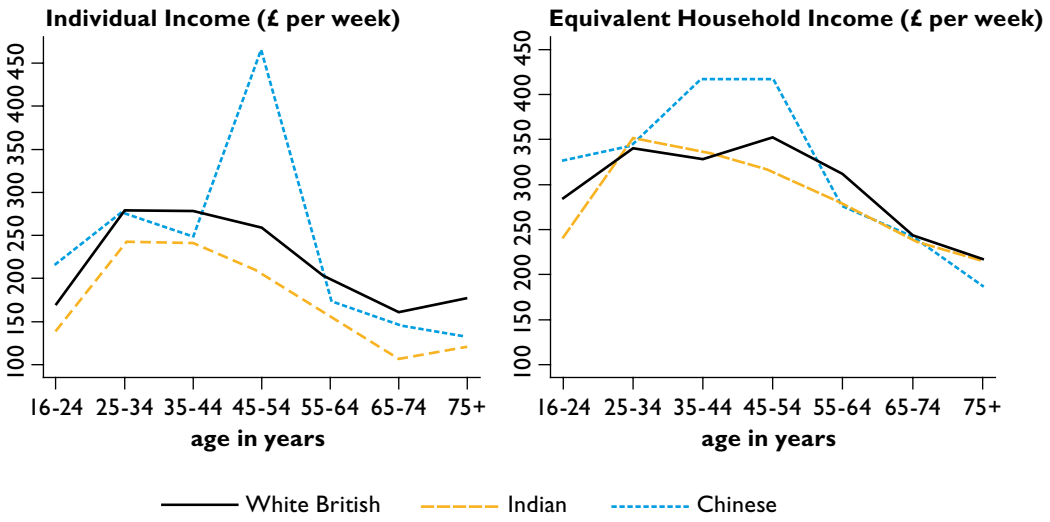
Source: *Family Resources Survey* and *Households Below Average Income 2003/04–2007/08.*
Note: Equivalent Household Income has been normalised to 1.

The picture for Black Caribbean and Black African women is remarkably different than that for Bangladeshi and Pakistani women. Black Caribbean and Black African women at almost all ages have an individual income advantage over their White British counterparts. However, once we take into account the income of other household members we find that this income advantage disappears. We

have already seen this at the overall group level in section 1, here we see that the same picture is true for all age groups. Young Black African women, below the age of 35, and Black African and Black Caribbean women above the age of 75 are the only age groups that have lower individual incomes than White British women in the same age group.

The age income profile for Chinese women is not as smooth as the other groups (see Figure 11). Chinese women between the age of 45 and 54 have extremely high individual incomes as compared to White British women, although the spike in their individual incomes is due to a few outliers. This difference (without the outliers) sharpens when we use equivalent household income. This result is perhaps not surprising as most Chinese women either partner with Chinese men or White British men, both high earners on average, or are single (see section 1.1). At the other age groups, their incomes are within a small range of each other. In contrast to this Indian women have lower individual incomes than White British women at all ages. And this income gap remains almost the same for all age groups. When we look at equivalent household incomes, this gap reduces sharply and also reverses for women between the ages of 25 and 34.

Figure 11: White British, Indian and Chinese Women's Mean Individual and Equivalent Household Income by age



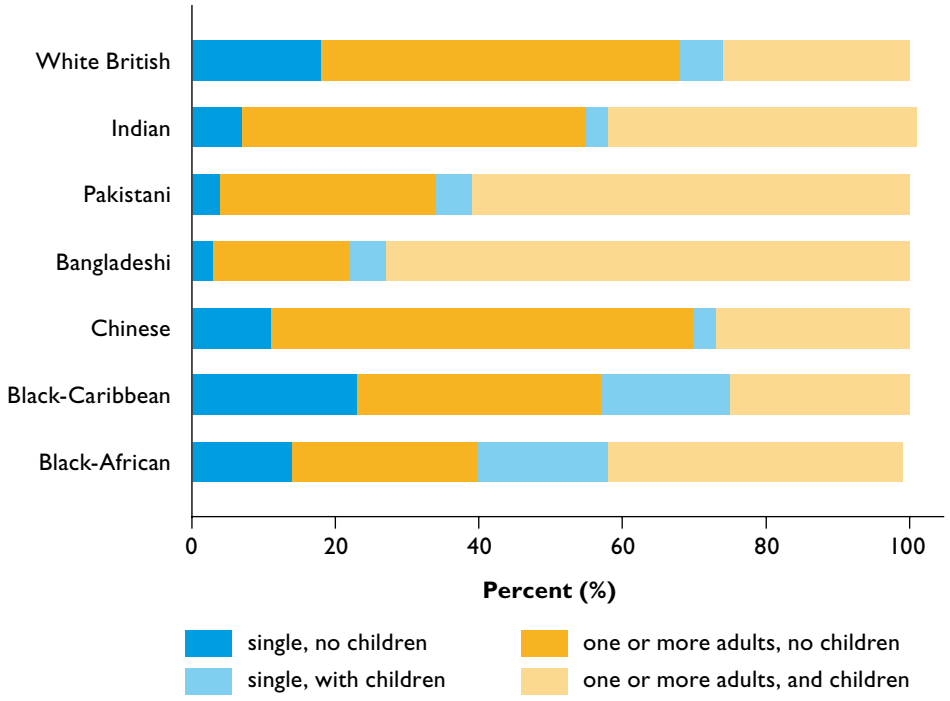
Source: *Family Resources Survey* and *Households Below Average Income 2003/04–2007/08.*
Note: Equivalent Household Income has been normalised to 1.

It should be noted that while these graphs show the expected age-income profile with income increasing with age, peaking at the middle and then tapering off after retirement, these are not a reflection of the income trajectories of individuals. These simply reflect the incomes of different age cohorts. This limits the predictive power of these graphs.

Next we look at the family structure of women in different ethnic groups. This has implications for the equivalent household income, and thus poverty levels. Living with children (typically non-earners) lowers equivalent household income while living with other earning members is likely to increase it (due to the additional income and economies of scale). Thus if two ethnic groups have similar average levels of individual incomes (for both men and women) but all women in one group are single parents while those in the other group live with another earning member but no children, then the first group will have lower average equivalent household income. In other words, systematic differences in household composition by ethnic groups may result in differences in incomes between ethnic groups even when there is no income penalty based on ethnicity.

Figure 12 shows that Bangladeshi, Pakistani and Black African women are more likely to live in families with children than in families without children. The reverse is true for all other groups, with Chinese and White British women being the least likely to live with children and Black Caribbean and Indian women somewhere in between with something over 40 per cent living with children. The reasons for not living with children are rather different for Chinese and White British women, however, as Chinese women are overwhelmingly young and therefore many will not have started a family yet, whereas many White British women will have completed their families, as is clear from the age structure, discussed above. Compared to other groups a relatively high proportion of Black African and Black Caribbean women are lone parents: around 18 per cent of women from these two groups as compared to around three to six per cent from other groups. In fact, a higher proportion of women in these groups are single than in any of the other groups.

Figure 12: Distribution of family types among women, by ethnic group



Source: *Family Resources Survey* and *Households Below Average Income 2003/04–2007/08*.

Thus we see from Figure 12 that Bangladeshi and Pakistani women mostly live in families with children, their individual incomes and that of the men in these groups are the lowest, as we saw in Section 1.1 Figure 2, and there is an extremely high level of ethnic homogamy in these groups, as Figure 13 shows. It follows that their mean equivalent household incomes will also be very low. But as the mean individual income of men in these groups is higher than their own, they have some economic benefit from household sharing.

Figure 13: Distribution of ethnic group of women's spouse or partners by ethnic groups

Source: *Family Resources Survey and Households Below Average Income 2003/04–2007/08.*

The story is different for Black Caribbean women. They are more likely to be single (with or without children); but among those who do cohabit with a partner or spouse (around 60 per cent of whom are Black Caribbean and 30 per cent White British), they are likely to do so with partners who have, on average, similar or higher individual earnings than they do (see mean individual incomes of White British and Black Caribbean men in Figure 2). The former situation is likely to lower equivalent household incomes while the latter to increase it, dependent of course on the extent of additional demands on the households they live in. Thus we find that their average individual incomes are quite similar to their average equivalent household incomes.

Indian, Chinese and White British women are more likely to live in families with other adults but no children. They are also likely to cohabit with spouses or partners who are either from the same ethnic group or White British – all of whom have higher average individual incomes than they do. This can explain why they gain more from household sharing than any of the other groups.

Summary

This section has illustrated that what may appear to be income penalties suffered by certain ethnic groups may be partly explained by differences in their family structure and age compositions. Demographic profiles across ethnic groups vary strikingly. And minority group women have younger age profiles than the majority, though this pattern is slightly less marked for Black Caribbean women.

But despite differences in age profiles across minority groups, income differences are not reducible to differences in age composition. Differences in individual and equivalent household income obtain across the age range in most cases, though there is some tendency for gaps to differ at the younger and older ends of the age distribution. The lifecourse income expectations of those who are currently young women may therefore be somewhat different to those who are currently older.

Individual women's incomes rise steeply to a peak in the mid years of life, but decline sharply thereafter. Household incomes are flatter across the age distribution, but are lower among older women. Comparing women's individual and household incomes across the age range reveals three clear patterns. Pakistani and Bangladeshi women fare worse than White majority women in terms of both individual and equivalent household income at all ages. Indian and Chinese women show similar household and individual incomes to White British women over the age course, though with Chinese incomes subject to greater fluctuation and tending to be somewhat higher. And Black Caribbean and Black African women show markedly higher individual incomes, but distinctly lower household incomes than White majority women across the age range.

Pakistani, Bangladeshi, and Black African women are most likely to be living with children, and Chinese women and White British women are least likely. Black African and Black Caribbean women have the highest proportions of lone parents, and Black Caribbean women, followed by White British women are the most likely to be living on their own. Among those in couples the majority live with someone from the same ethnic group. However, this is less the case for Chinese and Black Caribbean women than it is for the other groups. As household income is determined by all those living in a household, partnership patterns have implications for ethnic group differences in equivalent income across women and between men and women of the same ethnic group.

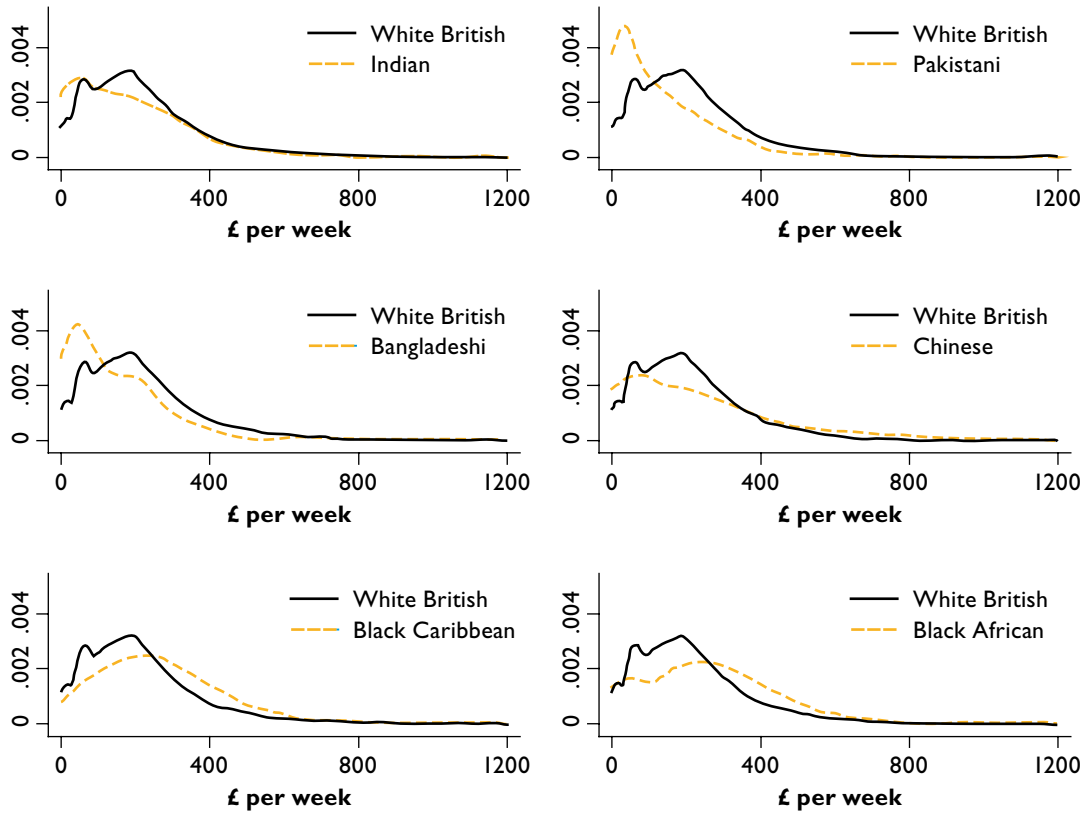
The findings suggest that addressing the inequalities experienced by women of different ethnic groups will take more than paying attention to the economic position of women as a whole. Different factors are implicated in the inequalities across different groups, including their household circumstances. For example, a focus on individual women's pay inequalities will not affect those who are economically disadvantaged either because they are without earnings at all or because they are living in households with low earners.

1.3 Ranges of incomes

It has been demonstrated that a focus on averages (whether means or medians) and on average disadvantage, can often disguise the extent to which there are very large differences between women, with the consequent limitations of a focus on the average for developing robust policy conclusions (see also Jenkins 2009). That is, the average can be deceptive since, while it summarises the experience of all women within a group, it may say little about the experience of most of the women in that group depending on how dispersed or polarised the income distribution is. In this section, therefore, we explore the range of income within and between groups, comparing both women with women and women with men of the same ethnic group. We once again look both at individual and at equivalent incomes. This leads us on to a direct consideration of income inequalities in Section 1.4.

First we illustrate the overall distributions of incomes among women. Figure 14 shows the distribution of individual income and Figure 13 the distribution of equivalent household income (normalised to a single person) across women of different groups. The scale has been set to be equal for all groups, which further draws out the contrasts between groups.

Figure 14: Women's distribution of individual income, by ethnic group



Source: *Family Resources Survey* and *Households Below Average Income 2003/04–2007/08*.
Note for better readability we have curtailed individual and equivalent household income to incomes greater than or equal to zero and less than £1200 per week.

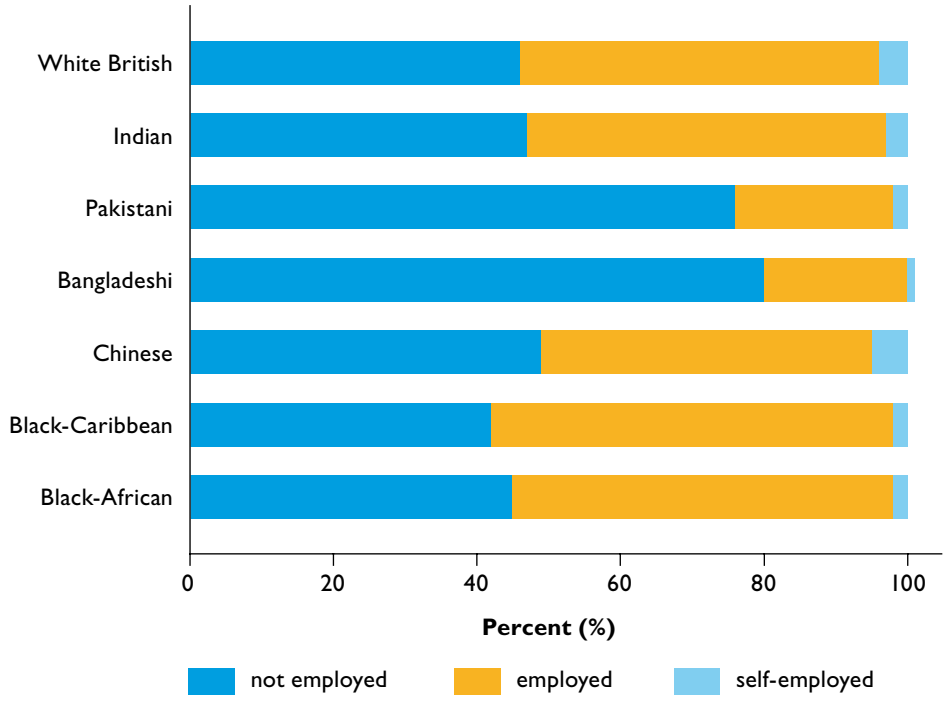
From Figure 14 we can see that White British women's net individual incomes show a small peak at the bottom of the distribution among those with very low individual incomes and then another peak at around the £200 mark. There is then a swift reduction in concentration and a long tail (cut short in this figure) of those with high individual incomes. The only minority group which replicates this double peak is Black African women, but the concentration at the lower end of the distribution is much less for them and they exceed the proportions of White women with incomes in the region from around £350-£650. However, at that point the tails of both groups join. There are also lower proportions of Black Caribbean women with incomes at the bottom end of the distribution and their individual incomes are much more normally distributed, with a more even spread over the middle range and somewhat less of a tail.

The other minority groups have higher densities right at the bottom of the income distribution; but this is particularly pronounced for Pakistani and Bangladeshi women, who have a high peak at the bottom and, correspondingly have lower proportions at higher income levels across the distribution. Their distribution thus appears completely dissimilar to that of White women. By contrast, Indian and Chinese women, while they have a higher density of incomes near the zero mark than White British women, the distribution is more spread out. They do not have the same concentration around the £200 level but have a more even spread reaching into slightly higher densities at the upper ends of the distribution and somewhat more pronounced tails.

One of the reasons for these skewed individual income distributions is that a large proportion of women are not employed. This non-employment includes those women who are students or retired

as well as those who are working age but unemployed or out of the labour market through sickness or looking after children and family. Figure 15 shows that women have very high levels of non-employment, above 40 per cent for all groups, but this is particularly the case for Bangladeshi and Pakistani women, with rates of non-employment at between 70 and 80 per cent. The other groups are remarkably similar with Black African and Black Caribbean women having the lowest proportion non-employed. Although otherwise quite similar, Chinese women have a higher proportion as self-employed as compared to the other groups.

Figure 15: Distribution of employment status among by ethnic groups



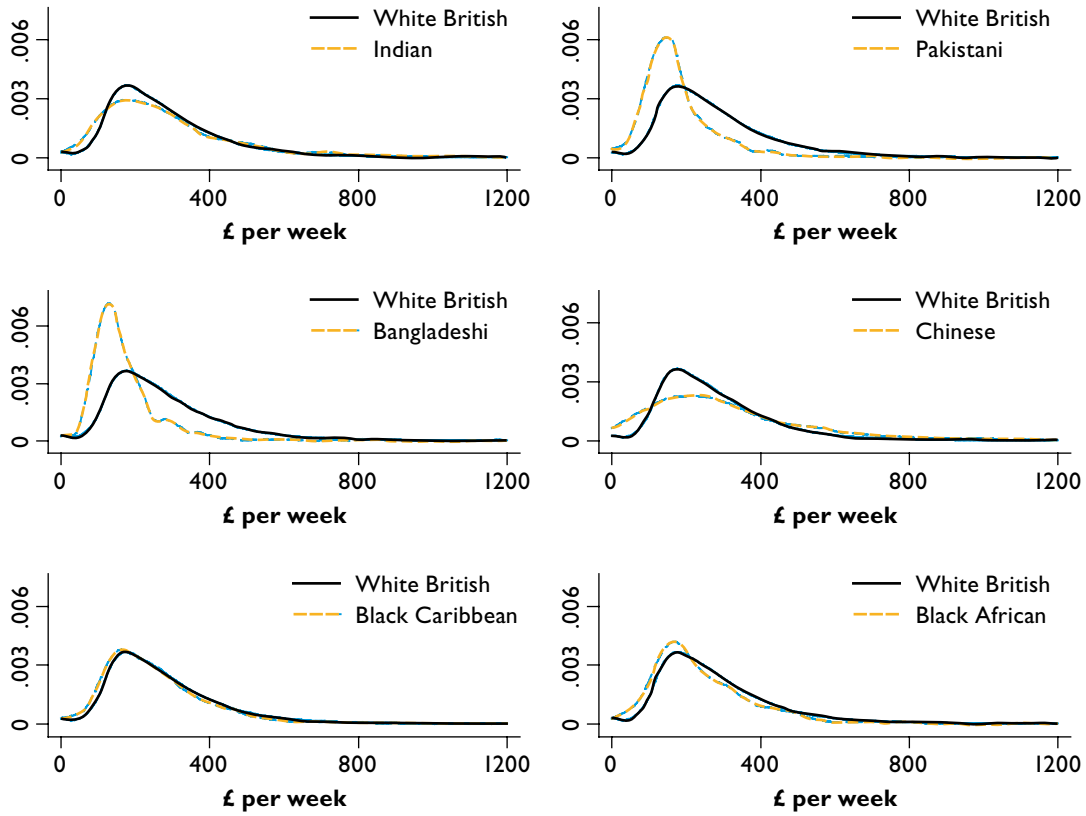
Source: *Family Resources Survey* and *Households Below Average Income 2003/04–2007/08*.

When we turn to equivalent income distributions, we see from Figure 16 that White women's incomes have lost the double hump seen in Figure 14. Those with very minimal incomes have tended to gain on the basis of household sharing -- we can think here of non-employed wives married to employed or pensioned husbands for example -- with therefore a much lower density and no peak of concentration at the bottom of the distribution. They have a considerable peak around the £400 mark and then level off leading again to a fairly long tail.

For Chinese, Indian, Pakistani and Bangladeshi women, equivalent income distributions show both some consistencies with and differences from the individual income distributions. Differences are particularly clear in the great reduction of those with zero incomes. Pakistani and Bangladeshi women are overwhelmingly concentrated at the bottom of the equivalent income distribution with a few having incomes higher up the scale; while Chinese and Indian women have a flatter equivalent income distribution than White women, with a somewhat higher concentration at the bottom and towards the top. Black Caribbean and Black African women in household income have a distribution that is very close to that of White British women, though slightly to the left of it at every point. As we will see when we look at specific family types and as we saw when looking at the means by age in section 1.2, these apparent similarities in distribution derive from rather different sets of living circumstances. What is important for the current purposes, however is to note the clear right skew experienced by White British women, the apparently more condensed distributions of Black Caribbean and Black

African women, the flatter or more extended income distributions of Chinese and Indian women and the extreme concentration at the bottom end of the distribution on either measure for Pakistani and Bangladeshi women.

Figure 16: Women's distribution of equivalent household income, by ethnic group



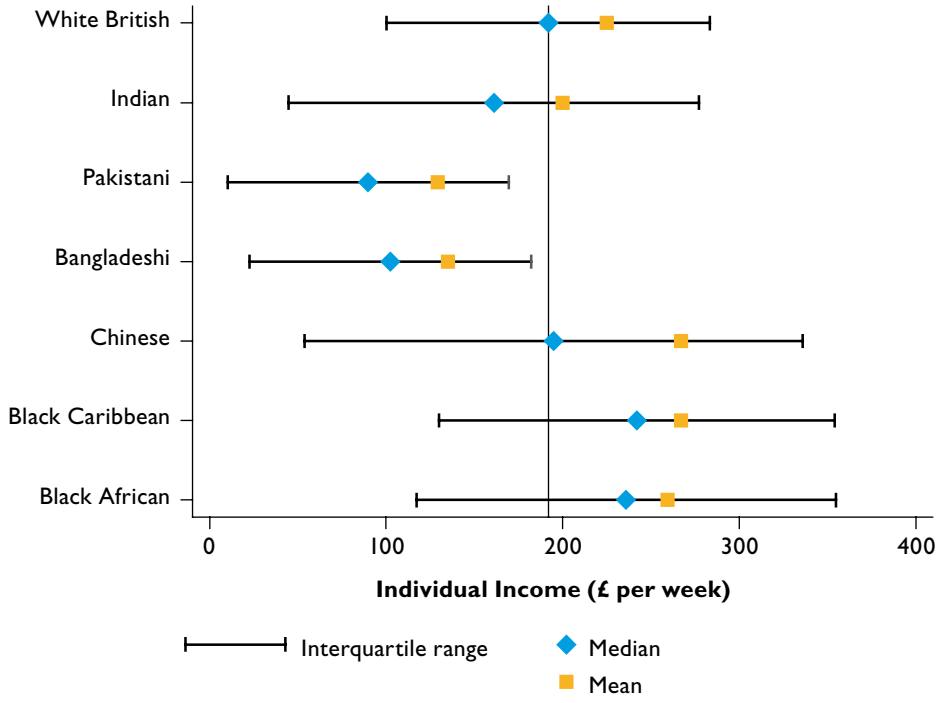
Source: *Family Resources Survey* and *Households Below Average Income 2003/04–2007/08*.
Note: Equivalent Household Income has been normalised to 1. Note for better readability we have curtailed individual and equivalent household income to incomes greater than or equal to zero and less than £1200 per week.

It is clear from the contrast between White British women's individual and household income, that for those with low individual incomes household sharing can provide some economic compensation, but Pakistani and Bangladeshi do not get the clear benefit from household sharing for those with very low individual incomes, which other groups would appear to experience.

We now look at the spread of incomes across women from different ethnic groups and how much overlap there is between income ranges if we look beyond the mean. Concentrating just on the middle band of incomes as they spread around the median (or midpoint of the range), that is between the 25th and the 75th percentiles, enables us to look at the spread of incomes for the middle 50 per cent of each group of women. We can also compare the position of the mean with that of the median. The further the mean is away from the median, the greater is the influence of high incomes on the average of the distribution that we have been looking at. This additional information therefore amplifies our understanding of the contribution of the long tail observed in Figures 14 and 16, above, to the mean incomes we observe.

Figure 17 shows the distribution of the middle 50 per cent of women's incomes round the mean for each ethnic group, while Figure 18 shows the distribution of equivalent household income.

Figure 17: Distribution of women's individual income around the median, by ethnic group



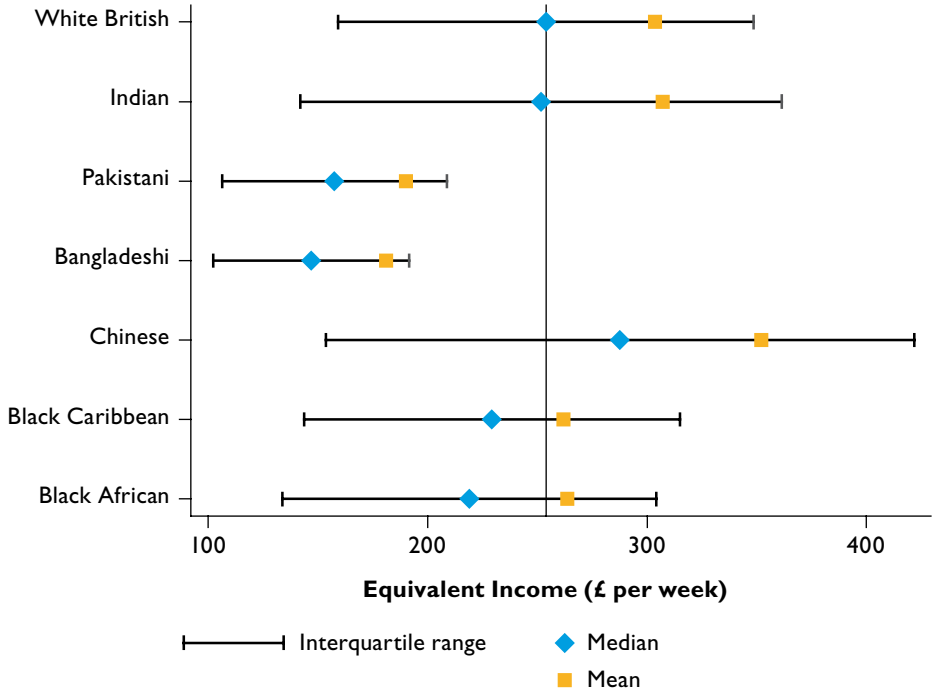
Source: *Family Resources Survey* and *Households Below Average Income 2003/04–2007/08*.

Figure 17 graphically demonstrates that there is a wide spread of incomes for each group between those women situated at the 25th percentile of group incomes and those situated at the 75th percentile. The incomes that the women in this middle 50 per cent of the income range experience cover a span of some hundreds of pounds per week. However, there are clear differences in the extent of the income spread, with Chinese women having the greatest dispersion across the interquartile range and White British, Pakistani and Bangladeshi women having the smallest interquartile range. Chinese women also have the largest gap between mean and median income. Their mean individual income is on a par with that of Black African and Black Caribbean women – and substantially higher than the mean for White British women, but the median lies almost on the line for White British women. This indicates that not only do they have a wide spread across this range but that their incomes are dispersed at the upper end beyond the 75th percentile, drawing up the mean to reflect these high earnings. By contrast, Black Caribbean and Black African women's mean and median incomes are very close suggesting that beyond the interquartile range, their incomes are relatively compact, with few very high incomes, even though they have relatively high median and mean incomes. The line drawn through the median for White British women highlights the fact that the whole of the interquartile range for Bangladeshi and Pakistani women falls well below the median for White British women. Indeed, the only group for whom the median overlaps the interquartile range for Pakistani and Bangladeshi women is Indian women, whose interquartile range is relatively dispersed though at a lower level than for Chinese women. This means that Pakistani and Bangladeshi women who attain incomes at the top 25 per cent for their group can still find themselves gaining less than those who are in the lower half of earnings for other groups.

When we turn to look at equivalent income in Figure 18, we see a similar basic pattern across the groups. However, the interquartile range is more dispersed in all cases except for Pakistani and Bangladeshi women; and the means are further away from the medians in all cases, indicating that the skew or upper tail of equivalent income is greater than it is for individual income and that this is true

for all women. This is not surprising in view of the fact that we know that men's earnings are more highly skewed than women's and that they include some extremely high earners.

Figure 18: Distribution of women's equivalent income around the median, by ethnic group



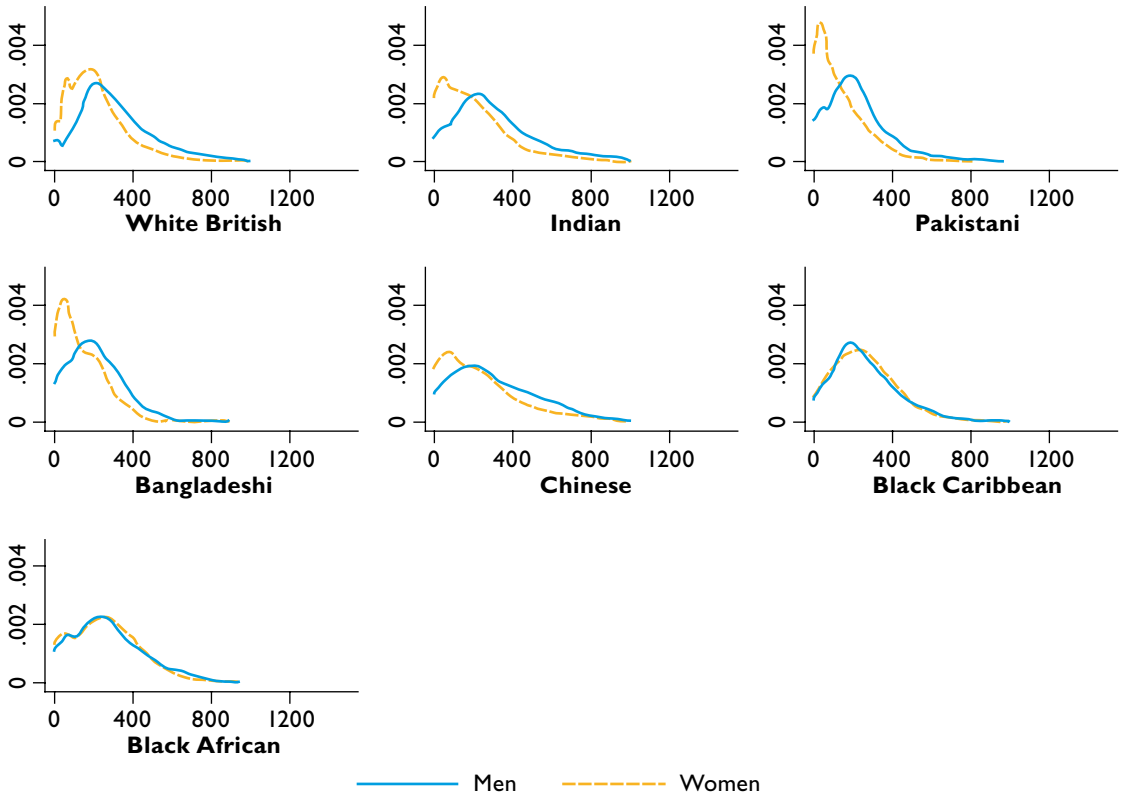
Source: *Family Resources Survey* and *Households Below Average Income 2003/04–2007/08.*
Note: Equivalent Household Income has been normalised to 1.

Interestingly we see that both the median and the mean of Black Caribbean and Black African women are lower than those for Chinese, Indian and White British women, when we examine equivalent income. Their median equivalent income is, nevertheless, higher than the 75th percentile of Pakistani and Bangladeshi women's equivalent income.

We now turn to within group distributions. Figure 19 shows the distribution of individual income comparing men and women of the same group, and Figure 20 shows the distribution of equivalent income.

For individual incomes we can see that women's incomes tend to be much more heavily concentrated at the bottom end of the income distribution. By contrast, men's incomes are flatter and extend further up the income distribution. They thus appear to have a greater spread than women's income. We return to the issue of within group inequalities further in Section 1.4, below. However Black Caribbean and Black African women do not follow this pattern relative to men of the same group. Their individual incomes lie by and large on top of each other; and, indeed, for Black Caribbeans it is the women's distribution that is somewhat flatter and extends out beyond men's to the right, even if it is not as flat as that of men from some other ethnic groups, in particular, Chinese and Indian men. These differences are interesting as they suggest no automatically gendered patterning of individual income.

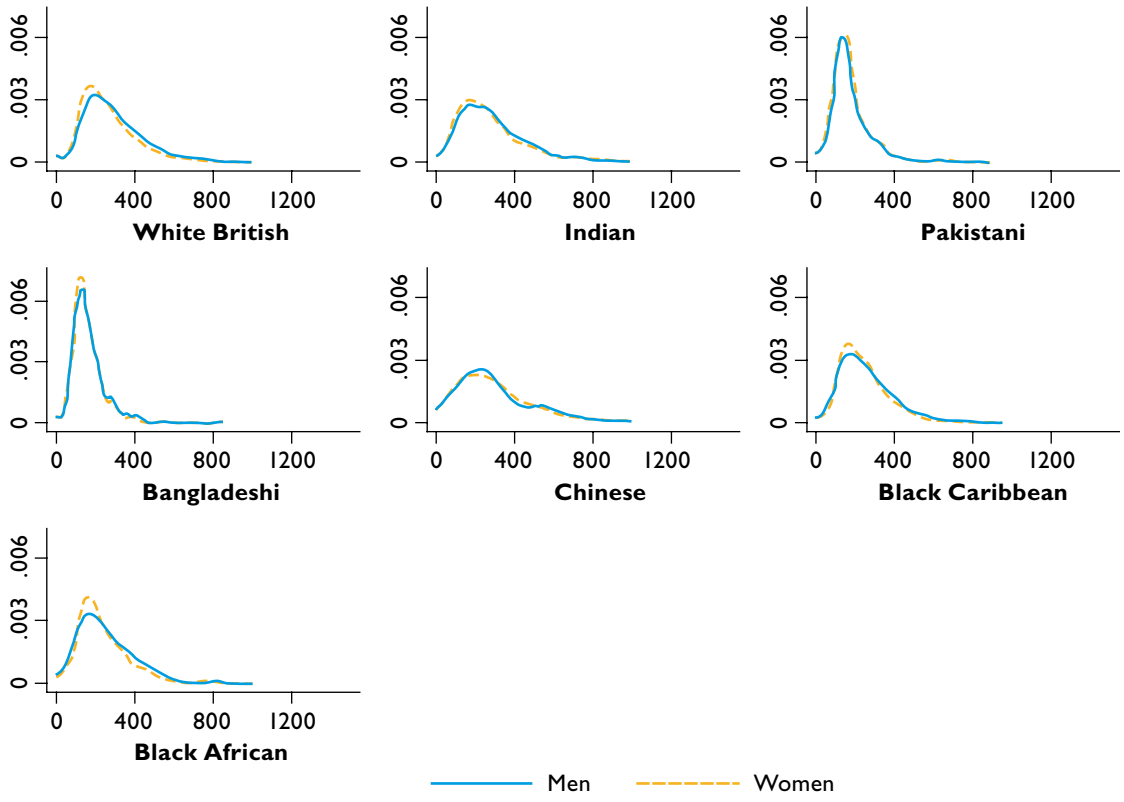
Figure 19: The distribution of men's and women's individual income for each ethnic group



Source: *Family Resources Survey* and *Households Below Average Income 2003/04–2007/08*.
Note: for better readability we have curtailed individual and equivalent household income to incomes greater than or equal to zero and less than £1200 per week.

When we look at equivalent household income in Figure 20, as might be expected most of the differences disappear. This is because, while men and women are not necessarily living with men and women of the same ethnic group, that tends to be the case for some groups (White British, Pakistani and Bangladeshi), and moreover, men and women tend to live with other people, even if not from the same group, which will tend to produce some evening out at the level of pooled household incomes. What we are then left with is distinctive patterns for the different groups, with flat distributions for Chinese and Indian men and women and strongly peaked distributions for Pakistani and Bangladeshi men and women at the lower end of the income distribution. White British and Black Caribbean men and women show very similar distributions to each other, with women having a greater tendency to cluster towards the bottom of the income distribution than men and men having a slightly more humped distribution than Indian or Chinese men. These similarities are interesting given the strong differences in equivalent income across these two groups. Black African men have a similar distribution to Black Caribbean men, but women's household incomes peak much more strongly.

Figure 20: The distribution of men's and women's equivalent household income for each ethnic group



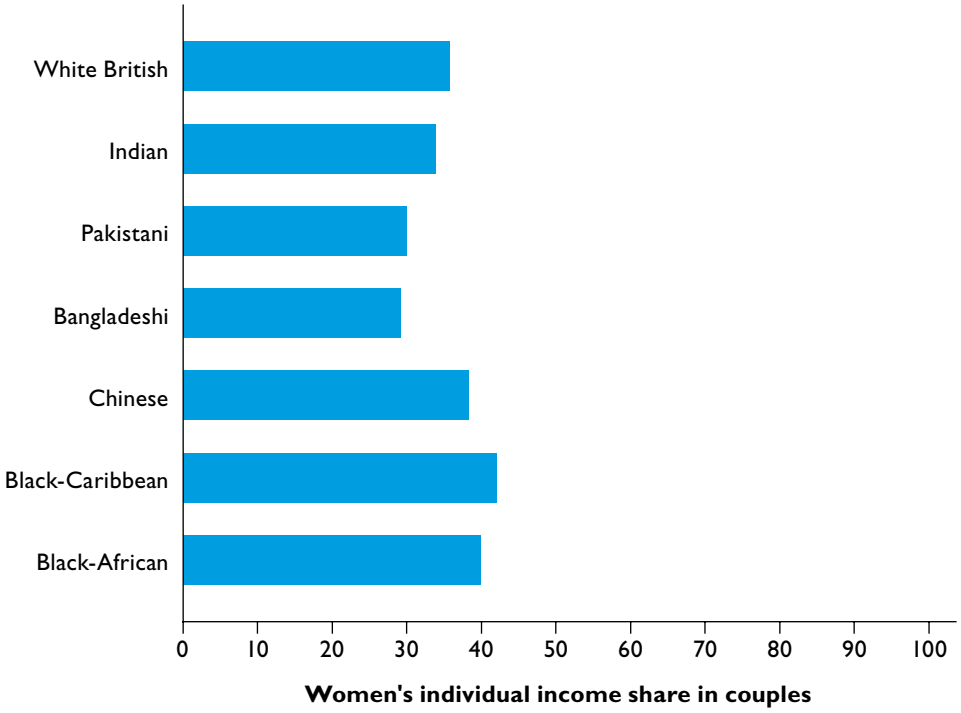
Source: *Family Resources Survey* and *Households Below Average Income 2003/04–2007/08.*
Notes: Equivalent Household Income has been normalised to 1; for better readability we have curtailed individual and equivalent household income to incomes greater than or equal to zero and less than £1200 per week.

If Figure 20 has illustrated that household incomes tend to be similar across men and women of the same group (with some exceptions) because of household pooling assumptions, we can also interrogate a bit more closely the issue of control and income shares in households with men and women. That is, in line with the parallel consideration of individual and equivalent household income as representing different sharing assumptions, we can also look at the relationship between of men's and women's individual incomes in couple households. Women's individual incomes as a share of men's and women's in couples are shown for the different groups in Figure 21.

We can see from Figure 21 that only among Black African and Black Caribbean women does their individual income contribute as much as forty per cent of combined individual incomes in couples. Interestingly the average share among Pakistani and Bangladeshi women is the lowest, even though we saw that household incomes and therefore implicitly men's incomes for these groups were low. White British women's individual incomes average over a third of combined individual incomes, while Indian women's are slightly below and Chinese women's are slightly above. Overall the differences in shares of combined incomes are not enormous between groups. Nevertheless, if we take the interpretation that the share of income is an important indicator of control over household resources, this would suggest that, in couples, the control over income is potentially lowest among Pakistani and Bangladeshi women on average, though here low average incomes generally may mean that control is concerned with management of sparse resources rather than more positive achievement. While we would interpret this as suggesting that Black African and Black Caribbean women have the greatest control within couples, we also noted that household incomes were substantially lower on average than those

for White British women, (though part of those differences will be driven by higher proportions of Black African and Black Caribbean women living without other adults (see Section 1.2, above). In such circumstances greater control may be a mixed blessing, though it is clear that at the average for no group does women's share equal men's.

Figure 21: Women's individual income as a share of joint individual incomes in couples



Source: *Family Resources Survey* and *Households Below Average Income 2003/04–2007/08*.

Summary

There is great dispersion in women's individual and household incomes from all ethnic groups. Nevertheless, the dispersion is greater for Chinese women, and more compressed for Black Caribbean women. Many women have zero individual incomes, in large part driven by the high proportions across groups with no income from earnings. Very low incomes are less a feature of household incomes, but there is still a strong concentration towards the bottom of the distribution for Pakistani and Bangladeshi women. The range of incomes in the middle 50 per cent of the distribution is substantial covering hundreds of pounds. Average and median incomes do not, therefore, summarise the overall experience of all, or even most, women from a particular group. While differences between groups in their means and medians are substantial, it is important to note that averages are just that and that they summarise a range of income experiences, both at the individual and the household level. Nevertheless the majority of those women in groups with low average incomes are clearly separated from the majority experience of those from other groups.

In the next section (1.4), we explore how these distributions are reflected in inequality statistics for the different groups. We explore within and between group inequalities and the contribution to overall inequality of group differences. This then sets the scene for the investigation of income composition and the contribution of different income components to inequality across groups that we examine in section 1.5.

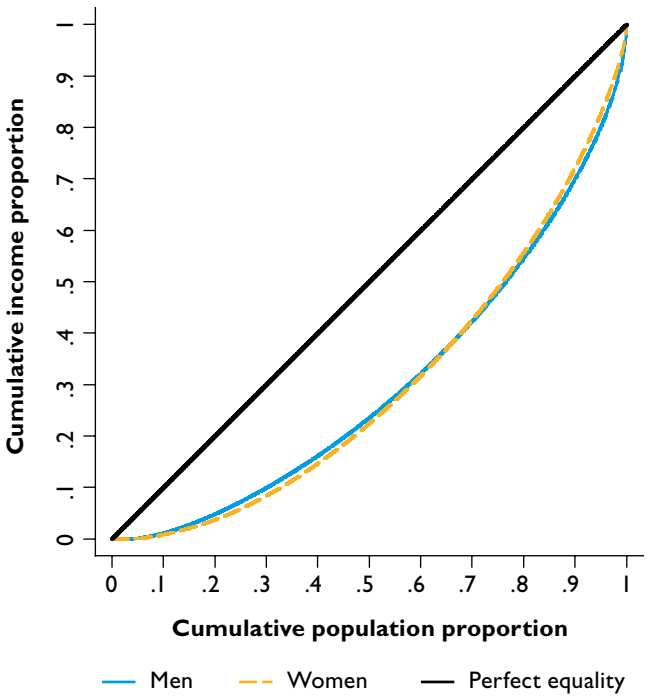
1.4 Women's economic inequalities: between and within group comparisons

In this section we pursue the illustrations of income disparities from the previous section further by investigating the levels of inequality within groups and for men and women. We compare the extent of income inequality using both individual income and household income measures as in previous sections.

Most of our understanding of gender inequalities is driven by the experience of majority group women relative to majority group men. If we want to understand the extent to which women's disadvantage reflects a specific gendered inequality dimension, it is important to consider inequalities between men and women of the same ethnic group and between women of different ethnic groups. If we are to understand how gender structures experience overall in our society, and whether it plays a consistent role across groups or whether the intersection between gender and ethnic inequalities is more complex, it is important to disentangle the relationship between men's and women's incomes across ethnic groups. This involves considering the extent to which inequalities between groups – whether men or women or between women of different ethnicities – contribute to overall inequality. Given the range of incomes and the wide dispersion across groups that we saw above, it is likely that strictly speaking we will find that it is inequality within groups which is overwhelmingly more important than inequality between groups in contributing to overall income inequality. This is consistent with the general finding of Hills et al (2010) across equalities areas.

Nevertheless, following the discussion of between group contributions to inequality in this section and the income components contributing to inequality in the next section, in 1.6 we explore why between and within group inequalities may nevertheless be important for particular outcomes, notably women's poverty rates.

Figure 22: Lorenz curves for men's and women's individual income



Source: *Family Resources Survey* and *Households Below Average Income 2003/04–2007/08*.
Note: Lorenz curves constructed using van Kerm and Jenkins' user written program, glcurve (version 3.3.0, June 2008).

We start by looking at a range of inequality measures across ethnic groups.[2] These capture different ways of comparing incomes across the distribution. For example, the 90:10 and 75:25 ratios capture how many times bigger the incomes towards the top of the distribution are compared to those towards the bottom. While the 90:10 ratio gives more information on the dispersion of incomes, by setting the comparison points further apart, when sample sizes are small it may be subject to the influence of outlier values for that group. In such instances the 75:25 may be more robust, even if it summarises only the ratio of the 75th income percentile to the 25th. The gini is a common measure of inequality that is often used in cross-national comparisons and to summarise trends over time. It calculates ratio of the gap between the cumulative income distribution and the diagonal (or the area between the Lorenz curve and the diagonal, see Figure 22, below) to the whole of the area under the diagonal.

If everyone had the same income, their cumulative incomes would lie along the diagonal and the gini would have a value of 0. If one person had all the income, then everyone else's cumulative incomes would lie along the bottom axis and the gini would have the value of 1.

The mean logarithmic deviation is one of a class of inequality measures that vary according to their sensitivity towards inequality at the top or the bottom of the distribution. The mean logarithmic deviation is not unduly sensitive to either end of the distribution. The higher the value of the mean logarithmic deviation, the greater the inequality.

Table 4: Measures of individual income inequality, by ethnic group

	90:10 ratio	75:25 ratio	Gini	Mean logarithmic deviation
All	9.18	2.63	0.418	0.452
White British	8.58	2.56	0.410	0.415
Indian	35.04	3.60	0.471	0.730
Pakistani	383.63	5.44	0.509	0.881
Bangladeshi	359.67	4.33	0.474	0.767
Chinese	33.56	4.06	0.500	0.783
Black Caribbean	8.66	2.61	0.380	0.444
Black African	23.54	2.94	0.432	0.638

Source: *Family Resources Survey* and *Households Below Average Income 2003/04–2007/08*.
Note: in order to calculate the mean logarithmic deviation, zero incomes have been adjusted to 1. Inequality calculated using net income is, as would be expected lower than that we would find if we used gross incomes instead.

As Table 4 shows, there is substantial inequality across all the ethnic groups, when taken as a whole. Interestingly, almost without exception inequality is greater across all the minority groups than it is for the White British majority. The one exception is that, according to the gini, inequality is slightly lower among Black Caribbeans as a whole than it is among the White British majority. Across all measures, these two groups have the closest rates of inequality. The greater levels of inequality among minorities on this individual income measure can in part

[2] For this analysis and that of income sources in Section 1.5, we user written Stata programs ineqdeco (Version 2.0.2, May 2008) and ineqfac (version 2.0.0, March 2009) created by Stephen Jenkins for the decomposition of inequality. See Jenkins, S.P. (2006) Estimation and interpretation of measures of inequality, poverty, and social welfare using Stata. Presentation at North American Stata Users' Group Meetings 2006, Boston MA. http://econpapers.repec.org/paper/bocasug06/16.htm. And for applications see Jenkins (1995), Brewer et al. 2009.

be understood in terms of the relatively high proportions from minority groups with low – or no – individual income. The figures for the 90:10 ratio can be seen to be rather unstable, for the Pakistani and Bangladeshi groups in particular, though the high ratios for Indian and Chinese groups do in part reflect the wide dispersion that we saw in the illustrations in the previous section.

We next look at the contribution of these differences in inequality across ethnic groups to overall inequality, focusing just on our preferred measure, the mean logarithmic deviation. Table 5 shows total inequality that we saw in Table 4 and that of men and women separately.

Table 5: Individual income inequality: within and between ethnic group contribution

	Total inequality	Within group	Between group
All	0.452	0.451	0.002
Women	0.435	0.433	0.002
Men	0.418	0.416	0.002

Source: *Family Resources Survey* and *Households Below Average Income 2003/04–2007/08*.
Notes: The inequality measure is the mean logarithmic deviation.

From Table 5 we see that overall inequality among men is slightly lower than that among women. This is likely to be, as before, because of the higher numbers of women with zero incomes. Table 5 also shows the share of inequality that comes from differences within ethnic groups compared to differences between ethnic groups. Inequality decomposition sets groups to their means to calculate the between group component, and can therefore address the question of what would be the amount of inequality if there were no within-group inequality. The answer, which is given in the "Between group" column, shows that the impact of reducing inequalities between groups would be small. And to have an impact on overall inequality for men or for women requires reducing the extent of within group inequality. There are clear and systematic average differences between women, but those differences do little to contribute to the overall extent of inequality. This is, perhaps unsurprising. It is partly because of the numerical dominance of the white majority, which the decomposition of inequality into between and within groups takes account of, and because, as we have seen, there is substantial dispersion across groups.

Table 6 illustrates men's and women's inequality across ethnic groups. It shows both the levels of inequality of men and women across the groups, and the amount of the overall group inequality that derives from within sex inequality and that contributed by inequalities between men and women. The table thus shows how inequality differs across men and women according to their ethnic group, and variation in the extent to which group inequality is driven by inequalities between the sexes. This can help us consider the extent to which equalising incomes between sexes within groups might effectively tackle overall inequality, and whether the answer is different for different ethnic groups.

Table 6: Individual income inequality by ethnic group: within and between sex contribution					
	All	Men	Women	Within sex contribution	Between sex contribution
White British	0.415	0.388	0.389	0.389	0.026
Indian	0.730	0.568	0.822	0.694	0.035
Pakistani	0.881	0.696	0.992	0.841	0.040
Bangladeshi	0.767	0.668	0.795	0.735	0.033
Chinese	0.783	0.650	0.874	0.775	0.008
Black Caribbean	0.444	0.508	0.389	0.444	0.000
Black African	0.638	0.664	0.609	0.636	0.002

Source: *Family Resources Survey* and *Households Below Average Income 2003/04–2007/08*.
Notes: The inequality measure is the mean logarithmic deviation.

Table 6 shows that individual income inequality is greater for women than men from all groups except Black Caribbean and Black African. Among Black Caribbean women, their income inequality is the same as that of White British men and similar to that of White British women. However, it is substantially lower than that of Black Caribbean men. This reflects the graphical description of the income distribution we saw in the previous section. Black African men face relatively high levels of inequality among men, which is part of the reason why Black African women's inequality is lower. But individual income inequality among Black African women is also much lower than that among women from all three South Asian groups and Chinese women.

Once again, we see that following on from the wide income dispersion the impact of equalising the position of men and women across groups is relatively small, in terms of the groups' overall inequality. But inequality between men and women makes a slightly larger contribution to the group's inequality for Indian Pakistani and Bangladeshi women and men, and would have a negligible effect on reducing inequality among Chinese, Black Caribbean and Black African men and women. Such decomposition of inequality does not, however, reflect how the overall welfare of groups might be improved by increasing equality within groups. It is notable that the largest inequalities are experienced by Pakistani women, who have extremely poor average economic outcomes, as we have seen. It is important to consider, therefore, whether equalising outcomes within ethnic groups would actually bring benefits if it simply concentrates these women at low levels of economic well being.

Turning now to household incomes, Table 7 shows the level of equivalent income inequality across groups. This shows that, while inequality is substantial for all groups, the disparities are lower at the household level than for individual incomes. Moreover, the greater income inequality among minority groups found for the individual income measures is not so evident here. This is partly due to the absence of zero incomes at the household level. We see from Table 7 that equivalent income inequality is lower among Bangladeshis, reflecting their heavy concentration at the bottom of the distribution that we saw in the previous section, and also tends to be lower among Caribbeans, again reflecting the compressed distribution we saw in the previous section, though it was somewhat higher up the income distribution.

The implication is that sharing of incomes reduces inequality to some extent within groups, though the measures cannot tell us whether the narrow range of incomes occurs around those poorly off or around those with middle incomes. While reductions of inequality across the population may be highly

desirable, the presence of lower inequality within groups for their household incomes may not be a positive story for the group concerned.

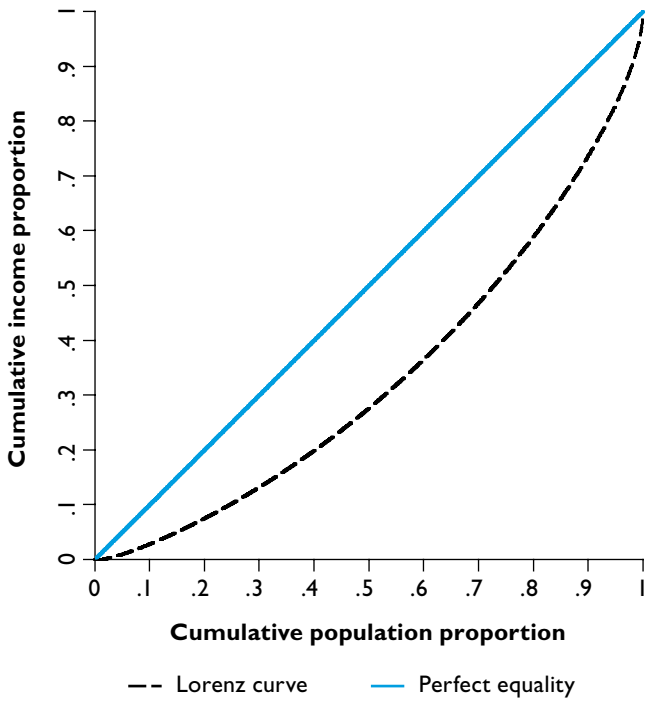
Table 7: Measures of equivalent income inequality, by ethnic group

	90:10 ratio	75:25 ratio	Gini	Mean logarithmic deviation
All	4.13	2.11	0.338	0.235
White British	3.99	2.07	0.330	0.222
Indian	4.96	2.42	0.371	0.302
Pakistani	3.76	1.94	0.329	0.256
Bangladeshi	3.49	1.79	0.305	0.183
Chinese	6.67	2.52	0.413	0.447
Black Caribbean	3.93	2.11	0.316	0.230
Black African	4.42	2.15	0.351	0.283

Source: *Family Resources Survey* and *Households Below Average Income 2003/04–2007/08.*
Note: in order to calculate the mean logarithmic deviation, zero incomes have been adjusted to 1. Inequality calculated using net income is, as would be expected lower than that we would find if we used gross incomes instead.

Given the similarity of men's and women's incomes we do not consider differences between the sexes, and therefore only consider group level inequalities among women. Figure 23 shows the Lorenz curve for women's equivalent household income.

Figure 23: Women's Equivalent Household Income Distribution



Source: *Family Resources Survey* and *Households Below Average Income 2003/04–2007/08.*

The Lorenz curve shown in Figure 23 appears to lie somewhat close to the diagonal than that shown above in Figure 22; and this is confirmed by inspection of the gini coefficients for household as compared to individual income. While women's individual income gini was around 0.41, their household income gini coefficient is around 0.34. Thus while women are highly unequal in terms of the resources they have at their individual disposal, under household pooling assumptions some of that inequality is evened out.

Table 8 shows us, moreover, that in terms of household income, women experience somewhat less inequality than men, by contrast with individual income. There are in this instance very few households with zero incomes and the implication is that men who live on their own are more polarized than those who live with women or perhaps than women who live on their own. The between group column shows the amount of inequality that would remain if all the within group inequality were eliminated. In other words, inequality between groups again contributes little to overall inequality. It does contribute marginally more at the household than at the individual level, however, indicating that there is some tendency for those who are worse off to live with others who are worse off.

Table 8: Equivalent household income inequality: within and between ethnic group contribution

	Total inequality	Within group	Between group
All	0.235	0.233	0.003
Women	0.224	0.221	0.003
Men	0.246	0.244	0.003

Source: *Family Resources Survey* and *Households Below Average Income 2003/04–2007/08*.
Notes: The inequality measure is the mean logarithmic deviation.

Summary

We have seen in this section the large extent of income inequality that pertains across all groups. Almost without exception individual income inequality is greater across all the minority groups than it is for the White British majority. The greater levels of inequality among minority group women on the individual income measure can in part be understood in terms of the relatively high proportions from minority groups with low – or no – individual income. Equivalent household income inequality shows a more mixed story, but again tends to be greater among minority groups, indicating greater dispersion or polarisation of incomes. The exception is the poorest group, Bangladeshis, where household incomes are very concentrated at the lower end of the distribution and inequality stemming from a share of higher incomes is much less apparent.

The high levels of within group inequality alongside the relatively small population sizes of minority groups mean that between-group inequality contributes little to overall inequality. To reduce overall inequality for men or for women requires reducing the extent of inequality across the population.

Individual income inequality is greater for women than men from all groups except Black Caribbean and Black African women. Among Black Caribbean women, their income inequality is the same as that of White British men and similar to that of White British women. However, it is substantially lower than that of Black Caribbean men. Black African men face relatively high levels of inequality among men, which is part of the reason why Black African women's inequality is lower. But individual income inequality among Black African women is also much lower than that among women from all three South Asian groups and Chinese women.

As with between-group inequalities, the impact of equalising the position of men and women across groups would be relatively small, in terms of the groups' overall inequality. But inequality between men and women makes a slightly larger contribution to the group's inequality for White British, Indian Pakistani and Bangladeshi groups, whereas it makes a negligible contribution to inequality among Chinese, Black Caribbean and Black African men and women.

In the next section we consider the components of income, that is income sources, in order to shed some more light on what is driving the inequalities in mean income between groups and the inequalities in overall income within groups.

1.5. Income composition and the contribution of income sources to inequalities

In this section we interrogate the sources of income that make up the average incomes of women from different ethnic groups to understand a bit more about the sources of the differences between groups. In a separate analysis we also explore the contribution of different elements of income to overall income inequality within groups and for men and women separately. Once again, we examine both individual income and household income. But in this case, it does not make sense to use equivalent household income, since it is not clear why or how we would equivalise elements of income; and we are interested in the total amounts from different sources and their relation to each other, so we look at the total household income made up from all the sources. We compare the composition of individual and household income for women from different ethnic groups. Box 4 describes the components of income.

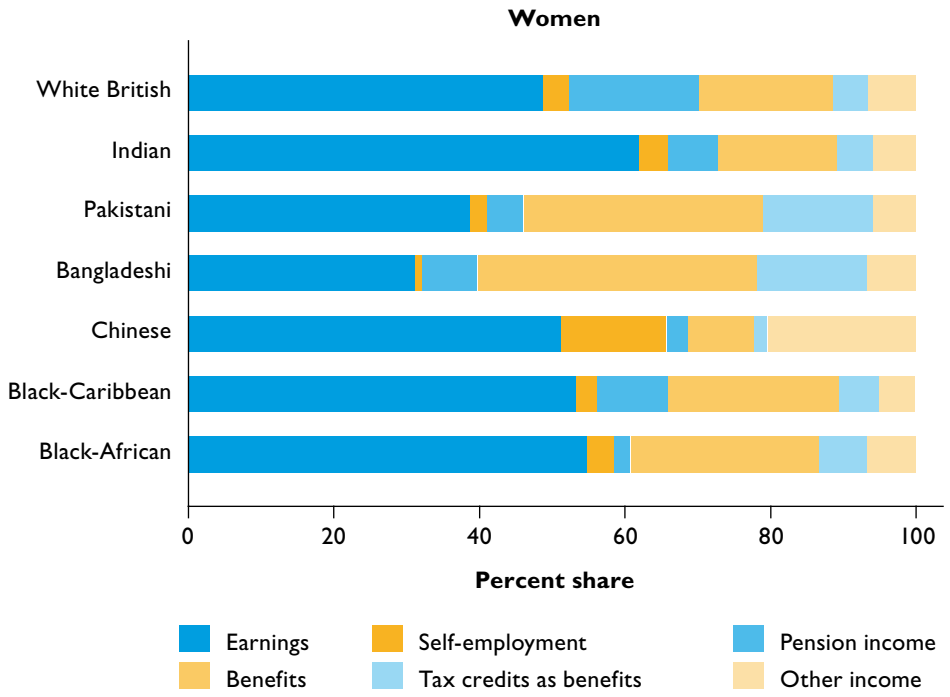
Box 4: Components of income

Within the Family Resources Survey, **net individual income** is constructed as net earnings, plus net self-employment income, plus net investment income, plus net retirement pension (and additional income top-ups) plus other pension income plus disability benefits, plus other benefits, plus the benefit income from tax credits, plus any other income. For the purposes of the breakdowns in this chapter we have combined all pension and retirement income (referred to as *pension income*), disability and other benefit income (referred to as *benefits*), and investment income and other incomes (referred to as *other incomes*). Investment income makes up a small proportion of incomes overall and is negligible for many of the minority groups.

Total household income is made up of similar sources, but the values are gross (pre-tax) or total (e.g. for tax credits) and are derived from all household members. Again we have combined pension and retirement income, and benefit income, and investment and other income.

Starting with individual income, Figure 24 shows the composition of income across women by ethnic group.

Figure 24: Composition of individual incomes of women by ethnic group

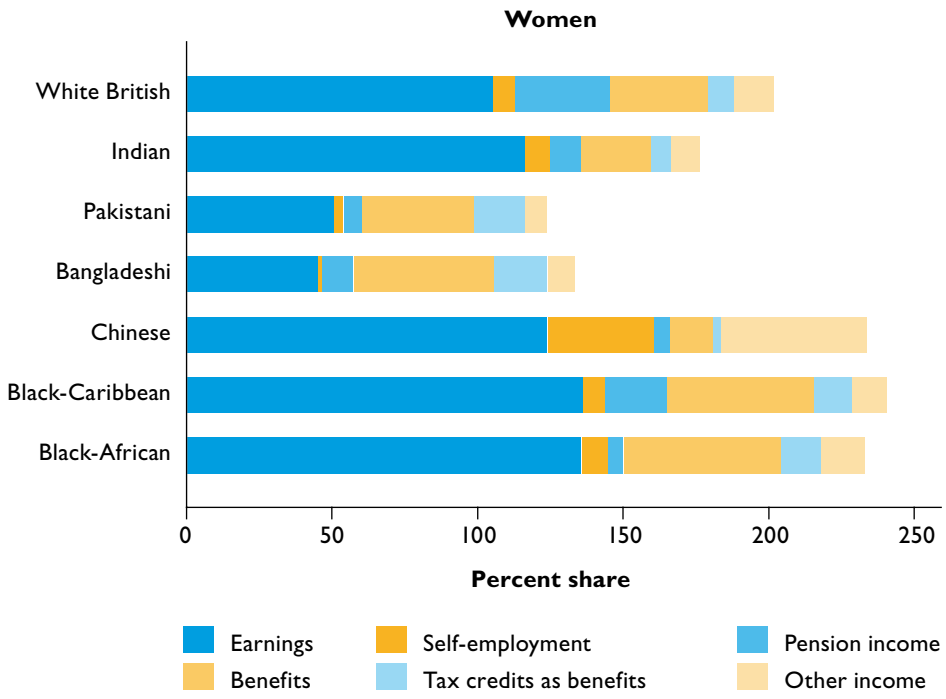


Source: *Family Resources Survey* and *Households Below Average Income 2003/04–2007/08*.

Figure 24 shows that for most groups of women around 50 per cent of their individual income comes from either employment or self-employment. Even among Pakistani women, over 40 per cent of individual incomes derive, on average from these labour earnings while for Bangladeshi women the share is nearer 30 per cent. Self employment income is not a major contributor to women's individual incomes, which contrasts with men from some groups, as we will see. Pension income makes up a substantial share of incomes only for White British women, reflecting differences in age profiles (see Section 1.2). Benefit income makes up a correspondingly large share of incomes where earnings are low, as for Pakistani and Bangladeshi women. But note that these are proportions of overall low average individual incomes (see also Section 1.1). We can see the totals rather than proportions in Figure 25, below.

As Figure 25 shows, amounts of average (non pension) benefit income are similar for Pakistani, Bangladeshi, Black Caribbean and Black African women, even if the amount (and proportion) of individual income from earnings is much higher for the latter two groups. Similarly differences in average tax credit income are smaller in absolute than proportionate terms across these groups.

Figure 25: Women's average individual income components by ethnic group

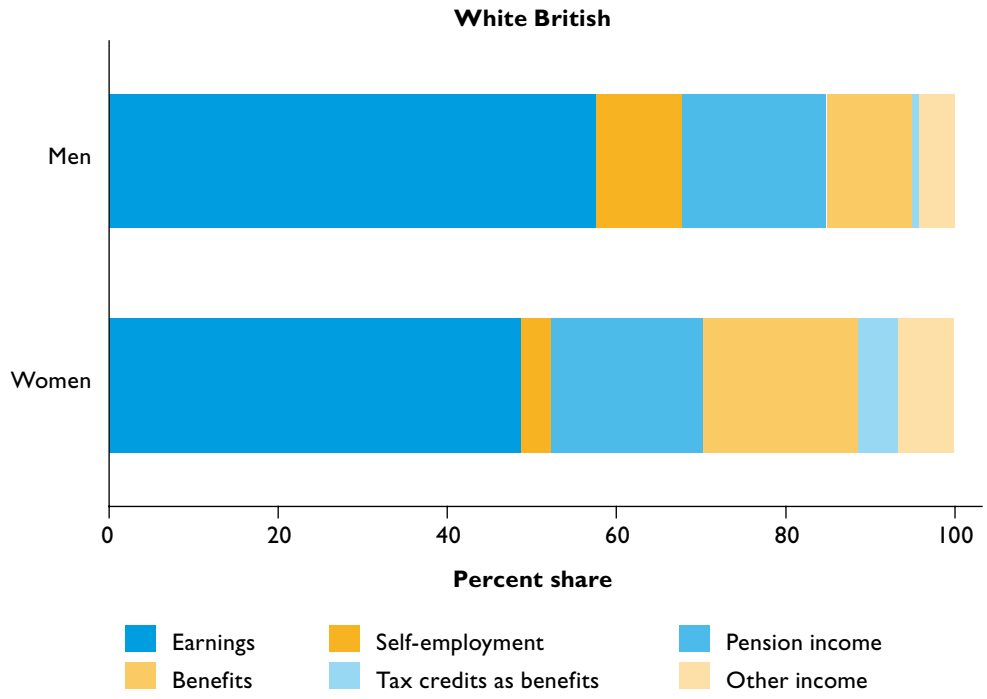


Source: *Family Resources Survey* and *Households Below Average Income 2003/04–2007/08.*

We now turn to look at the groups in more detail, comparing women's incomes with men from the same group, before turning to household incomes. Figures 26-32 show the shares of individual income from the different sources across the seven ethnic groups, comparing women with men from the same group in each instance.

Figure 26 shows that while labour income (earnings and self employment income) are important for White British women, making up around 50 per cent of their individual incomes, labour income plays a much more dominant role in White British men's incomes, amounting to around 70 per cent of total individual income. Correspondingly, benefits and tax credits are more important in women's incomes, with pension income making up a similar share of incomes across the two sexes – though in absolute terms it is clearly greater for men. Women get some share of income from self-employment but it is only small compared to men. The relevance of self-employment income to income inequality, despite the fact that it makes a relatively small contribution to overall income is a point we return to.

Figure 26: White British individual income shares, by sex



Source: *Family Resources Survey* and *Households Below Average Income 2003/04–2007/08*.

Figure 27 shows the relative shares of income of Indian men and women. We can see from that figure for Indian men and women a substantial majority of their individual incomes comes from labour income. In both cases it is a higher proportion than comes from labour income for White British men and women. This is partly a result of the different demographics of the two groups with fewer Indians of pension age and correspondingly smaller shares coming from pension income. Indian women still receive a substantial share of income from benefits and tax credits, as with White British women, but with Indian men the relative proportions are smaller. Indian women obtain a small, but non-negligible share of their labour income through self-employment, and for Indian men a rather more substantial share comes from self-employment income.

Figure 27: Indian individual income shares, by sex

Source: *Family Resources Survey* and *Households Below Average Income 2003/04–2007/08*.

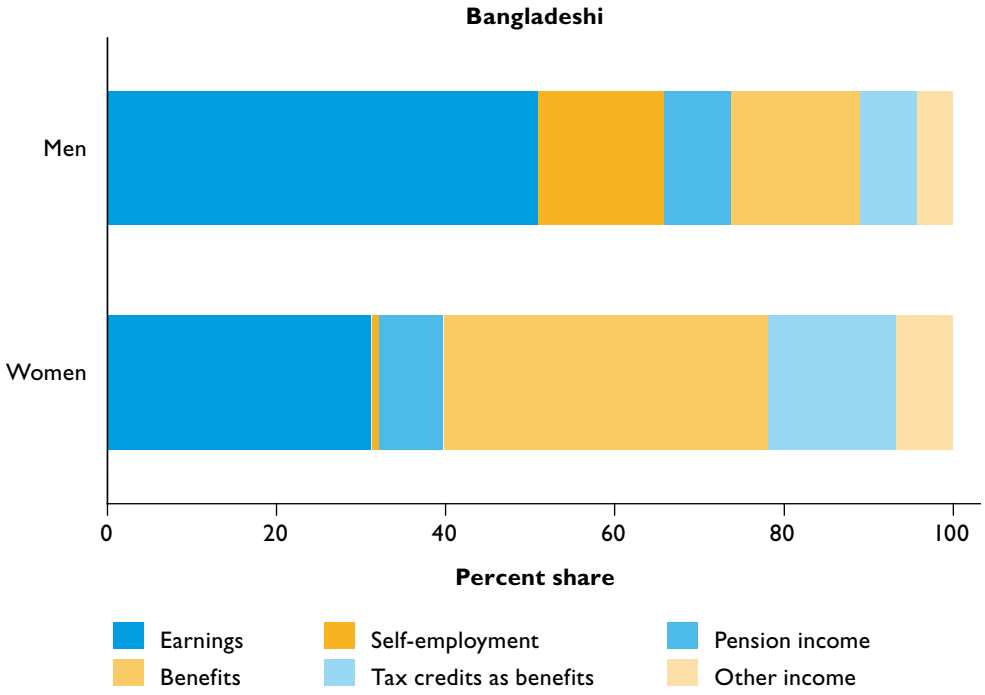
Turning to Pakistani men and women, Figure 28 shows that while the majority of men's individual income comes from labour income, this is not the case for Pakistani women. Pakistani men have approximately similar shares of labour income to White British men, but have lower shares from pensions and correspondingly greater shares from (non-pension) benefits and tax credits. For women a much larger share of their individual incomes comes from benefits and tax credits. Once again self-employment only plays a small part in the labour income of Pakistani women, but it plays a very substantial part in the labour earnings of Pakistani men. This is likely to be related to the strong occupational concentration of this group in taxi and chauffeuring occupations (Blackwell and Guinea-Martin 2005; Clark and Drinkwater 2007).

Figure 28: Pakistani individual income shares, by sex

Source: *Family Resources Survey* and *Households Below Average Income 2003/04–2007/08*.

When looking at Bangladeshi individual income shares, Figure 29 shows a similar picture to that for Pakistani men and women, though labour earnings have a slightly lower share of total income for both men and women. Interestingly, self-employment is again very significant as a share of men's labour income, even though the occupational distribution of Bangladeshi men is very different from that of Pakistani men.

Figure 29: Bangladeshi individual income shares, by sex



Source: *Family Resources Survey* and *Households Below Average Income 2003/04–2007/08*.

Chinese men and women can be seen, from Figure 30, to have high, and fairly similar shares of income coming from labour income, though again the proportion is higher for men and correspondingly women have higher shares of benefit and tax credit income. Chinese men derive only a very small proportion of their incomes from pensions or non-pension benefit or tax credit income, but both men and women have a substantial share from 'other' sources, perhaps reflecting the large preponderance of students in this group (Clark and Drinkwater 2007). Interestingly, among women the share of income from self employment is higher than that for Chinese men, and similar to the share of self-employment income for men of other groups. Chinese women are the only group where this is the case.

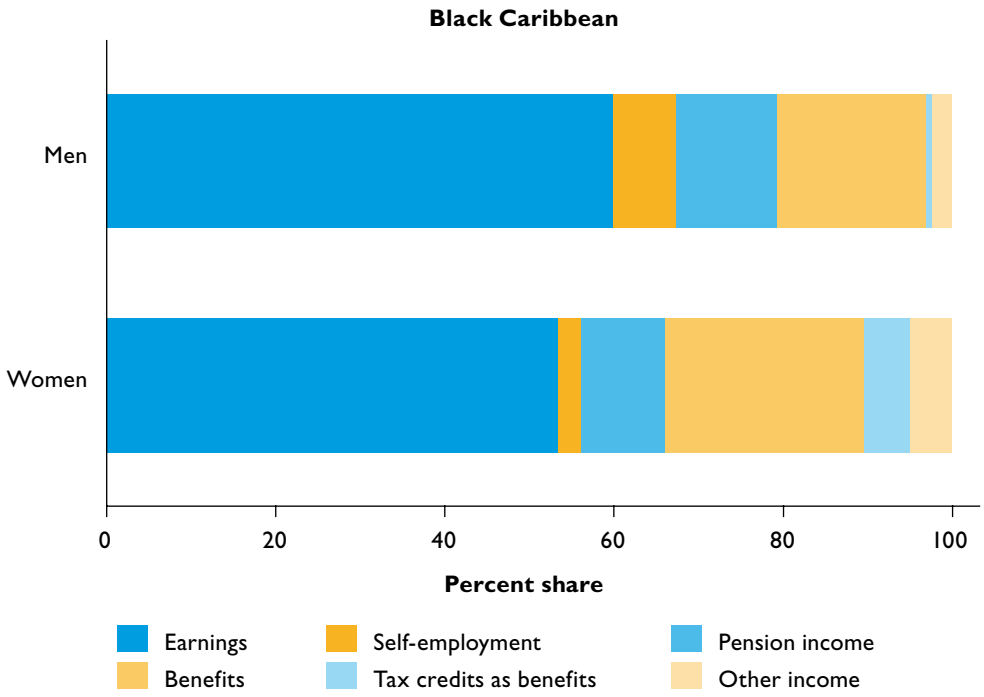
Figure 30: Chinese individual income shares, by sex

Source: *Family Resources Survey* and *Households Below Average Income 2003/04–2007/08*.

Figures 31 and 32 then show the income shares for Black Caribbean and Black African men and women.

Again for both Black Caribbean and Black African women, shares of income deriving from earnings and self-employment are lower than for men of the same group. Black African men have very high proportions of their incomes deriving from labour earnings and both men and women have small proportions deriving from pension income, reflecting their relatively youthful profile. Interestingly, Black Caribbean men have a larger share of incomes deriving from pensions and pension age benefits than do Caribbean women, even though, as we saw, the numbers of older Caribbean women were greater than those of Caribbean men.

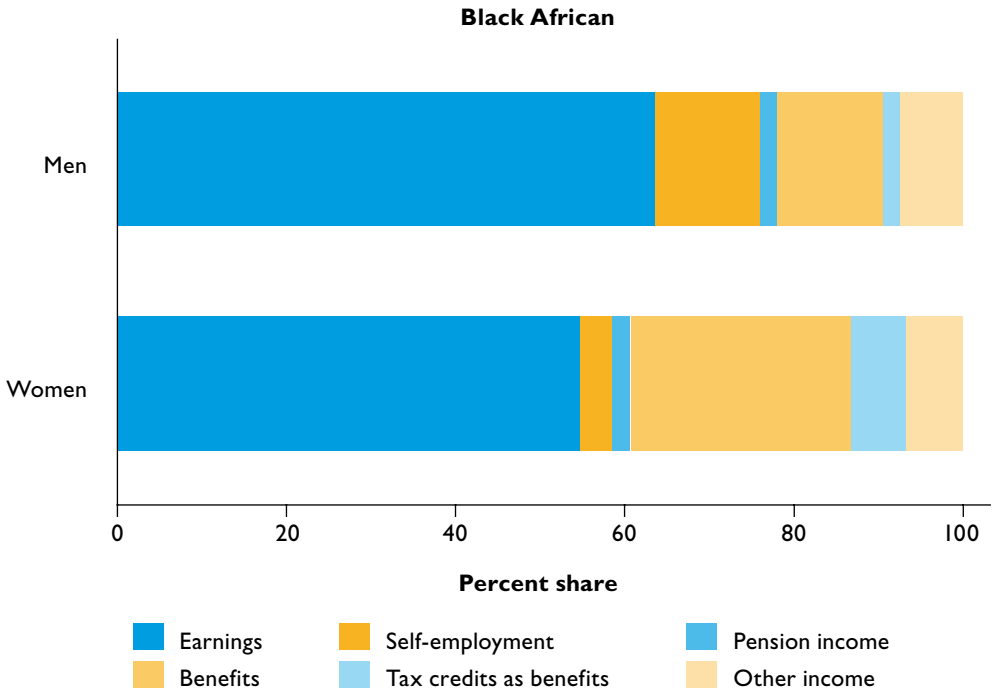
Figure 31: Black Caribbean individual income shares, by sex



Source: *Family Resources Survey* and *Households Below Average Income 2003/04–2007/08.*

Non-pension benefit income makes up a greater share of individual income for women from both these groups than it does for men, consistent with what we saw for other groups. And self employment income is greater for men than for women, though the proportion of income coming from this source for Black Caribbean men is lower than for men from other groups. Black Caribbean and Black African women's shares of income deriving from self-employment are similar to those for White British women – larger than for Bangladeshi women and smaller than for Chinese women – though their proportions of income coming from earnings are slightly larger.

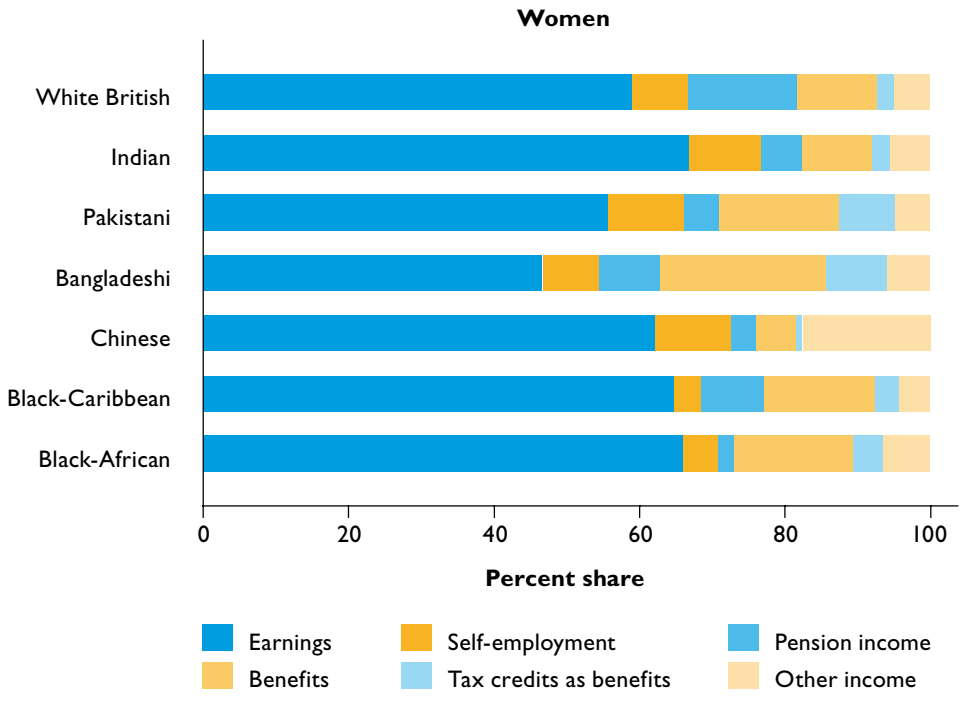
Figure 32: Black African individual income shares, by sex



Source: *Family Resources Survey* and *Households Below Average Income 2003/04–2007/08*.

Since household income shares are broadly similar across men and women from the different ethnic groups, for reasons discussed previously we simply compare the differences in household income sources for women, looking at total income. Figure 33 illustrates these components of household income across women from the different groups.

Figure 33: Components of total household income by ethnic group, women



Source: *Family Resources Survey* and *Households Below Average Income 2003/04–2007/08*.

Figure 33 shows that the sources of household income are largely comparable across groups, with labour income making up between around 65 and 70 per cent of total household income for households with women from most groups. The exceptions are for Bangladeshi women where labour income contributes well under 60 per cent of total household income and Indian women where labour income represents a higher proportion of total household income. For most groups the majority of the remainder derives from non-pension benefits and tax credits. The exceptions here are White British women, where pension related income plays a bigger role and Chinese women where a more important source than benefits is 'other income'. We still see some of the differences in self-employment income as a share of overall (or labour) income; but these have been slightly evened out, given the different patterns across men and women.

We now consider the extent to which these income sources contribute to the patterns of group inequality we observed in the previous section. Table 9 illustrates share of total within group individual income inequality contributed by each source and for men and women. Since household incomes and their sources are very comparable across men and women, Table 9 also shows the contribution of income sources to equivalent household income inequality for women only. Where a source has a positive sign it contributes to overall inequality and where it has a negative sign it reduces it.

Table 9: Contributions of income sources to income inequality among women

	All women, individual	All men, individual	All women, household
Earnings	56.8	44.5	70.7
Self-employment	26.1	49.3	25.8
Investment income	3.1	2.4	2.9
Pension income	7.6	3.9	1.1
Benefit income	1.2	–1.3	–1.9
Tax credits (received as benefits)	1.1	–0.0	–0.4
Other income	4.1	1.2	1.8
Total	100.0	100.0	100.0

Source: *Family Resources Survey* and *Households Below Average Income 2003/04–2007/08*.
Note that as we are looking at household income components we use total, non-equivalised household incomes.

We can see that in most cases income sources contribute to inequality, though benefit income has a compensating effect in men's individual incomes and for household incomes. That is it tends to reduce inequality between men and at the household level. For women's individual incomes, benefit income, however, has a disequalising effect. This is probably because it provides a specific source of income that contrasts with those who have no or negligible income. Where benefits are not means tested, women may be receiving them in addition to earnings. It indicates that, because so many women do not have control over any or substantial amounts of income, any income is likely to increase inequalities between women, even if they adjust the distribution within households.

The main story to come out of Table 9 is, however, the fact that it is labour income that overwhelmingly accounts for income inequalities both among men and among women and between households. The contribution to inequality is much greater than the average contribution of labour income to total incomes. This is particularly evident for self-employment income. Self-employment

income is only a small share of total income on average and only a minority of labour income, but for men it accounts for around half of their individual income inequality and even at the household level 25 per cent of equivalent income inequality can be attributed to self-employment income. The increasing significance of self-employment income in income inequality was noted for the 1980s by Jenkins (1995) and can still be observed here.

White British women and men's income source inequalities are very comparable to those of women and men overall so in Tables 10 and 11 we turn to consider the minority ethnic groups only, focusing on individual incomes in Table 10 and household income in Table 11.

From Table 10 we can see that benefit income is particularly disequalising for Pakistani and Bangladeshi women, those two groups where on average benefit income made up the largest component of individual income. This shows us that when looking within groups, inequality may be the price of having some individual income compared to none. It also highlights the low incomes within this group overall, such that non-pension benefit incomes can make such a difference to within group inequality.

Overall, what is most compelling, once again, is the extent to which labour income drives within group inequality. It is only among Bangladeshi women that it accounts for less than 80 per cent of overall within group individual income inequality, and for some groups it accounts for 100 per cent or more. For example, this is the case for Black Caribbean men, a group where other income sources mitigate inequality. This is also interesting as it was among Black Caribbean men and even more so women that overall inequality was relatively low compared to other groups (see Table 6).

Within labour earnings the contribution played by self employment in individual inequality is also striking. Given that even where it made up a substantial share of incomes self-employment still accounted for a significantly lower share of labour income than earnings it is striking how much it contributes to inequality. The wide dispersion of self-employment incomes, and the different types of work that self-employment can imply, is probably related to this finding.

Self-employment income contributes particularly powerfully to the inequalities of Indian and Black African men (as well as White British men) and Black Caribbean and Chinese women. Compared to other groups of women and to Chinese men, Chinese women had a large share of individual income coming from self-employment, but the extent to which this drives the large individual income inequalities is striking.

We now turn to look at how these effects are moderated when looking at pooled household incomes. These are illustrated for women only in Table 11 (since the results for men and women at the household level are very similar).

Table 11 shows that at the household level, almost all within group income inequality derives from labour income. Moreover, for all groups, benefit and tax credit income moderates income inequality. Self-employment income still makes a substantial contribution to income inequalities, but far less at the household level than at the individual level, suggesting that self-employment incomes are not correlated within households. Reducing household income inequalities therefore implies reducing inequalities in labour income and the extent to which these are correlated across household members.

Reducing such within group inequalities would not necessarily impact on inequalities between groups or, more specifically, the very different concentrations of low income that particular groups experience.

Summary

For most groups of women around 50 per cent of their individual income comes from either employment or self-employment. Even among Pakistani women, over 40 per cent of individual incomes derive, on average from these labour earnings while for Bangladeshi women the share is nearer 30 per cent. Pension income (including pensioner benefits) only plays a substantial role in White British women's incomes. The proportion of individual incomes which comes from benefits is highest for Pakistani and Bangladeshi women, but the amounts of average (non-pension) benefit income in women's individual incomes are similar for Pakistani, Bangladeshi, Black Caribbean and Black African women. The share of individual incomes made up of labour income is higher for men than women for each group. Self-employment income tends to be higher among men than women, though the exception is Chinese women who have a larger share of their incomes from self-employment than Chinese men.

Labour income, from both earnings and self-employment is the main factor contributing to income inequality for both men and women and for both individual and household incomes. The share of inequality contributed by self-employment income is, however, disproportionately large compared to its share of average household income. Labour income is slightly more important in contributing to inequality among men than among women. Benefit income contributes slightly to individual income inequality, but reduces inequality at the household level. These patterns largely hold across ethnic groups and for men and women. The key then to reducing inequality lies principally in reducing average earnings disparities.

Table 10: Contributions income sources to individual income inequality by ethnic group and sex

	Indian		Pakistani		Bangladeshi		Chinese		Black Caribbean		Black African	
	Women	Men	Women	Men	Women	Men	Women	Men	Women	Men	Women	Men
	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
Earnings	73.8	45.4	71.6	75.3	58.2	43.8	11.5	90.0	31.8	81.8	72.1	7.5
Self-employment	21.9	54.0	9.2	17.3	1.0	43.8	86.2	4.3	65.2	22.5	18.4	92.7
Investment income	2.3	1.5	0.9	2.0	3.6	1.4	0.3	2.7	0.1	0.5	0.4	0.0
Pension income	–0.5	–0.2	0.4	0.2	6.1	6.7	–0.1	0.2	–2.1	–0.6	–0.2	–0.1
Benefit income	0.6	–1.1	10.6	0.4	21.4	2.7	–0.1	–0.4	0.7	–3.8	4.9	–0.2
Tax credits	0.4	–0.1	5.9	1.8	9.1	2.1	–0.0	0.1	1.9	0.3	3.0	0.1
Other income	1.5	0.4	1.5	3.0	0.5	–0.3	2.2	3.0	2.4	–0.7	1.3	–0.1
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Source: *Family Resources Survey and Households Below Average Income 2003/04–2007/08.*

Table 11: Contributions of income sources to household income inequality by ethnic group: women

	White British	Indian	Pakistani	Bangladeshi	Chinese	Black Caribbean	Black African
	(%)	(%)	(%)	(%)	(%)	(%)	(%)
Earnings	68.7	87.8	91.7	61.0	44.7	79.3	86.3
Self-employment	27.5	12.0	9.5	33.4	47.3	25.8	15.6
Investment income	3.1	1.1	1.0	2.3	1.8	0.9	1.2
Pension income	1.1	0.1	1.6	6.1	1.2	–3.0	0.4
Benefit income	–1.9	–1.4	–4.0	–2.8	–0.7	–4.4	–5.2
Tax credits	–0.3	–0.5	–0.6	–1.6	–0.1	–0.2	–0.8
Other income	1.8	1.0	0.8	1.6	5.7	1.6	2.5
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Source: *Family Resources Survey and Households Below Average Income 2003/04–2007/08.*

1.6. Simulations: Effect of elimination of within and between group income inequalities on poverty rates

Here we turn to the question raised in the introduction of whether and why women's inequalities might matter – for themselves and for other members of their households. We focus on risks of poverty, since poverty is known to reduce opportunities and impact on future welfare. While much focus has been on the later life impacts of child poverty (explored in Section 2.6), poverty throughout the lifecourse can have an important cumulative impact leading to major disparities in old age, including differences in mortality (Hills et al. 2010).

In previous sections we examined within and between group inequalities of individual and equivalent household incomes for women from different ethnic groups. We found that within group inequalities were much higher than between group inequalities. The implication was that addressing inequalities among women might have far reaching impacts on family income and on the average well-being of women across groups. However, it was not clear the extent to which such equalisation within groups of women would be sufficient to address the major disparities across ethnic groups in both individual and household income that we observed.

In this section, therefore, we ask what would happen to overall poverty rates and those of men, women and children, if these within or between group income inequalities across groups of women were eliminated. We conduct simple simulation exercises as a heuristic device to provide illustrative indications of what the impact of greater equality could be. Obviously, and unlike traditional microsimulation exercises, we do not aim to indicate what shift in policies or components of income could lead to such equality. That is beyond the scope of this study. Here our aim is to explore the extent to which addressing the income inequalities across women could lead to a reduction among those in poverty overall and for particular groups. A second stage would be to ascertain the extent to which this is an outcome worth pursuing and if so how it might begin to be achieved.

We simulate individual and household incomes of women under four different scenarios:

1. First we equalise within group individual income for all women to her group average.
2. Then we consider the impact of equalising individual incomes across groups by assigning each woman the mean age-adjusted individual income of White British women. See Box 5 for our approach.

In section 1.2 we discussed how the income profiles of women vary by age and that the demographic profiles of ethnic groups are distinctive. This implies that part of the between group inequality may be due to different age compositions across ethnic groups. So, instead of eliminating inequalities in total individual income between women of different ethnic groups and White British women we aim at eliminating the inequality in age-adjusted individual income between them.

Individual incomes represent one potential source of inequality; but household incomes are the basis of poverty measurements and implicitly indicate the overall economic welfare of women. As we have continued to show thus far, focusing alternately on individual and household incomes gives rather different indications of women's inequalities and their relative position in terms of economic welfare. For example, Indian women rank fifth in terms of their individual income but third in terms of their equivalent household income. We therefore,

3. Equalise women's equivalent household incomes both within group, that is matching to the mean of the group, and

4. Equalise women's equivalent household income between groups, that is matching to the age adjusted equivalent household incomes of White British women.

We repeat these exercises at the median as well as at the mean. We calculate poverty rates based on the new poverty lines which apply in the face of the simulated income distributions.

Box 5: Equalising within and between group income inequalities among women

To eliminate within group individual income inequality for women we hypothetically give to (or take away from) each woman an amount of money that will make her individual income the same as that of the average of her group. Individual incomes of men are left unchanged as the focus is on removing inequalities among women. We recalculate the equivalent household incomes by totalling the individual incomes of household members and then dividing this by the OECD equivalence scale (normalised to 1 for a single person with no children).

To estimate age adjusted individual incomes, we regress individual incomes of women on their age, age squared and age cubed. The residuals of the resulting estimates are their individual incomes net of age effect. Next, we compute the mean individual income (net of age effect) of white British women. By adding the difference of each woman's age adjusted individual income from this mean to their actual individual incomes we get the new simulated income that eliminates between group income inequalities among women. In other words, we hypothetically make the age-adjusted individual incomes of all women equal. We do not simulate incomes of men. We recalculate the equivalent household income as above.

We simulate household incomes by methods similar to that for individual incomes setting household incomes to own group mean and age-adjusted household income to the mean of age-adjusted household income of White British women. The motivation of this simulation exercise is to see what happens to poverty rates when household situation changes. So, we also assign all men living with women the new simulated household incomes of these women. If there is more than one woman within a household then their new simulated household equivalent incomes will be different if their age and/or ethnicity are different and we have to decide how to assign a single equivalent household income to such a household. We resolve this issue by averaging the new hypothetical household incomes of all women in the household and assign that average to all household members.[3] Single men and men not living with women are assigned their original equivalent household incomes. We would expect all women and those men living with them to move out of poverty, following this equalisation, on the assumption that average income falls above the low income threshold. However, that may not be the case for all single men or men not living with women.

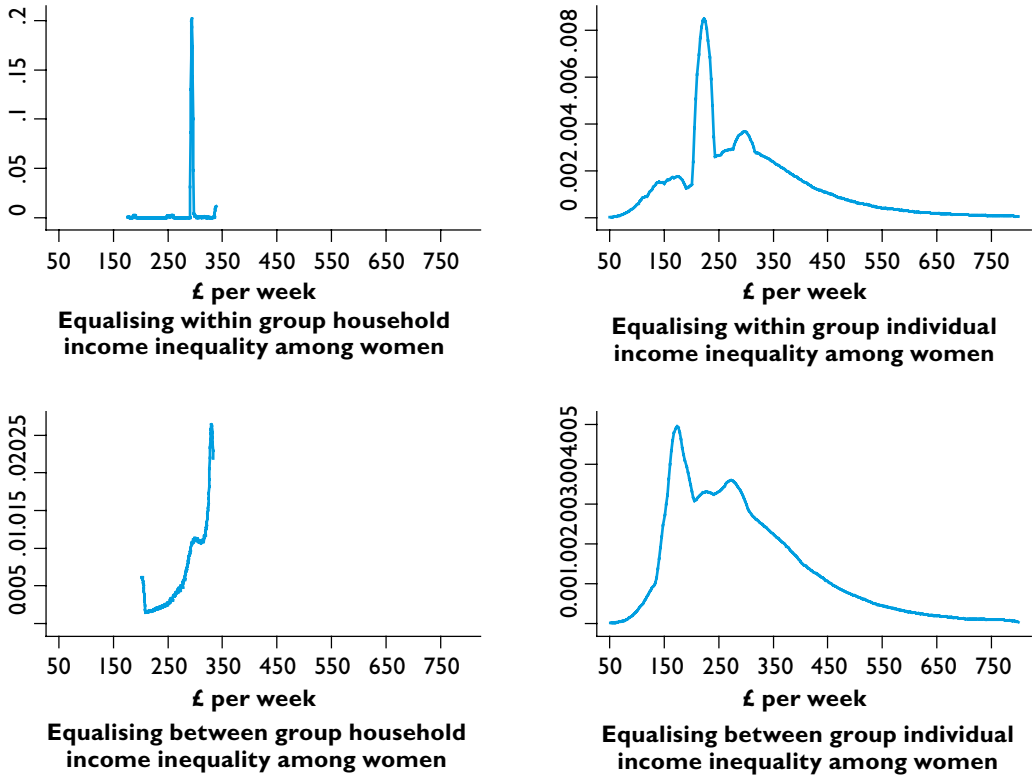
The mean being sensitive to extreme values, the median is often considered a more robust measure of representative group income than the mean. So, we carry out an alternative set of simulation exercises with median incomes. Note that simulating incomes by equalising to the means only implies redistribution of income within the population as a whole, with the total income across all individuals remaining constant. But equalising to the median involves not only redistribution of income but may also change the total income of the population.

When we simulate the equalised incomes, the median household income is likely to change and hence so will the poverty threshold measured as 60 per cent of the overall median. So, we calculate new poverty thresholds and consequently poverty rates based on the post-simulation distribution of income.

We should note that the distribution of simulated equivalent household incomes of women when we eliminate income inequalities in women's equivalent household incomes, whether between or within group (simulations 3 and 4) will be highly concentrated. But it will be relatively more dispersed when we eliminate individual income inequalities between and within groups among women, as we can see from Figure 34. The reason is that when we equalise household incomes, the household incomes of all men living with women get equalised as well; but when we equalise women's individual incomes, the incomes of the men living with them and their contribution to household income is left unchanged. The implication is that poverty rates based on the simulated household incomes that equalise women's within and between group household incomes will be extremely sensitive to the poverty line, and will either be around zero or around 100 per cent for each ethnic group.

[3] While this method may seem ad hoc, it provides a reasonable basis of dealing with such situations, where the final income should reflect the simultaneous adjustments to all women's incomes. Moreover, given that there are very few such households we are confident that this will not severely affect our poverty estimates. Sensitivity analyses using alternative approaches, i.e. to take the lowest or highest of the possible simulated incomes, could demonstrate this.

Figure 34: Impact of equalisation (to the mean) of women's incomes on women's distribution of equivalent household income

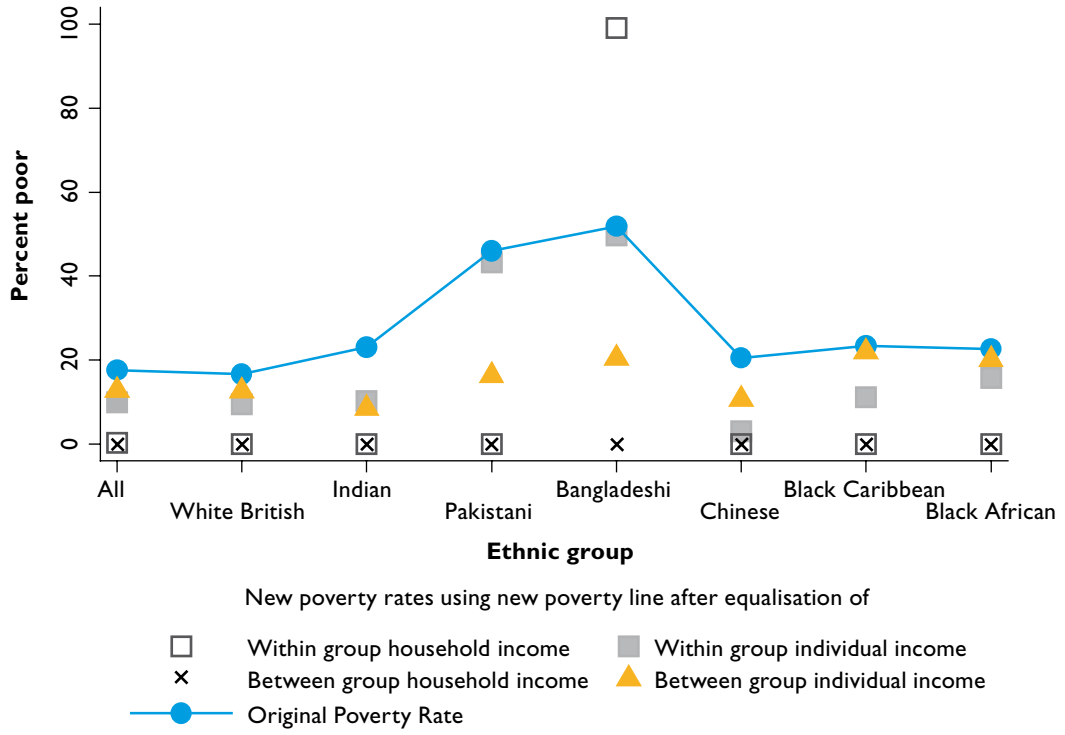


Source: *Family Resources Survey* and *Households Below Average Income 2003/04–2007/08.*
Note: The scale of the y-axes is different for the different kernel densities

Equalising within and between group income inequalities among women (using mean incomes)

When we recalculate the poverty lines to reflect the new simulated incomes, we find that these are higher than the old poverty line as median income has been raised. The original deflated poverty threshold was £151.23 per week. The new thresholds based on equalisation of between and within group individual income inequalities are £174.20 per week and £174.69 per week, respectively. This is because we are raising the median, even if we are not changing the total income in the distribution. The thresholds based on equalisation of between and within group household income inequalities are £188.48 per week and £176.24 per week, respectively. In Figures 35-36 we report the poverty rates of men and women, based on these new hypothetical equivalent household incomes pertaining under assumptions of equality and the corresponding new poverty lines.

Figure 35: Impact of equalisation (to the mean) of women's incomes on women's poverty rates with new poverty line, by ethnic group



Source: *Family Resources Survey* and *Households Below Average Income 2003/04–2007/08*.

We find that when within and between group household income inequality are eliminated the poverty rates for women drop to zero (except for Bangladeshi women). Thus equalising incomes does tend to reduce poverty, even though it shifts the poverty threshold. That does not appear to be the case for Bangladeshi women and men when household incomes are simulated to equalise women's within group equivalent household incomes: their poverty rates rise to 98 per cent. As noted before simulated household incomes (by construction) are almost the same for all women in each group and so women's poverty rates based on these are either almost zero or almost 100 per cent depending on the position of the poverty line. The simulated equivalent household income is £176.09 per week for 99 per cent of Bangladeshi women and 92 per cent of Bangladeshi men.[4] And we know that the poverty line based on this simulation exercise is £176.24 per week. In other words, most of them have incomes marginally below the poverty line and if we were to round the numbers the poverty rates would be almost zero. But it is still true that Bangladeshi household incomes are extremely low and even bringing the lowest up to the own group mean leaves almost all of them at or just below 60 per cent of the overall median. Although Pakistani women also have very low household incomes their group average is not as low as that of Bangladeshi women which enables their simulated household incomes (with a mean of £189.9 per week) to be above the newly calculated poverty line. This illustrates how for those with low incomes the position of the poverty threshold can make a big difference to their poverty rates, whereas it has little impact for those who are, on average, better off.

When we eliminate within group individual income inequality poverty drops to very low levels for most groups but is not eliminated completely for any group, except perhaps the Chinese group. On

[4] In this case, the poverty rate for Bangladeshi women is not exactly 100 because a few of them live in mixed ethnicity households. We have assigned each woman in a mixed ethnic household, the average simulated household income for each member (which varies by ethnicity).

the other end of the spectrum are Pakistani and Bangladeshi women. Adjusting within group individual income for both Pakistani and Bangladeshi women makes almost no difference to their poverty rates, when we recalculate the poverty line to take account of overall shifts in income; although it does not actually increase them since the new poverty line is driven by White British women's average individual income, which, as we saw in sections 1.1 and 1.2, is not so high. This is because in some households the increase in women's individual income up to the mean is not sufficient to bring the household out of poverty, and in other cases, bringing women's individual income *down* to the mean may leave the family income in poverty if the woman's above average income was the primary reason for the family not being in poverty in the first place.

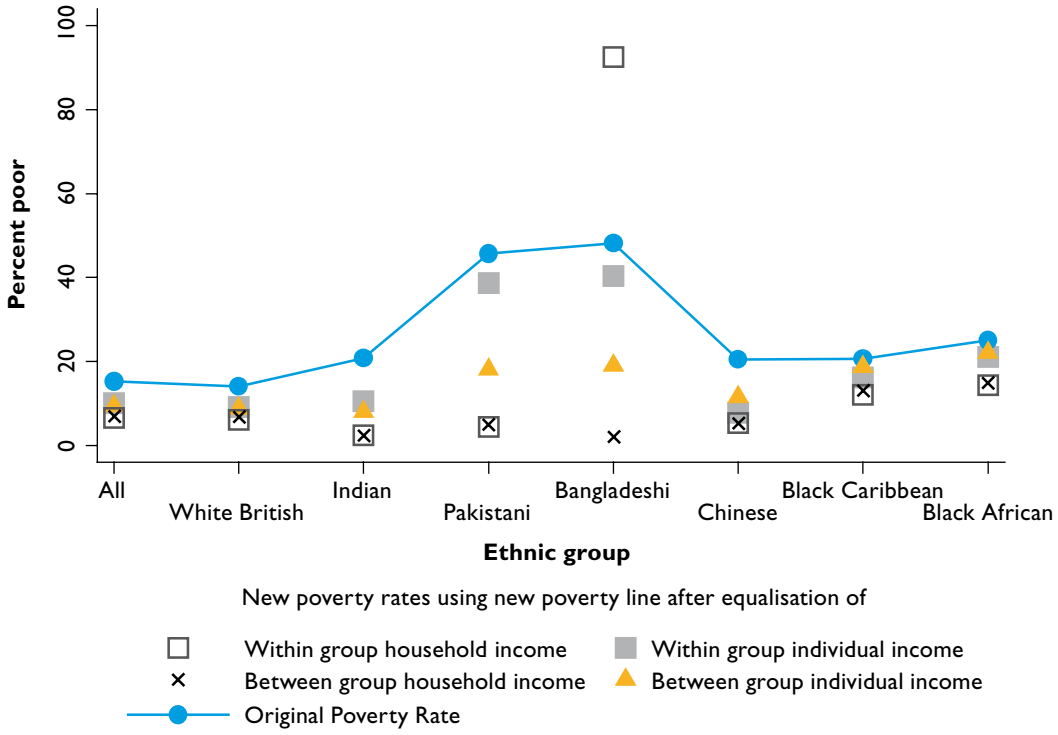
For Bangladeshi and Pakistani women removing between group income inequality is more effective than removing within group income inequality for poverty reduction, though even then equalising their individual incomes with those of White British women leaves as many as 20 per cent below the poverty line, reflecting relatively low incomes of other household members.

Interestingly for Chinese and Black Caribbean and Black African women removing within group individual income inequality is more effective in reducing poverty than removing between group individual income inequality. We saw how Black Caribbean women's individual incomes were relatively high on average, and also relatively tightly clustered, with the lowest within group inequality. But it is here, where inequality is not so high that within group equalisation has one of the biggest impacts on lowering the poverty rate. However, the other group is Chinese women who have a very dispersed and highly unequal distribution. It is clearly therefore not possible to read off poverty risks or impacts from inequality. The explanation lies in how inequality is removed. It is the fact that Chinese, Black Caribbean and Black African women's individual incomes are on average relatively high, and the extent to which they are significant in household incomes that is relevant for the poverty reduction effect we see here. By contrast, their individual incomes are higher than those of White British women and so eliminating income inequality vis-à-vis White British women has relatively less impact on poverty rates.

When we turn to Figure 36, we find that poverty rates for men fall considerably when within and between group household income inequalities among women are removed, but is not completely eliminated as men who do not share a household with women experience no change in their household income. The relatively high rates of single men among Black Caribbean and Black African groups, means that they are less affected by equalisation of household incomes than women or men from other groups.

We find that within group adjustment of women's individual incomes has a very similar effect on men's poverty rates as women's between group individual income adjustment. This is the case for all groups of men bar Pakistani and Bangladeshi men. For Pakistani and Bangladeshi men the between group individual income equalisation is much more important than within group equalisation. We have noted how for Bangladeshi men as for women, household incomes are sufficiently low that within group equalisation in the face of the adjusted poverty line leaves almost all of them poor given the proximity of average incomes to the new poverty line. Moreover, equalising women's individual incomes to the group mean has little impact on poverty rates, partly because low household incomes are driven by low men's as well as women's incomes and partly because of the relatively low contribution of women's incomes to the total.

Figure 36: Impact of equalisation (to the mean) of women's incomes on men's poverty rates with new poverty line, by ethnic group.



Source: Family *Resources Survey* and *Households Below Average Income 2003/04–2007/08.*

When looking overall, it is clear that reducing inequality between women and among women can have substantial effects on the poverty rates of both men and women, but the precise impact will tend to be group specific.

In Section 2 we focus simply on women with children, and thus in our simulations in Section 2.6 highlight the experience of children relative to women's inequalities more specifically. Meanwhile, we go on to consider the results of our simulations in the light of a focus on the median. As we know, incomes have a skewed distribution and the mean is subject to the influence of outliers, we look at the impact of equalising to the median instead. Particularly for individual incomes, where median incomes may in some cases be very low, the choice of focusing on the median – or other quantiles of the distribution – is likely to give a slightly different impression of the impact of within and between group equalisation on poverty, and this is particularly relevant since it is to the median rather than the mean that low income estimates are tagged.

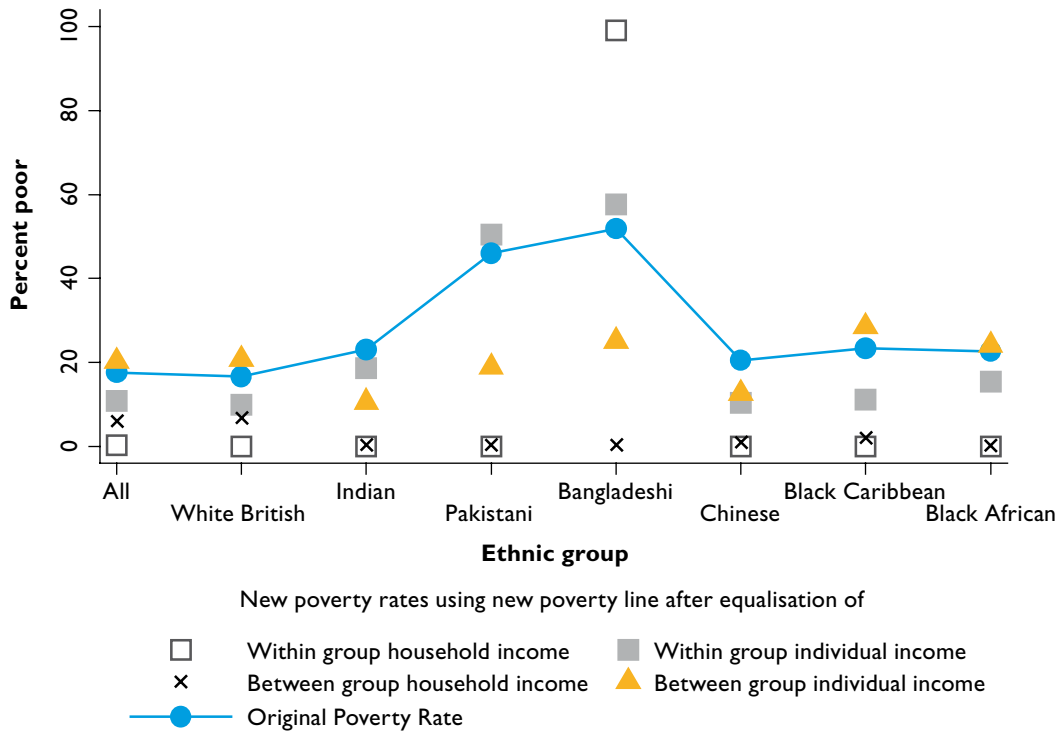
Equalising within and between group income inequalities among women (using median incomes)

In Figures 37-38, we repeat the simulations carried out above, equalising women's individual and household incomes to the median and exploring the impact on poverty rates.

Figure 37 shows the impact on women's poverty rates of equalisation of women's individual and household incomes to the within group median and age adjusted median of White British women. Poverty rates are again estimated using the new poverty thresholds which are calculated as 60 per cent of the median of the new equivalent household incomes of all persons. As median incomes are lower than the means for all women (see Figures 3 and 4), the effect of these simulation exercises would be expected to be less favourable on poverty rates than those using mean incomes (though the

equalisation exercise will bring them in the new distribution much close together), and that is what we find. The new poverty lines being based on higher incomes are higher than the old poverty line and so poverty rates may increase. We see this happen for within group individual income equalisation for Pakistani and Bangladeshi women and for between group individual income equalisation for Black Caribbean and White British women. On the other hand there are major reductions in poverty for Indian, Pakistani, Bangladeshi and Chinese women if individual incomes are equalised between groups, reflecting for the Chinese the way that the median moderates the impact of outliers which produce a higher mean. And within group equalisation of individual incomes brings major reductions for White British, Chinese, Black Caribbean and Black African women.

Figure 37: Impact of equalisation (to the median) of women's incomes on women's poverty rates with new poverty line, by ethnic group

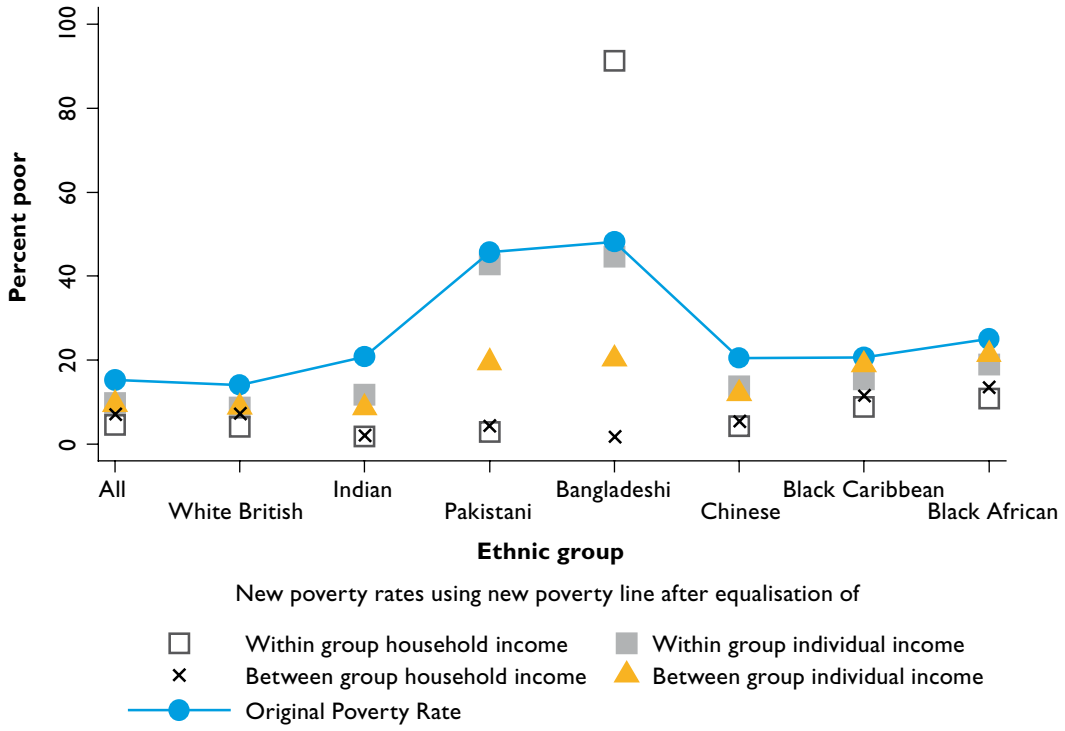


Source: *Family Resources Survey* and *Households Below Average Income 2003/04–2007/08*.

As before, within and between group household income reduces poverty to almost zero for women in all groups except Bangladeshi women for whom it is 100 per cent. We have explained earlier the reason for this extreme difference in poverty rates. Equalising between group household incomes brings poverty reductions for all groups.

As in the simulation exercises with mean incomes, equalising women's incomes has less effect on men's incomes than on their own, but there are still some substantial impacts on poverty (see Figure 38). Equalising women's within and between group household income reduces poverty rates for all except Bangladeshi men for whom equalising within group household income increases their poverty rates to around 90 percent. Equalising between group individual incomes also reduces men's poverty for a number of groups.

Figure 38: Impact of equalisation (to the median) of women's incomes on men's poverty rates with new poverty line, by ethnic group



Source: *Family Resources Survey* and *Households Below Average Income 2003/04–2007/08*.

Winners and Losers

The discussion above gives us an overall picture of how men and women in different ethnic groups gain from equalising within and between group individual and household incomes using mean and median incomes. While the group as a whole may have lower levels of poverty than before, it is possible that some members of the group lose out and move into poverty. In Table 12 we show what proportion of the sample move into and out of poverty and what proportion remain in the same poverty status. As we can see around 10 per cent to 14 per cent move out of poverty, more in case of women than men.

Table 12: Poverty transitions of men and women as a result of simulating incomes to eliminate within and between group individual and equivalent household income inequalities among women

	Within group household income	Within group individual income	Between group household income	Between group individual income
All men and women				
Move out of poverty	14%	10%	14%	10%
Move into poverty	1%	4%	1%	5%
Remain in poverty	2%	6%	2%	7%
Remain out of poverty	83%	80%	82%	79%
Women				
Move out of poverty	17%	13%	18%	12%
Move into poverty	0%	5%	0%	7%
Remain in poverty	0%	5%	0%	6%
Remain out of poverty	82%	77%	82%	75%
Men				
Move out of poverty	11%	8%	11%	8%
Move into poverty	2%	2%	2%	2%
Remain in poverty	5%	8%	4%	7%
Remain out of poverty	83%	82%	82%	83%

Source: *Family Resources Survey* and *Households Below Average Income 2003/04–2007/08*.
Notes: calculations based on those above and below the poverty threshold using original incomes and poverty threshold and position above or below the new poverty threshold using simulated equalised incomes.

Next we take a look at who the 'winners' and 'losers' are. That is, we consider the characteristics of the women who gain (or move out of poverty) and those who lose (or move into poverty) as a result of equalising incomes. We estimate logit models to identify the characteristics of winners and losers. The estimated coefficients are reported in Table 13. It should be noted that we are exploring simply the associations between being a winner and being a loser and different characteristics of the woman and not suggesting any kind of causal links between them.

In Table 13 we report the estimated coefficients of the logit model of being a winner and of being a loser. As either all or almost all (around 99 per cent) of women move out of poverty when between and within group household incomes among women are equalised, the results below refer only to the cases where within and between group individual incomes among women are equalised. Note that since we are controlling for other individual and family characteristics, we could expect any apparent differences between ethnic groups to be attenuated, to the extent that they are driven by these differences in characteristics.

We find that poor women living with a spouse or a partner are less likely to move out of poverty when within or between group income inequalities are eliminated. The average individual incomes

of men are higher than those of women in all ethnic groups. If these women are poor it implies that their spouses or partners have low incomes as well (or at least have incomes that coupled with the household size lowers their equivalent household income to below 60 per cent of the median). As only the incomes of women are simulated to the group mean (and the low incomes of their spouse or partners remain low), in such a scenario a single low-income woman is likely to gain more than a low-income woman with a low income partner as the former's gain is not shared with others.

The presence of dependent children also reduces the likelihood of moving out of poverty. The explanation is similar to having a spouse or partner present in the household: the gain in a woman's income needs to be shared by more people and so lowers the gain to the household (and poverty status is determined by the equivalent household income).

Holding family characteristics and age group constant, poor Bangladeshi and Pakistani women are less likely to move out of poverty when their within group incomes are equalised as compared to poor White British women, while poor women of other groups are more likely to gain. Given the extremely low individual incomes of Bangladeshi and Pakistani women, this is not a surprising result. When between group individual incomes are equalised Chinese, Black Caribbean and Black African women are not more likely to move out of poverty as compared to White British women, although women in other groups are. Given the relatively higher individual incomes of Chinese, Black Caribbean and Black African women compared to White British women, it follows that poor women in these groups are not likely to gain more than poor White British women from equalisation with the age adjusted individual incomes of White British women. Nevertheless, it is interesting that these relationships are maintained when we control for family status since it differs substantially between groups, as we have seen.

Table 13: Estimated coefficients from logistic regressions of being a *winner* and a *loser* among all women

	Within group individual income		Between group individual income		Within group individual income		Between group individual income	
	Winner				*Loser*			
Constant	1.66	***	2.33	***	–4.97	***	–5.57	***
Living as a couple with spouse or partner	–0.21	***	–0.87	***	1.51	***	2.00	***
Dependent children	–2.32	***	–1.72	***	3.05	***	2.29	***
Ethnic group								
(omitted: White British)								
Indian	0.61	***	0.67	***	–0.27	**	–0.72	***
Pakistani	–1.00	***	0.65	***	1.30	***	–0.29	
Bangladeshi	–0.87	***	0.63	***	1.27	***	–0.58	
Chinese	1.76	***	–0.05		–1.50	***	0.28	
Black Caribbean	1.06	***	–0.19		0.06		0.99	***
Black African	0.82	***	–0.11		–0.12		0.76	***
Age group								
(omitted: 45-54 years)								
16-24 years	0.71	***	–1.05	***	–0.38	***	1.07	***
24-34 years	–0.09		–0.23	***	0.07	*	0.27	***
45-54 years	0.11		–0.10		–0.20	***	0.24	***
55-64 years	0.36	***	–0.37	***	–0.53	***	0.27	***
65-74 years	1.75	***	–2.07	***	–1.92	***	3.88	***
75+ years	2.48	***	–0.38	***	–2.76	***	2.27	***
Observations	20175		20175		89717		89717	

Source: *Family Resources Survey* and *Households Below Average Income 2003/04–2007/08.*
Note:* p<.10, ** p<.05 and *** p<.01

Compared to 35-44 year poor women, very young and near and post-retirement poor women (16-24 years, 55 years and above) are more likely to get out of poverty when we equalise within group individual incomes. Women in the 25 to 44 year age range are equally likely to get out of poverty as 35-44 year olds. If we equalise between group individual incomes, then poor in all age groups are less likely to move out of poverty than 35-44 year olds.

From the second panel of Table 13, we can see that among women who are not poor, those living as a couple with a spouse or partner or dependent children are more likely to move into poverty if their incomes are changed to eliminate within or between group individual inequalities among women. Following the equalisation exercise, individual incomes of women with higher incomes will fall. If their

individual incomes were crucial in keeping their household out of poverty then this change may push them into poverty.

Pakistani and Bangladeshi non-poor women are more likely to move into poverty than White British women when within group individual income inequalities are eliminated; the opposite is true of Indian and Chinese non-poor women. We know that Pakistani and Bangladeshi women have very low individual and household incomes. Those who are not poor do not tend to have high incomes, just relatively higher than 60 per cent of the median for all groups. So, when we equalise their incomes to that of the group mean it implies their incomes will fall and may result in dragging the equivalent household income down below the poverty line.

Compared to 35-44 year old women, 25-34 year olds are more likely to move into poverty if within group individual income inequalities are eliminated, while women in all other age groups are less likely. However, when between group income inequalities are eliminated women in all age groups are more likely to move into poverty than 35-44 year olds.

Summary

In section 1.5, we considered the extent of inequality across women and across minority groups. This section has attempted to provide a way of thinking about what a reduction in inequality would do to poverty rates. We can see that reducing women's within group equivalent income is effective in almost eliminating poverty as long as mean or median group incomes are clearly above the poverty threshold. If these are below the poverty threshold such equalisation will create almost total poverty. The simulations illustrate that this would be the case for Bangladeshi men and women. It shows how susceptible those with low average incomes are to the position of the poverty line. Moreover, substantial gaps in economic welfare for other groups would remain, even if poverty as currently measured were not eliminated. Equalising with the age-adjusted average for the majority group is much more reliably effective in eliminating poverty across groups, and this is largely effective for men as well as for women. Equalising women's individual incomes with the majority has mixed effects on poverty rates for groups, since, as we have seen there is great diversity in individual incomes and they vary in different ways in terms of their contributions to equivalent household incomes. Moreover, for some groups women's individual incomes play a more important role in overall household incomes and therefore in keeping individuals or families out of poverty.

Overall, the impact of equalisation of women's incomes, whether within or between groups would be to reduce women's poverty to between 0 and 13 per cent and men's poverty to between six and 10 per cent, depending on the approach. Of course demographic differences are bound up with the sources of income women receive and the matches of these to their needs, so the premise of income inequality in some ways overrides existing redistribution towards families with children or those without other sources of income, although our simulations took account of age related variations. It is then perhaps the more surprising that equalisation, even of individual incomes is potentially relatively effective in reducing poverty. Losers would be fewer than those gaining.

Moreover, it is potentially of interest to see who it is that gains and whether there are group specific gains and losses over and above demographic factors. There could be an argument that we would be more concerned about the impact of equalisation on those most at risk of poverty. Since all minority group women have higher poverty rates than White British women, we explored the relative impact of equalisation for women from each minority compared to the majority. Focusing just on individual income and within and between group equalisation, and controlling for basic demographic factors, Indian, Pakistani and Bangladeshi women are more likely than similar White British women to 'win', i.e. to move out of poverty if otherwise similar women's individual incomes were the same across; but

such between group equalisation would put Black Caribbean and Black African women at greater risk of moving into poverty, relative to White British women.

Having considered the situation of all women and their various inequalities in economic well-being, we next move on, in Section 2, to investigate the experience specifically of those women living with children and how those of different ethnic groups fare relative to each other when sharing the common circumstances of dependent children within the household.

2. Women with children

In this section we focus on the economic wellbeing of women with children to gain a further understanding of child poverty. As most children live with their mothers, a key to understanding their economic opportunities and constraints is to understand that of their mothers. In this sample around two per cent of children are living in households with one adult man while 21 per cent live in households with one adult woman. The economic position of women with children may be different from women without children as children in general do not earn any income and so their presence in the household is likely to reduce equivalent household income. As fertility varies by ethnic group, since fertility and marital choices may be influenced by cultural background, social networks and peer effects, we could expect to find striking differences in equivalent household of women with children by ethnic group.

However, it is not always the case that equivalent household incomes of families with children is lower, on average, than families without children because the number of children in a family is to a large extent the result of decisions made by that family. For example, if only high income families choose to have children, then women with children may have higher equivalent incomes. And we know, for example, that men with children have higher average wages than those without. Moreover, the period of having children also tends to come at a particular stage in the life course, for women even more than men. Thus the cohort of women with dependent children differs from that of all women, with fewer older women, among whom both individual and household incomes tend to be lower, and is a cohort that has higher average qualifications, and has potentially reached a peak in earning. Therefore in couples with children household labour income is likely to be higher than for all women. On the other hand, dependent children, particularly young dependent children are clearly a constraint on the earning capacity of women, as extensive research has demonstrated, with likely impacts on individual labour earnings. At the same time, sources of income are likely to vary between households with and without children, with those with children being eligible for child-related benefits and tax credits.

There are therefore no clear a priori expectations about how family circumstances, earning potential, and additional income sources will intersect in families with children to create particular patterns of economic well-being across ethnic groups and whether these will differ substantially from the patterns observed across all women in Section 1. For some groups, the proportion of women living with children is very high, whereas for others the proportion of women living with children is much lower, either because they have a youthful age profile and are less likely to have started a family (such as Chinese women), or because they have an older age profile and are more likely to have completed their families, such as White British women.

Thus the focus in this section on women with children also removes some of the complications of comparing demographically very different groups; and, in addition to allowing a direct consideration of the inter-related nature of women's and children's economic inequality allows us to explore the experience of those at an approximately similar life stage, that of having depending children, even if this lifestage varies by age and duration across ethnic groups (Dale et al. 2006).

The following sub-sections have similar coverage to those in Section 1. However, in this section, we restrict discussion of why we use particular techniques as these have already been discussed in section 1; and we focus more on the differences in this sub-sample compared with the overall sample.

There are two additional sections, where it is only possible to consider the experience of women with children and that therefore have no parallel in Section 1. These are Section 2.7 on material deprivation among women living with children, and Section 2.8, which explores poverty persistence using the Millennium Cohort Study, a cohort survey of young children. In both instances we outline our approach at the relevant points.

Most of the analyses focus on the experience of *women* living with children; but some analyses also give an account of the experience of *children* directly. The two differ to the extent that children in larger families fare differently to those in smaller families. For example, because poverty is higher among families with larger numbers of children, the poverty rate of children is higher than that of families (or women) with dependent children.[5]

2.1 Average economic well being of different ethnic groups and relative position

We explore average individual and equivalent household incomes of men and women of different ethnic groups, focusing only on those living with dependent children. Table 14 shows the sample composition of this sub-sample: families with dependent children. The ratio of men to women for almost all ethnic group is similar in this sub-sample to that of the overall sample (compare Table 1), the exceptions being Black Caribbean and Black African women where a higher proportion of women are living in households with children.

Table 14: Sample numbers across ethnic groups of men and women in families with children

	All Adults	Women	% of all women	Men	% of all men	Ratio of women to men	Children
White British	61520	34302	31	27218	27	1.2	58550
Indian	1831	965	45	866	41	1.1	1470
Pakistani	1547	812	66	735	61	1.0	1640
Bangladeshi	572	305	78	267	76	1.1	605
Chinese	254	146	30	108	30	1.3	207
Black Caribbean	843	539	43	304	32	1.6	938
Black African	1079	671	60	408	42	1.5	1353

Source: *Family Resources Survey* and *Households Below Average Income 2003/04–2007/08.*
Note: Unweighted counts; but percentages and ratio of men to women are based on weighted counts. Note that children have been assigned the same ethnic group as that of the head of household and 3.1 per cent of adult women and 1.6 per cent of adult men live in households where their ethnic group is different from that of the head of the household.

[5] Some additional differences between women's and children's economic circumstances will stem from the fact that a small proportion of dependent children do not live in families with women, and as a result of the fact that the ethnicity of the head of household with whom children live does not correspond in every case to the ethnicity of the women with whom the same children live. But these are not major factors in the difference between children's and women's poverty rates by ethnic group as they only affect a small proportion of children.

Looking at individual incomes in Table 15, we find that some interesting differences between this sub-sample and the overall sample emerge. First, men with children of all ethnic groups have higher individual incomes than those without, the exception being Bangladeshi men. Second, women with children also have higher individual incomes than those without, with the exception of Bangladeshi and Pakistani women. Third, these differences (in mean individual incomes between groups with and without children) are much higher for men than women for White British, Indian and Chinese groups, almost the same for Black Africans and lower for Black Caribbeans. The income premium for those with children is 10 per cent or more for White British men and women, Indian men, Chinese men and Black Caribbean women.

It is also evident that, as with the overall sample, women have lower mean individual incomes than men. However, the divergence in mean individual incomes between men and women is greater in this sub-sample for all ethnic groups except Bangladeshi, Black Caribbean and Black African men and women. In other words, men with children have much higher individual incomes for most groups than those who do not, but women with children do not have individual incomes that are as much higher than women without children.

Table 15: Mean individual weekly income by sex and ethnic groups for overall sample and the sample with dependent children

	Women	Women with dependent children	Difference	Men	Men with dependent children	Difference
White British	224.9	246.5	10%	355.5	423.0	19%
Indian	199.9	203.4	2%	341.2	392.7	15%
Pakistani	129.2	127.1	–2%	230.4	246.5	7%
Bangladeshi	135.0	128.8	–5%	223.2	212.7	–5%
Chinese	267.0	288.6	8%	344.9	454.8	32%
Black-Caribbean	266.9	300.3	13%	274.0	296.2	8%
Black-African	259.5	265.4	2%	293.0	295.1	1%

Source: *Family Resources Survey* and *Households Below Average Income 2003/04–2007/08*.

As expected, equivalent household income for men and women with children is lower than that for all men and women, as we see from Table 16. The exception is Chinese men and women. In other words, individual incomes of Chinese men and women with children and their partners or spouses are higher than those without children, so that even after taking account of the presence of children (who do not directly bring income into the household, though they do incur child-related benefits) their economic conditions are better. Note, however, that not all Chinese men and women have a Chinese spouse or partner. In the overall sample, around 28 per cent of married or cohabiting Chinese women and 12 per cent of married or cohabiting Chinese men have White British spouses or partners and in this sub-sample the corresponding numbers are 20 per cent and 8 per cent.

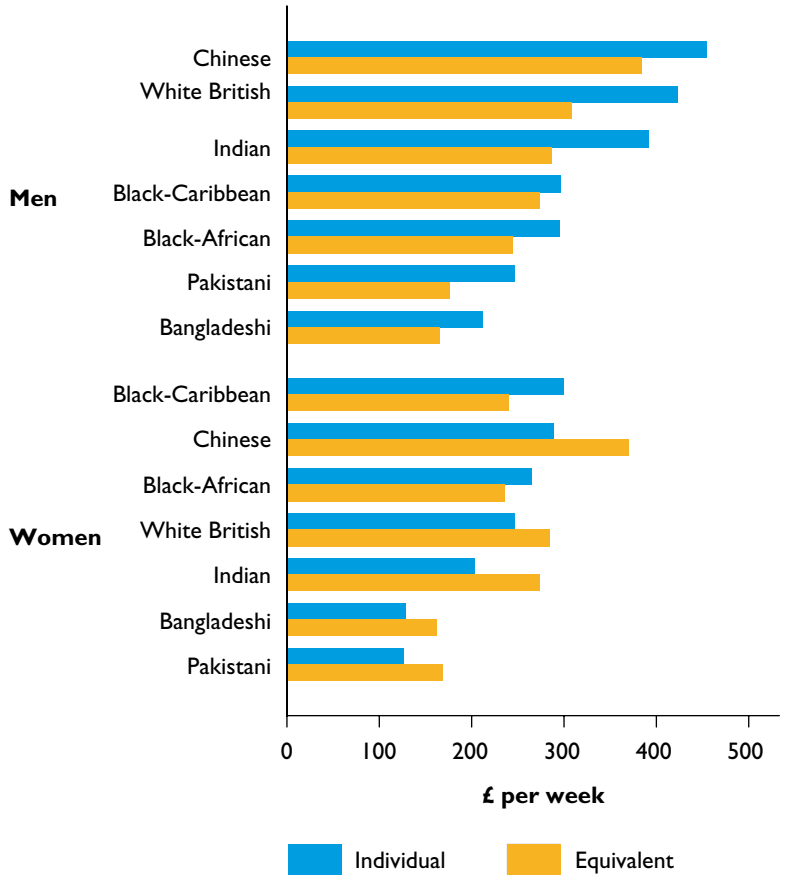
Table 16: Mean equivalent household weekly income by sex and ethnic groups for overall sample and the sample with dependent children

	Women	Women with dependent children	Difference	Men	Men with dependent children	Difference
White British	303.58	285.53	–6%	327.91	308.11	–6%
Indian	307.17	274.39	–11%	332.59	286.70	–14%
Pakistani	190.22	168.73	–11%	188.96	175.45	–7%
Bangladeshi	181.14	161.42	–11%	188.14	166.17	–12%
Chinese	352.18	369.98	5%	348.45	384.27	10%
Black Caribbean	262.08	240.61	–8%	279.93	274.64	–2%
Black African	263.80	235.69	–11%	283.02	245.67	–13%

Source: *Family Resources Survey* and *Households Below Average Income 2003/04–2007/08.*

These mean household and equivalent incomes for men and women are illustrated in Figure 39, which ranks them by individual income.

Figure 39: Individual and Equivalent Household Income, by sex and ethnic group, ranked by individual income



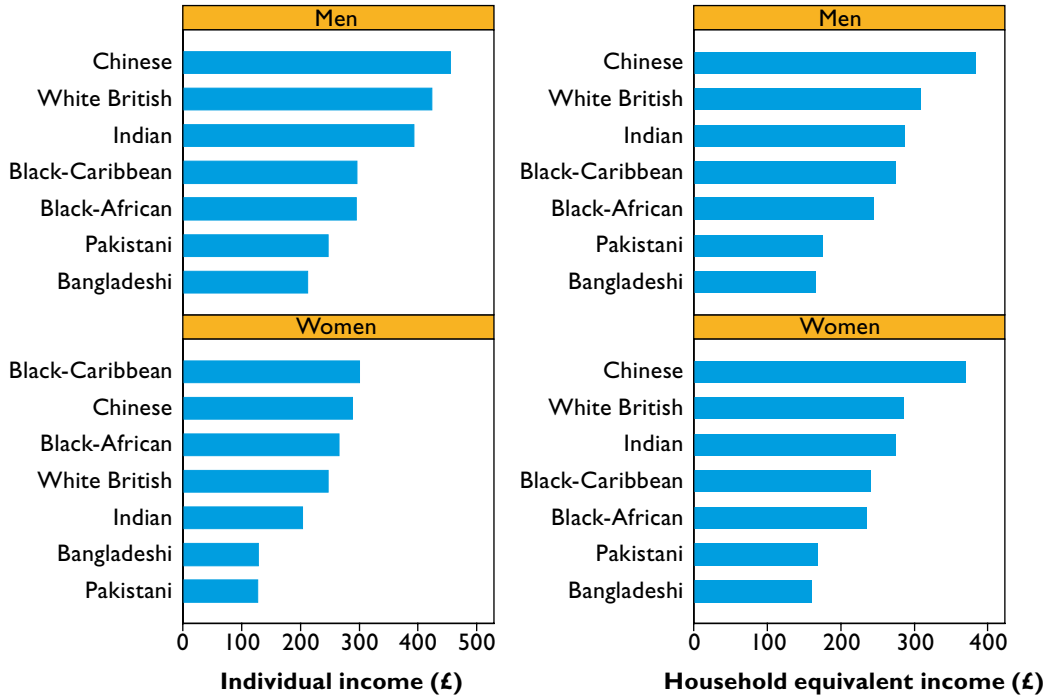
Source: *Family Resources Survey and Households Below Average Income 2003/04–2007/08.*

Figure 39 shows that as with the overall sample, men 'lose' and women 'gain' from cohabitation, with the same exceptions of Black Caribbean and Black African women not having higher equivalent than individual incomes. In other words, men on average from all groups have lower equivalent household incomes than their individual incomes and women from most groups on average have higher equivalent than individual income. There are two notable differences between these men and women with children compared to all men and women illustrated in Section 1. First, the 'loss' is greater for men with children and the 'gain' lower for women with children. These differences are understandable as children are typically non-earners and so lower the equivalent household income. Second, unlike in the overall sample, Chinese and Black Caribbean men also 'lose'. That would indicate that Chinese and Black Caribbean men with children are living with women whose incomes are lower than the women living with Chinese and Black Caribbean men without children.

As in the overall sample, women have lower mean household incomes than men in the same ethnic groups. Differences in equivalent household income between men and women in the same ethnic group derive from differences in household incomes between men and women who are living in single sex households and the differences in proportion of men and women living with partners or spouses of a different ethnic group. It is worth noting, however, that most ethnic groups, with the exception of Chinese and Black Caribbean men and women partner within the same group. As we noted above, overall around 28 per cent of Chinese women and 12 per cent of Chinese men who have partners have partners who are White British and the corresponding proportion for partnered Black Caribbean women and men are 28 and 36 per cent respectively (the rest have partners mostly of the same ethnic group).

The rankings by individual incomes for men and women with children are different from those in the overall sample, as Figure 40 shows. In the overall sample, White British, Chinese and Indian men were in the top three, followed by Black African and Black Caribbean men and the lowest ranked groups were Pakistani and Bangladeshi. These broad group rankings are the same in both samples. It is rankings within these broad groups that there are differences for this sub-sample. For example, among men with children Chinese men have the highest mean individual incomes while among all men White British men do. Among women, the ranking by individual income is almost identical for the two samples. The only difference is that among women with children, Black Caribbean women have the highest average individual incomes while among all women, Chinese women do.

Figure 40: Men's and Women's Mean Individual and Equivalent Household Income by ethnic group, ranked by value

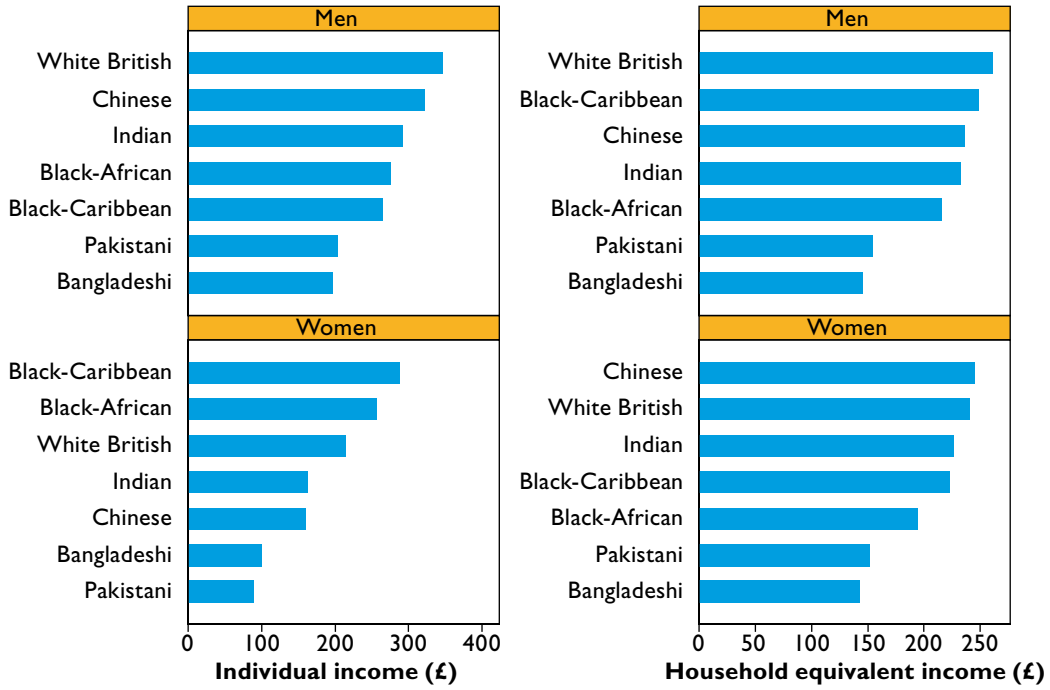


Source: *Family Resources Survey* and *Households Below Average Income 2003/04–2007/08.*

Mean incomes are sensitive to extremely high or extremely low incomes. So, in Figure 41 we also illustrate the median incomes for each group. By definition half the group will have incomes below the median. The median thus summarises to some extent the distribution of income; the closer the mean is to the median, the more symmetric is the distribution of income, as we discussed in Section 1. Figure 41 shows the median individual and equivalent household incomes of men and women by ethnic group and their relative ranking. Comparing the ranking of mean and median individual incomes, we find that for men there is very little difference. Among women, the most striking difference is the rank of Chinese women – their rank shifts from second position when based on mean individual incomes to fifth (or third last) position when based on median individual incomes. This is indicative of the presence of some Chinese women with very high incomes pulling up the mean. (Compare the discussion in Section 1.3). This is very similar to the overall sample where the rank of Chinese women shifted from first based on mean individual income to third based on median individual income.

When comparing ranking based on mean and median equivalent household incomes, in Figures 40 and 41, we find that differences in ranking that stand out are those of Black Caribbean men and Chinese men. For Black Caribbean men their rank based on mean household income is fourth but that based on median household income is second. The corresponding rankings for Chinese men are first and third. This implies that the household incomes of a proportion of Black Caribbean men are relatively low which brings down their mean and the household incomes of some Chinese men are relatively high, pulling up their means.

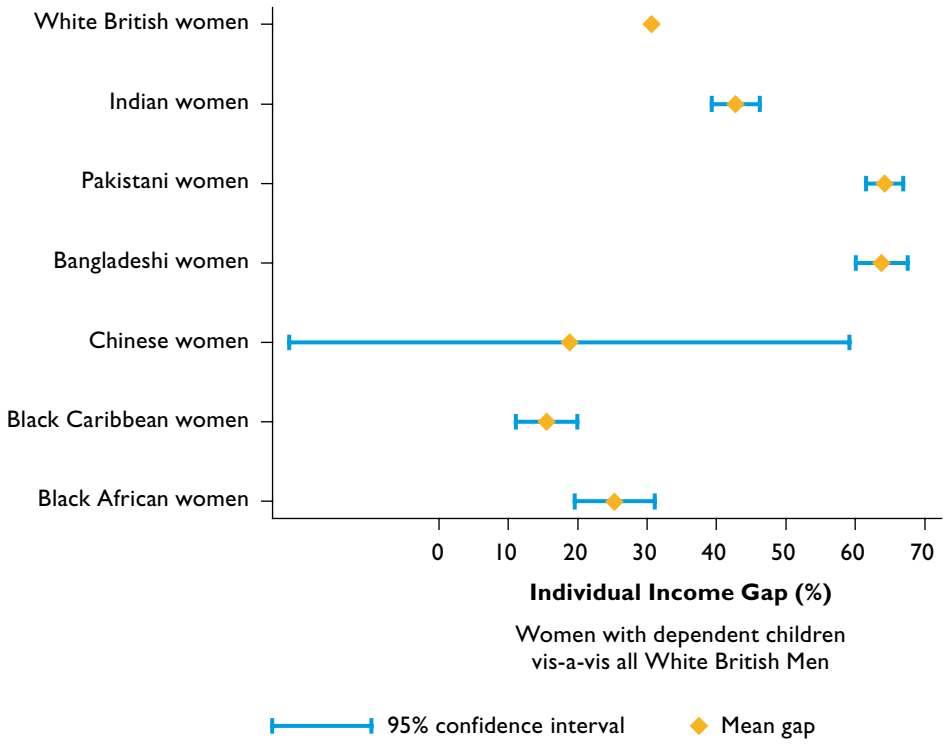
Figure 41: Men's and Women's Median Individual and Equivalent Household Income by ethnic group, ranked by value



Source: *Family Resources Survey* and *Households Below Average Income 2003/04–2007/08*.

Next, in Figure 42, we examine the individual income gaps of women with dependent children compared to the incomes of White British men. Compared to the overall sample, the income gaps are much lower for all women except Pakistani and Bangladeshi women for whom they are slightly larger. This is because incomes of those with children tend to be slightly higher, as we saw in Table 15, and we are comparing with all White British men. The difference in income gaps between the two samples is particularly large for White British, Chinese and Black Caribbean women. We have already seen that the individual incomes of White British, Chinese and Black Caribbean women with children are much higher than those for all women in these groups. While the income gap for most groups is statistically significantly different from zero, it is not the case for Chinese women. In other words, the income gap of Chinese women with children vis-à-vis that of White British men is measured imprecisely and so we cannot say with a considerable degree of confidence that it is not zero. It is worth noting that benefit income constitutes a relatively larger proportion of the individual income of White British and Black Caribbean women with children than women without children.

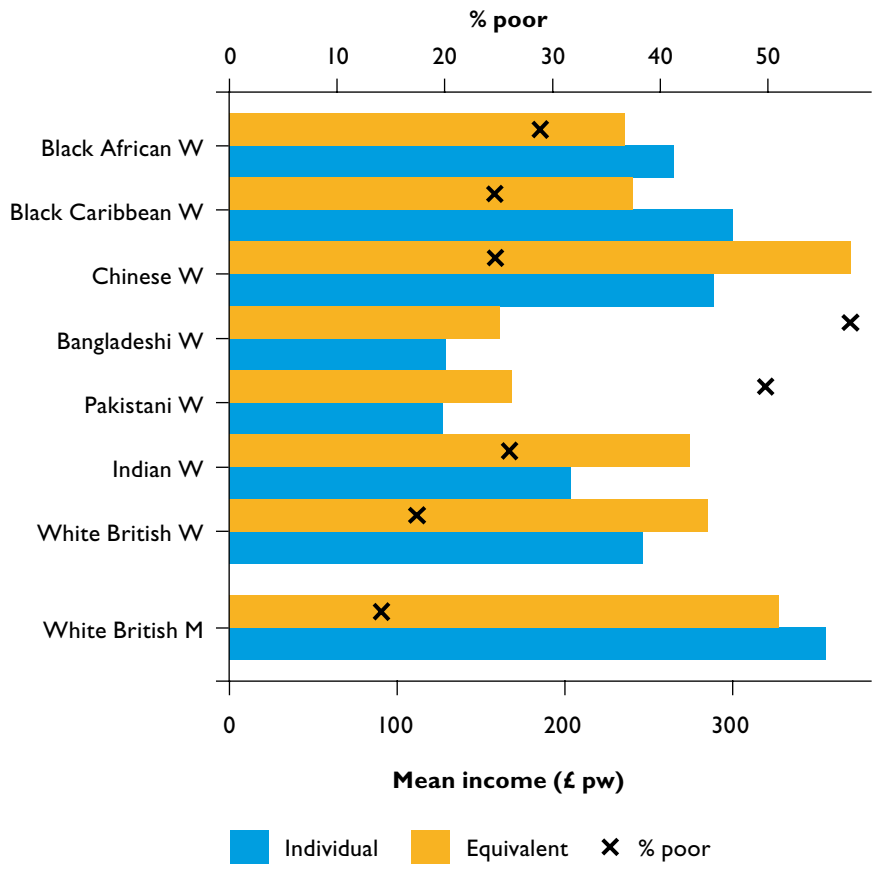
Figure 42: Individual income gaps for women, by ethnic group



Source: *Family Resources Survey* and *Households Below Average Income 2003/04–2007/08.*

In this section, up until now, we have had an overview of the economic well-being of women with children from different ethnic groups relative to each other, and relative to men in the same ethnic groups. While mean and median equivalent household incomes are indicative of relative poverty rates they do not directly tell us about poverty risks. It is possible that two groups with similar mean household incomes have quite different poverty rates (as we saw was the case for Indian and White British women in Section 1). Figure 43 shows the mean individual and equivalent household income of women with children and their poverty rates by ethnic group. It also shows the same for White British men for comparison purposes.

Figure 43: Women's individual and equivalent household income and poverty rates, compared with majority group men's, by ethnic group



Source: *Family Resources Survey* and *Households Below Average Income 2003/04–2007/08*.
Note: Equivalent household income has been normalised to one person.

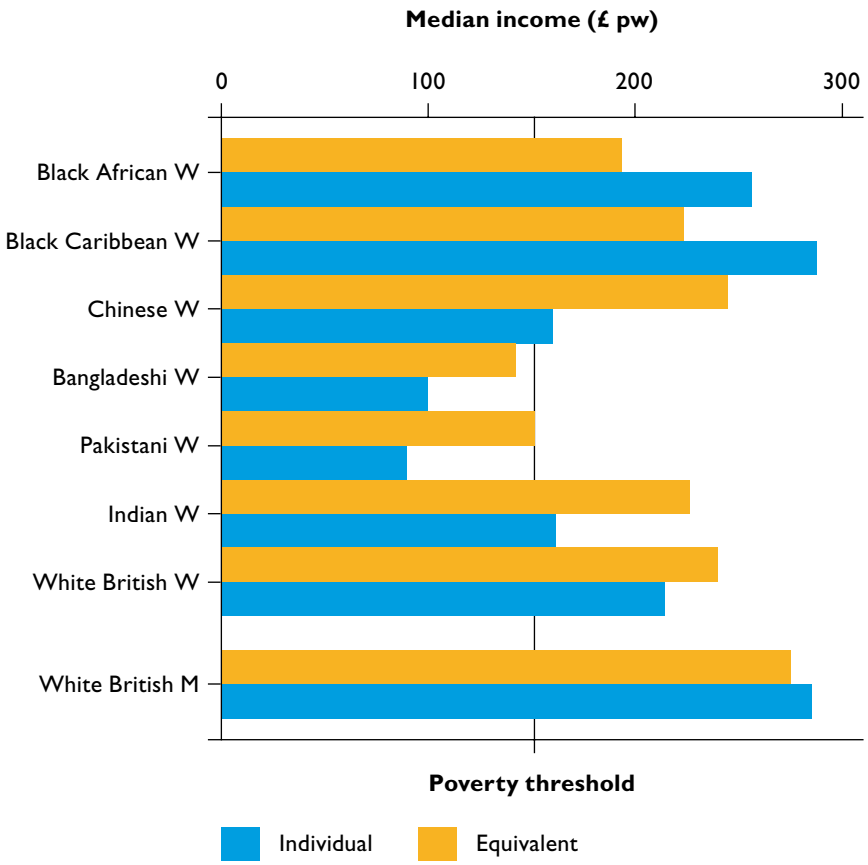
As in the overall sample, Bangladeshi and Pakistani women with children have the highest poverty rates, White British women the lowest, and White British men have lower poverty rates than women of all ethnic groups. Also, as in the overall sample, Indian and Chinese women with children have higher poverty rates than White British women with children, even though their mean equivalent household incomes are similar or higher than those of White British women. This indicates that there is much higher within-group income inequality for these groups. We discuss income inequality further in sections 2.3 and 2.4.

However, compared to the overall sample of women, women with children had higher poverty rates. Poverty rates of Black African, Chinese, Indian and Bangladeshi women with children were, respectively, 27 per cent, 20 per cent, 13 per cent and 11 percent higher than their counterparts without children. The opposite is true of White British men.

Information about median household income and the poverty threshold gives us a partial picture of poverty rates. If median household income is greater than the poverty threshold, then we know that at least 50 per cent of the people are not poor. That is, the poverty rate must be less than 50 per cent. Figure 44 shows the median equivalent household incomes of women of different ethnic groups and White British men. It also shows the poverty threshold. From Figure 44 we can see that the median household income is greater than the poverty threshold for all women other than Bangladeshi and

Pakistani women, for whom it is less than the poverty threshold and equal to the poverty threshold respectively. This translates, as we see in Table 17, into a poverty rate of 58 per cent for Bangladeshi women and 50 per cent for Pakistani women with children.

Figure 44: Women's individual and equivalent median household income, compared with majority group men's median income, by ethnic group



Source: *Family Resources Survey* and *Households Below Average Income 2003/04–2007/08.*
Note: Equivalent household income has been normalised to one person.

Table 17 compares poverty rates for men, women and children by ethnic group. For most ethnic groups, poverty rates for men and women with dependent children are higher than those without.

Table 17: Poverty rates across ethnic groups in families with dependent children

	All	Women	Men	Children
White British	15.5%	17.4%	13.3%	19.4%
Indian	25.2%	26.0%	24.3%	27.4%
Pakistani	49.6%	49.8%	49.3%	54.6%
Bangladeshi	56.2%	57.7%	54.6%	64.2%
Chinese	22.9%	24.7%	20.6%	31.3%
Black Caribbean	24.0%	24.6%	23.0%	25.6%
Black African	28.2%	28.8%	27.3%	34.7%

Source: *Family Resources Survey* and *Households Below Average Income 2003/04–2007/08.*

Summary

Men and women with children from all ethnic groups have higher individual incomes than those without, with the exceptions of Bangladeshi men and Bangladeshi and Pakistani women. At the same time, women with children have lower mean individual incomes than men with children. On the other hand, equivalent household income for men and women with children is lower than that for all men and women, with the exception of Chinese men and women.

Comparing individual and equivalent household incomes among men and women with children, men from all groups have lower average equivalent household incomes than their individual incomes and women from most groups on average have higher equivalent than individual income. The exceptions are Black Caribbean and Black African women with children who have higher individual than equivalent household income. Also as in the full sample, women have lower mean equivalent household incomes than men in the same ethnic groups.

The rankings by individual incomes for men and women with children are broadly the same as those in the overall sample. That is, White British, Chinese and Indian men and women are in the top three, followed by Black African and Black Caribbean men and women, and the lowest ranked groups were Pakistani and Bangladeshi. However, among women with children, Black Caribbean women have the highest average individual incomes while among all women, Chinese women do. Comparing the ranking of mean and median individual incomes among those with children, we find that for men there is very little difference. Among women, the most striking difference is the rank of Chinese women – their rank shifts from second position when based on mean individual incomes to fifth (or third last) position when based on median individual incomes.

As in the overall sample, Bangladeshi and Pakistani women with children have the highest poverty rates, White British women the lowest, and White British men have lower poverty rates than women of all ethnic groups. Also as in the overall sample, Indian and Chinese women with children have higher poverty rates than White British women with children, even though their mean equivalent household incomes are similar to or higher than those of White British women.

Poverty rates showed the same large differences across ethnic groups as in the overall sample, though compared to the overall sample of women, women with children had higher poverty rates across groups. Poverty rates of Black African, Chinese, Indian and Bangladeshi women with children were, respectively, 27 per cent, 20 per cent, 13 per cent and 11 percent higher than their counterparts without children.

2.2 Average experience of women with children relative to each other

Individual incomes are influenced by the personal characteristics of the women which include age, education, occupation, personal circumstances and so on. Their equivalent household income is in turn determined by their own individual income, that of their spouse or partner and of other household members, and their household size including number of children. While looking at the mean and median of individual and equivalent household incomes of women of different ethnic groups gives us an overall picture, it does not tell us about the extent to which differences by ethnic group are a consequence of differences in specific demographic characteristics and family patterns. In this section we therefore attempt to grasp some of these differences by looking at certain socio-demographic characteristics of women in different ethnic groups: their age composition, how that differs from men in those groups, the income distribution by age groups (and how that compares with White British women), their family composition and the ethnicity of their spouse or partner.

Since we are focussing on women living in households with dependent children it makes sense at this point to look at the living arrangements of children. Table 18 shows the proportion of children living in different types of households – with only women, only men, and both men and women. Most single sex households consist of one adult only, that is, lone parent households. In this analysis, all children in a household are assigned the ethnic group of the head of household. On that basis, most Indian, Pakistani, Bangladeshi and Chinese children live with two parents (approximately 90 per cent), but only around three quarters of White British children and half of Black Caribbean and Black African children do. Specifically, almost half of the children living with a Black Caribbean and Black African head of household and one-fifth of children living with a White British head of household live in households with only women (mostly with one adult woman). The economic well-being specifically of women of these ethnic groups is therefore likely to have stronger effects on child poverty (and well-being of children in general) than the economic well-being of women of other ethnic groups.

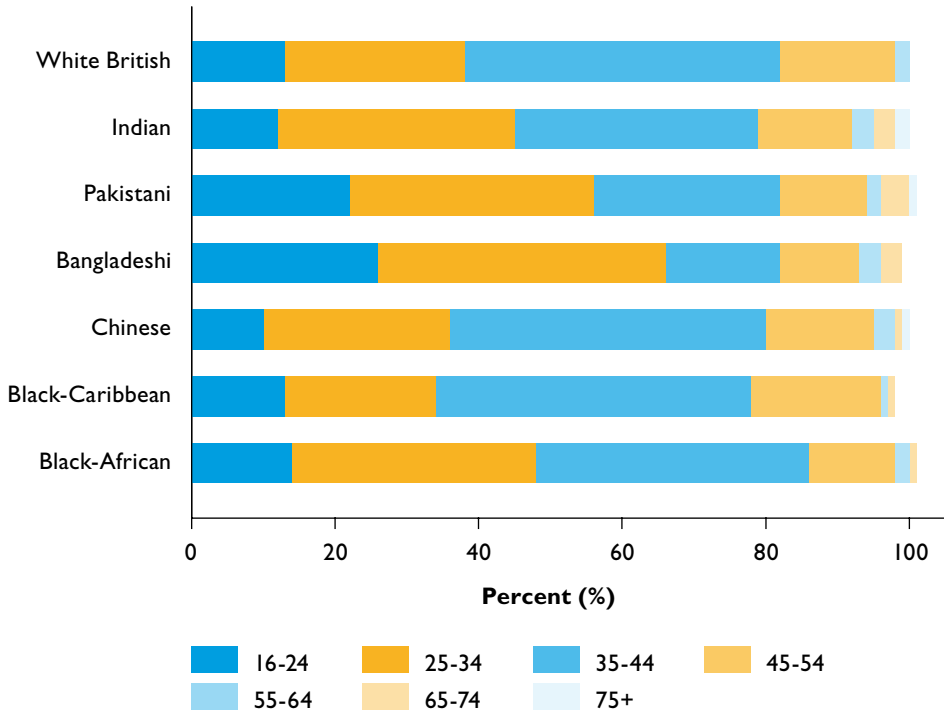
Table 18: Distribution of living arrangements for children by ethnic group

	Proportion (%) of children in households with					Number of observations
	Only adult men	Only adult women	Both adult women and men	Only one adult man	Only one adult woman	
White British	1.8	22.4	75.7	1.7	21.0	58550
Indian	0.8	8.7	90.5	0.7	8.1	1470
Pakistani	0.1	12.3	87.6	0.1	11.5	1640
Bangladeshi	0.7	10.6	88.8	0.7	7.4	605
Chinese	0.5	14.0	85.5	0.0	12.6	207
Black Caribbean	2.8	47.6	49.7	2.6	44.3	938
Black African	2.7	41.8	55.5	2.5	38.9	1353

Source: *Family Resources Survey* and *Households Below Average Income 2003/04–2007/08*.
Note that children have been assigned the same ethnic group as that of the head of household and 3.1 per cent of adult women and 1.6 per cent of adult men live in households where their ethnic group is different from that of the head of the household.

Figure 45 shows the age distribution of women with dependent children by ethnic group. As expected, women in this sample are much younger than in the overall sample, 76 per cent are less than 45 years old and 96 per cent are younger than 54 years. We see similar patterns for each of the ethnic groups. Compared to other ethnic groups Pakistani and Bangladeshi women with children are relatively young, around 60 per cent are less than 35 years old and around 20 per cent less than 25 years old. Black African and Indian women with children are also relatively young, but less so; around 45 per cent are less than 35 years old. White British and Chinese women with children are mostly in the age group of 35-44 years with only around 30 per cent less than 35 years. Compared to the overall sample, the age composition of Chinese women in this sample is quite different. Chinese women without children are much younger than those with children.

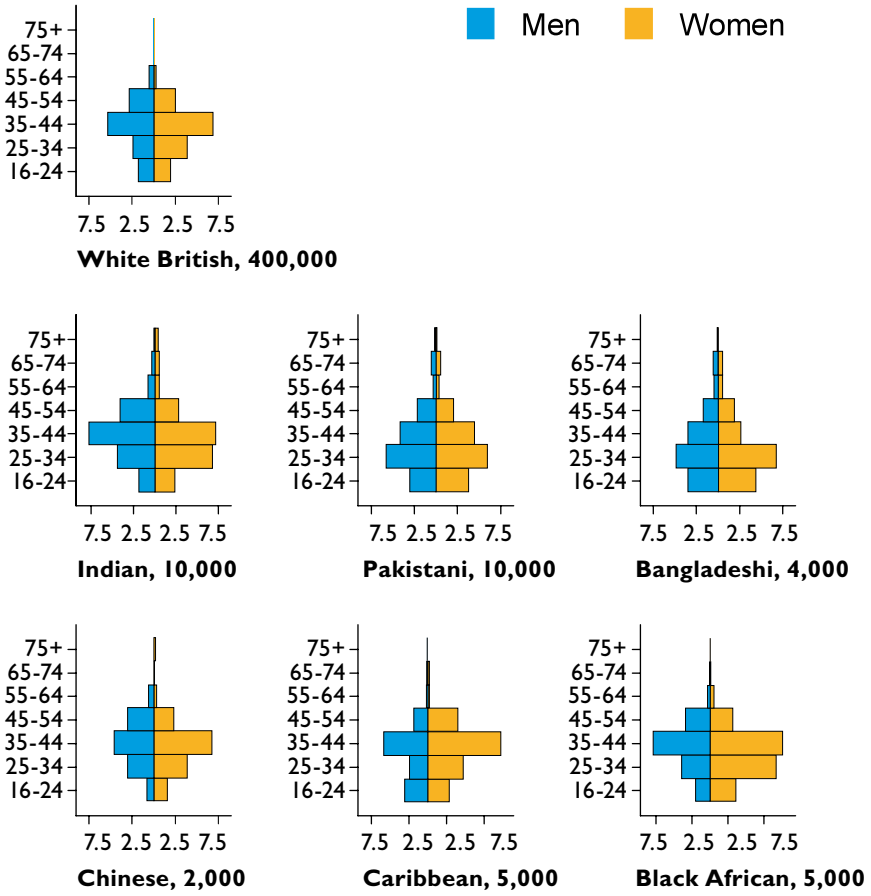
Figure 45: Age Distribution of Women with children by ethnic group



Source: *Family Resources Survey* and *Households Below Average Income 2003/04–2007/08*.

The age distribution is the result of both fertility and migration patterns. In Figure 46 we look at the relative age distribution comparing the numbers of men and women of each ethnic group. Pakistani men and women with children have a remarkably similar age distribution. That is not the case for the other groups, and there are more women than men in each of the age groups.

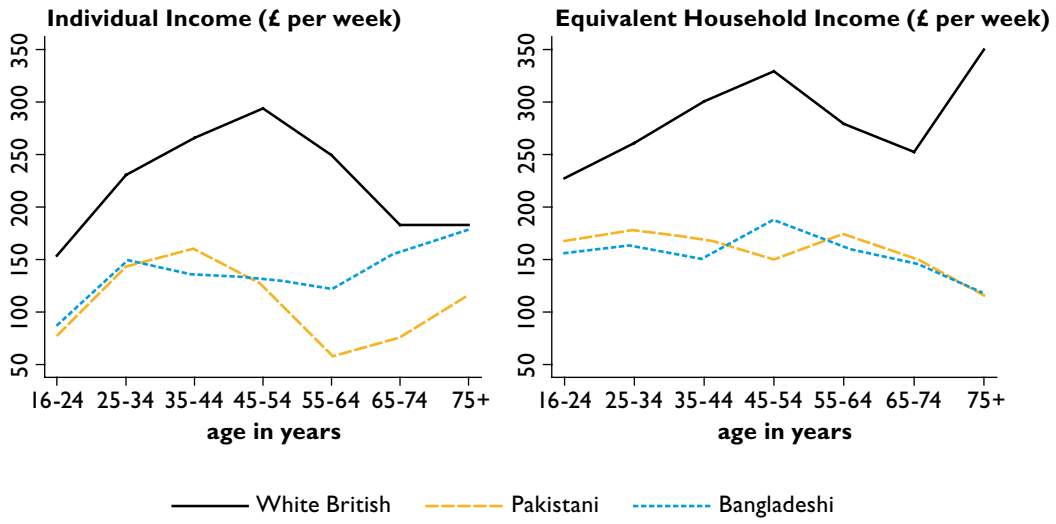
Figure 46: Age distributions for men and women with dependent children, by ethnic group



Source: *Family Resources Survey* and *Households Below Average Income 2003/04–2007/08*.

If incomes vary by age, and the age distribution varies by ethnic group, we would observe differences in income by ethnic group, even if women of same age group but different ethnic groups had similar average incomes. We have already discussed the age distribution for women in different ethnic groups. Now, in Figure 47, we illustrate the average individual and equivalent household income by age, for different ethnic group women with children. As we have just seen that around 96 per cent of women are below the age of 55, and 99 per cent below the age of 65 we will restrict our discussion to women below 65 years old.

Figure 47: Mean Individual and Equivalent Household Income of White British, Bangladeshi and Pakistani Women with dependent children by age band



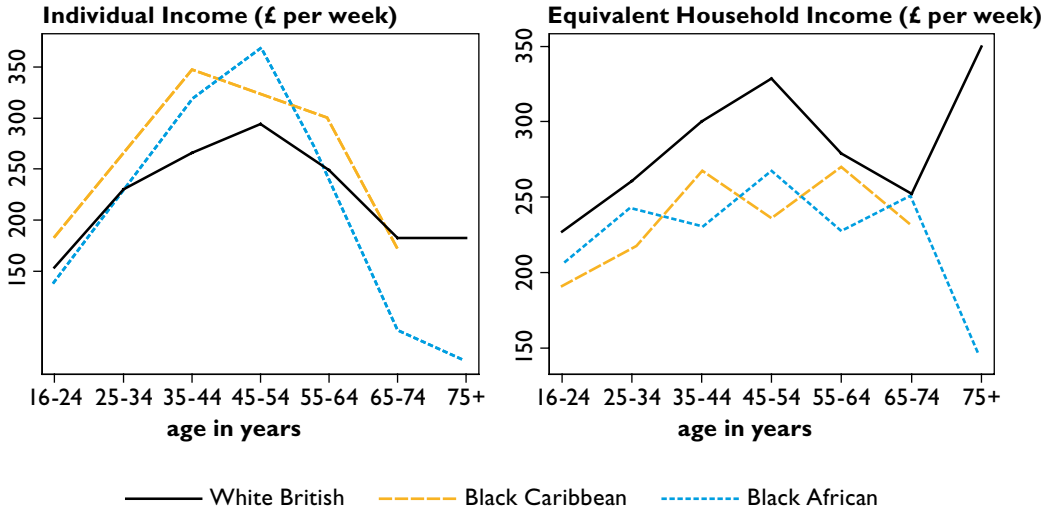
Source: *Family Resources Survey* and *Households Below Average Income 2003/04–2007/08*.
Note: Equivalent Household Income has been normalised to 1.

Figure 47 shows that the mean individual income of White British women with dependent children is higher for higher age groups until the age of 45-54 after which it drops. As compared to all British White women, the mean income of 25-34 year old women is much lower; the peak in this sub-sample is at 45-54 years and not 25-34 years. The mean income of Bangladeshi and Pakistani women with dependent children is much lower than White British women with dependent children and quite similar to that of all Bangladeshi and Pakistani women.

Equivalent household income of White British women with dependent children increases steadily with age groups, peaking at 45-54 years. Comparing with all White British women, we find that the younger age groups, 16-34 years, have relatively lower household incomes. The mean household income of Bangladeshi and Pakistani women with children is much lower than that of their White British counterparts and it does not vary much by age. These age income profiles are very similar to those of all Bangladeshi and Pakistani women.

As in the overall sample, Figure 48 shows that Black Caribbean and Black African women's age-income profiles are quite different to those of Bangladeshi and Pakistani women shown in Figure 46: Black Caribbean and Black African women's individual incomes are higher than those of their White counterparts and while their equivalent household incomes are lower than those of White women, the difference is much less than for Bangladeshi and Pakistani women. The mean income of Black Caribbean and Black African women with children increases steadily with age, peaking at 35-44 years for Black Caribbean and at 45-54 for Black African women. The age-income profile for Black African women is similar to that of all Black African women. That is not the case for Black Caribbean women. The mean individual income of 25-34 year old Black Caribbean women with children is lower than that of all Black Caribbean women and the opposite is the case for 55-64 year olds. Compared to White British women with children, Black Caribbean women with children have higher mean individual incomes at all age groups. Compared to White British women with children, Black African women with children have higher incomes for 35-54 year olds, similar income for 25-34 and 55-64 year olds and lower income for 16-24 year olds.

Figure 48: Mean Individual and Equivalent Household Income of White British, Black Caribbean and Black African Women with dependent children by age

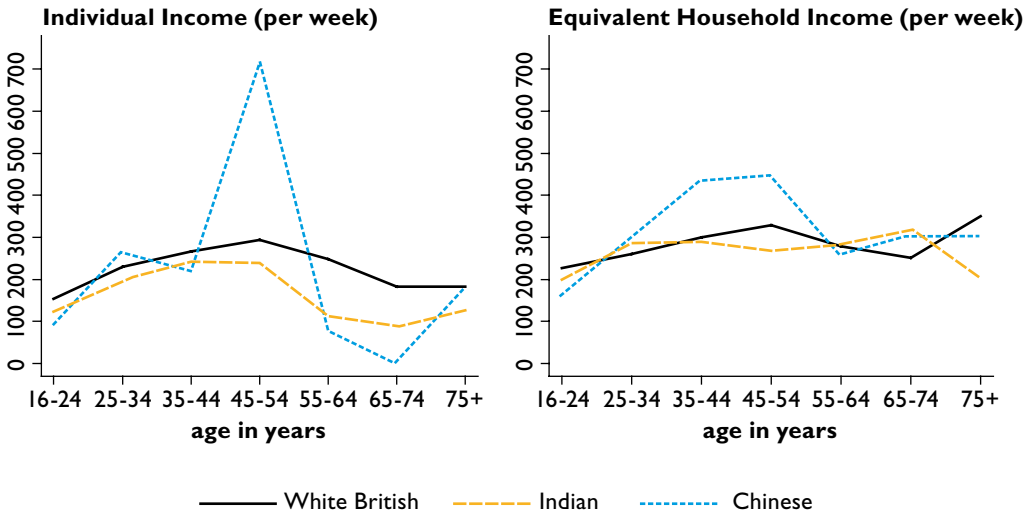


Source: *Family Resources Survey* and *Households Below Average Income 2003/04–2007/08.*
Note: Equivalent Household Income has been normalised to 1.

Mean equivalent household income of Black Caribbean and Black African women with children fluctuates for all age groups within a narrow band (£200-250 per week) and is lower at all ages than that of their White British counterparts. The income of other household members (mostly spouse or partner) switches the comparative economic position of Black Caribbean and Black African women with children vis-à-vis their White British counterparts. Compared with all Black Caribbean and Black African women, those with children have much lower mean equivalent household incomes for all age groups.

Turning to Figure 49, we see that mean individual income of Indian women with children is slightly less than that of their White British counterparts at all age groups and has a similar pattern although the gap is wider for older age groups. The gap reduces when we look at equivalent household income, even reversing for 25-34 year olds. Both age-income profiles of Indian women with children are similar to those of all Indian women. Among Chinese women with children, the sample sizes are quite small for some of the age groups and highly sensitive to extreme values causing the mean at some age groups to be extremely high (age group 45-54 years) or low (for age group 65-74 years). As for all Chinese women, the mean individual income of Chinese women with children fluctuates quite a lot around the incomes of White British women. For women with children, the mean individual income of Chinese women is higher than that of White British women at some age groups (25-34 years, 45-54 years) and lower at other age groups. Equivalent household incomes of 25-54 year old Chinese women with children are higher than those of their White British counterparts. Again this is quite similar to the overall sample.

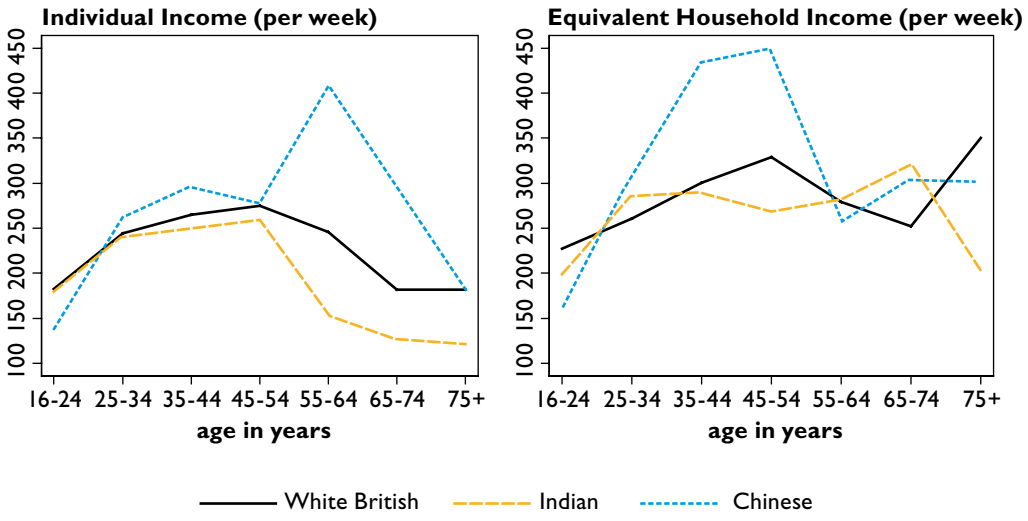
Figure 49: Mean Individual and Equivalent Household Income of White British, Indian and Chinese Women with dependent children by age



Source: *Family Resources Survey* and *Households Below Average Income 2003/04–2007/08*.
Note: Equivalent Household Income has been normalised to 1.

If we restrict the incomes to less than £650 per week and greater than £50 per week, we get a more stable picture, shown in Figure 50.

Figure 50: Mean Individual and Equivalent Household Income of White British, Indian and Chinese Women with dependent children by age

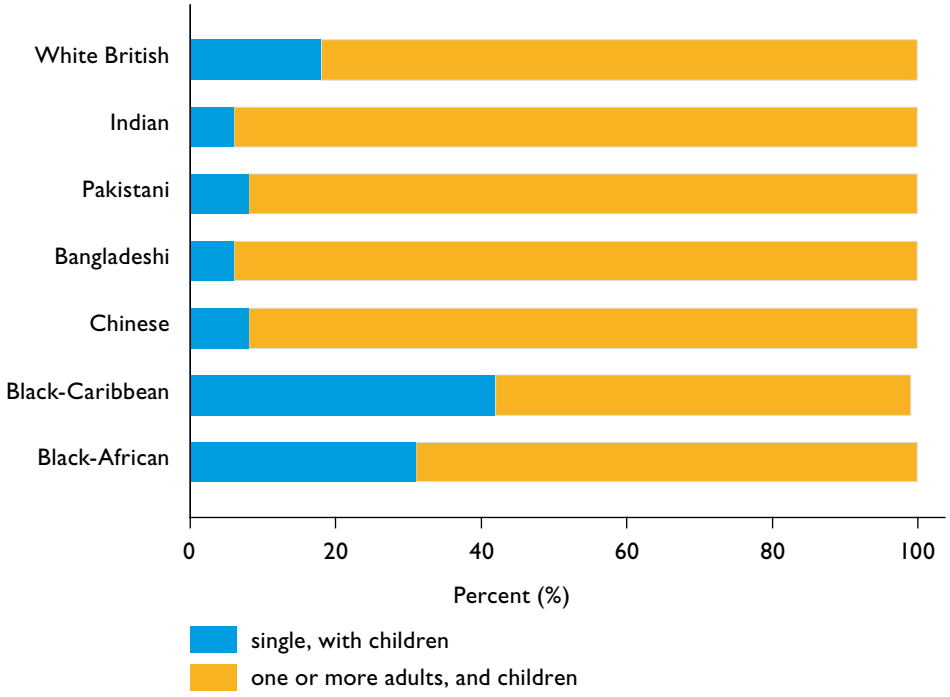


Source: *Family Resources Survey* and *Households Below Average Income 2003/04–2007/08.*
Note: Equivalent Household Income has been normalised to 1. Note: This figure excludes observations with individual incomes greater than £650 per week and less than £50 per week

While age-income profiles reveal some part of the differences in individual income, household structure does so for equivalent household incomes. A higher number of adults, who are typically earners, increases the pooled income (more so if the spouse or partner is a high earner) while a greater number of children, typically non-earners, reduces the income available to each household member.

First, in Figure 51, we take a look at household composition and find that Black Caribbean, Black African and (to a lesser extent) White British women are more likely to be lone parents, which is likely to lower their average equivalent household income vis-à-vis other groups, although benefit income and tax credits may compensate to a certain extent.

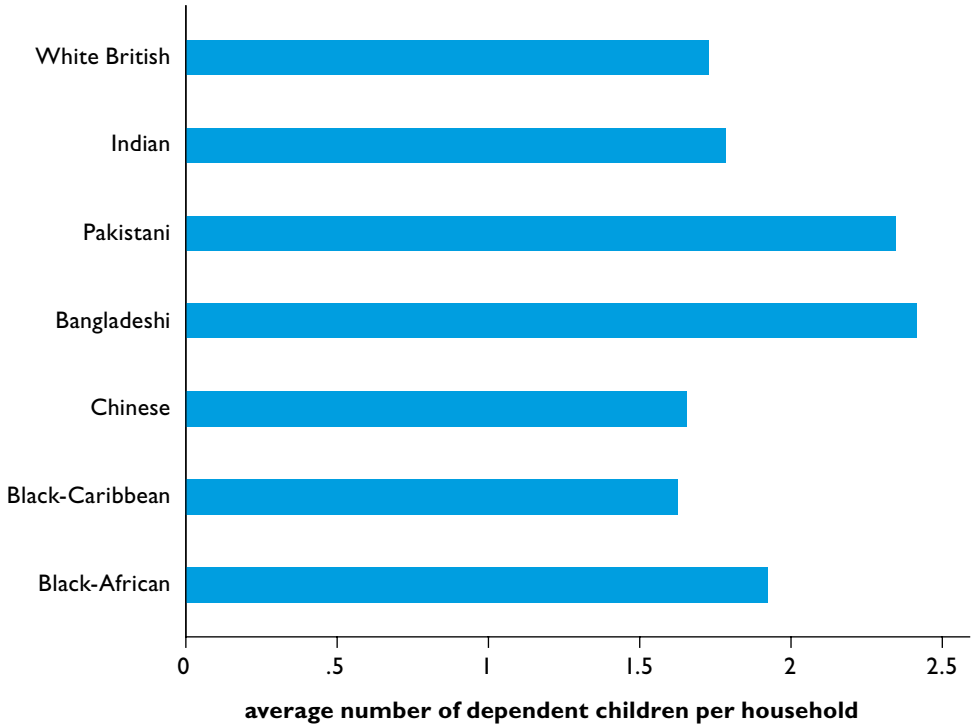
Figure 51: Distribution of family types among women with dependent children, by ethnic group



Source: *Family Resources Survey* and *Households Below Average Income 2003/04–2007/08*.

Next, Figure 52 shows the average number of dependent children living with women in the household by ethnic group. For all groups the average number of children among women with children falls between 1.5 and 2.5 children per family. The higher the number of children in a family the greater is the pressure on its resources. And this is reflected in lower equivalent household incomes. We find that average number of children in the household is higher for Pakistani and Bangladeshi women, at over two children per family on average, around two children for Black African women and averages under two for the other groups. Low incomes of men and women in Pakistani and Bangladeshi ethnic groups combined with higher number of children lowers their equivalent household incomes as compared to other groups.

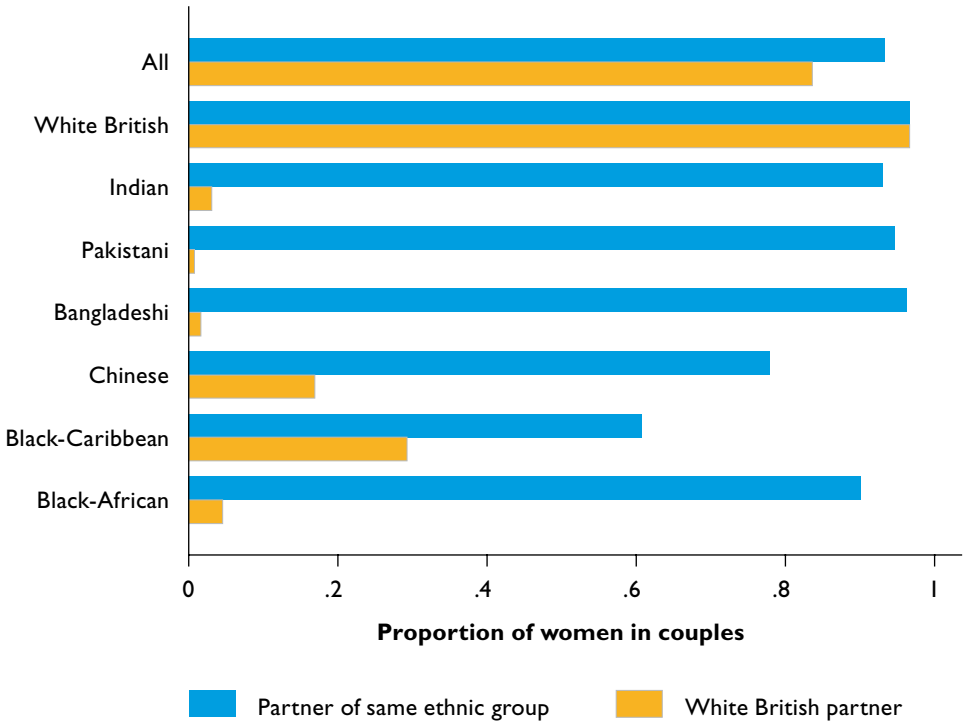
Figure 52: Average number of children per household, for women with dependent children, by ethnic group



Source: *Family Resources Survey* and *Households Below Average Income 2003/04–2007/08*.

Finally, in Figure 53, we illustrate the ethnic composition of spouse or partners of women with dependent children. Most ethnic groups except for Chinese and Black Caribbeans partner within the same group. Around 20 per cent of Chinese and 30 per cent Black Caribbean women have partners or spouses who are White British (the rest have partners mostly of the same ethnic group). These patterns are similar to the overall sample of all women, except for Chinese women. Chinese women with children are less likely to have White British spouse or partner than Chinese women without children.

Figure 53: Distribution of ethnic group of spouse or partners of women with children, by ethnic groups



Source: *Family Resources Survey* and *Households Below Average Income 2003/04–2007/08*.

Summary

Most Indian, Pakistani, Bangladeshi and Chinese children live with both parents (approximately 90 per cent), but only around three quarters of White British children and half of Black Caribbean and Black African children do. Specifically, almost half the children living with a Black Caribbean and Black African head of household and one-fifth of children living with a White British head of household live in households with only women (mostly with one adult woman). This is likely to have implications for child poverty rates.

Compared to other ethnic groups Pakistani and Bangladeshi women with children are relatively young: around 60 per cent are less than 35 years old and around 20 per cent less than 25 years old. Black African and Indian women with children are also relatively young, with around 45 per cent aged below 35 years. White British and Chinese women with children are mostly in the age group of 35-44 years with only around 30 per cent under 35.

The patterns of income across age are not the same for women with children as for all women. Nevertheless, we still find three broad patterns of individual and equivalent income experience across the minority groups when compared with White majority women. Mean individual income of White British women with dependent children is higher for higher age groups until the age of 45-54 after which it drops. As compared to all White British women, the mean income of 25-34 year old women is much lower; the peak among women with children is 45-54 years and not 25-34 years. Equivalent household income of White British women with dependent children also increases with age and peaks at 45-54 years. Compared with all White British women, we find that the younger age groups, 16-34 years, have relatively lower household incomes.

The mean income of Bangladeshi and Pakistani women with dependent children is much lower than White British women with dependent children and quite similar to that of all Bangladeshi and Pakistani women. The mean household income of Bangladeshi and Pakistani women with children is much lower than that of their White British counterparts and it does not vary much by age.

Compared to White British women with children, Black Caribbean women with children have higher mean individual incomes at all age groups. Compared to White British women with children, Black African women with children have higher incomes for 35-54 year olds, similar income for 25-34 and 55-64 year olds and lower income for 16-24 year olds. Mean equivalent household income of Black Caribbean and Black African women with children fluctuates for all age groups within a narrow band, and is substantially lower than that for White British women with children.

Mean individual income of Indian women with children is slightly less than that of their White British counterparts at all age groups and has a similar pattern although the gap is wider for older age groups. The gap reduces when we look at equivalent household income, even reversing for 25-34 year olds. Mean individual income of Chinese women is higher than that of White British women at some age groups (25-34 years, 45-54 years) and lower at other age groups. We find a similar picture when we look at equivalent household income.

For all groups the average number of children among women with children falls between 1.5 and 2.5 children per family. The average number of children in the household is higher for Pakistani and Bangladeshi women, at over 2 children per family on average, around 2 children for Black African women and averages under 2 for the other groups.

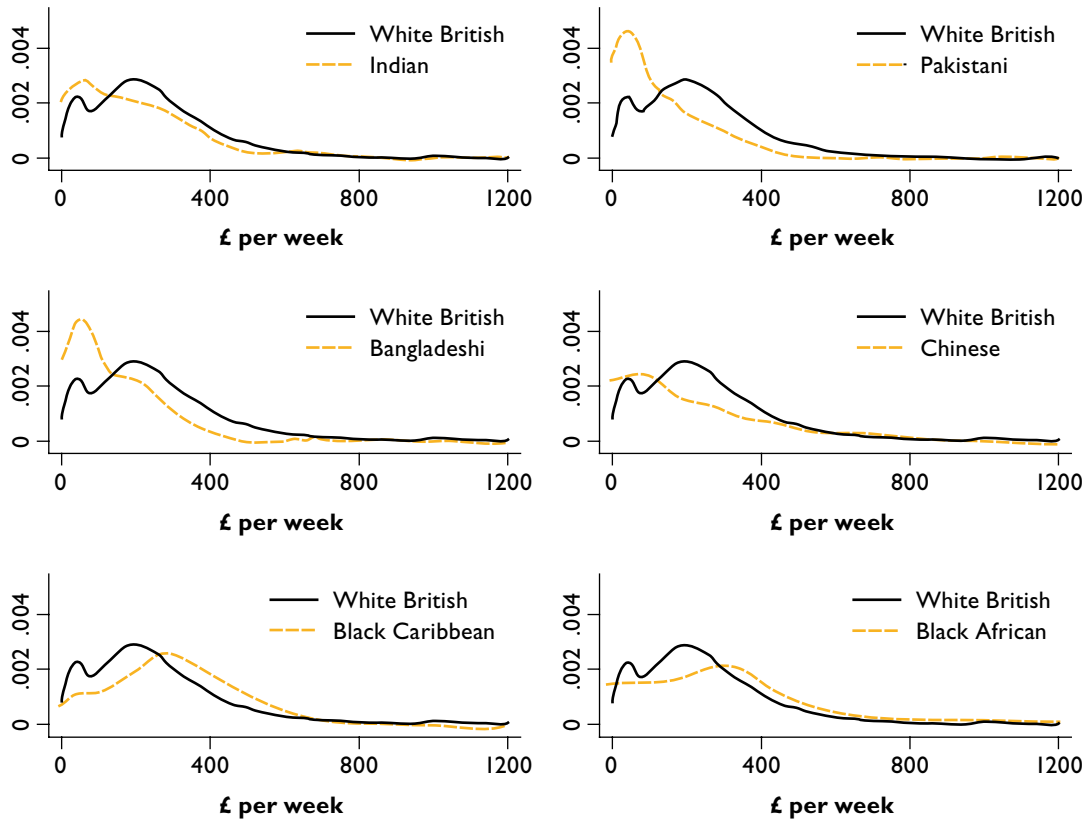
These different patterns of family structure and size and these age differences have implications for children's poverty as well as for that of women with children themselves. However, before considering poverty rates, we first consider the dispersion of income among women with children.

2.3 Ranges of incomes of women with children

In this section we delve deeper into understanding the relative economic position of minority ethnic group women with children vis-à-vis men in the same group and White British women. Mean income is a good way to summarise information on economic position of a group, especially when we are comparing different groups. However it provides no information about the distribution of income within these groups. The median provides some summary information about the distribution. The closer the median is to the mean, the more symmetric is the distribution, and the further it is, the more skewed is it. In section 2.1 we examined the mean and median incomes of men and women with children of different ethnic groups. In this section, we look at the disaggregated information – the entire distributions of income.

Figure 54 shows the distribution of individual income of ethnic minority women with children, separately for each ethnic group, and compares that with the distribution of individual income of White British women with children.

Figure 54: Distribution of individual income of women with children, by ethnic group



Source: *Family Resources Survey* and *Households Below Average Income 2003/04–2007/08*.
Note: for better readability we have curtailed individual and equivalent household income to incomes greater than or equal to zero and less than £1200 per week.

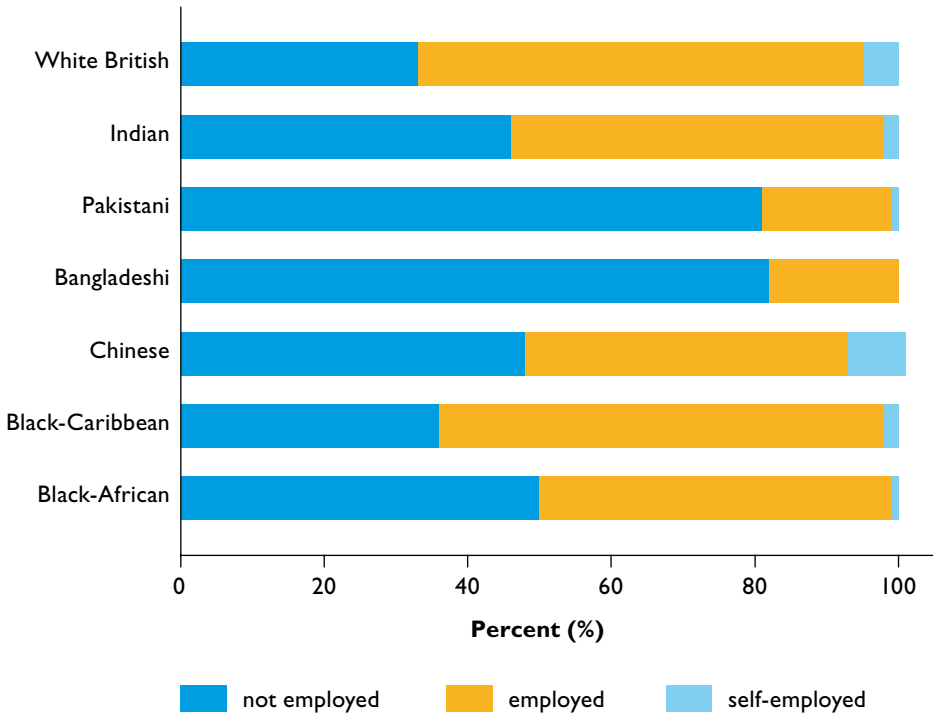
The individual income distributions of women with children in all groups except Black Caribbean are skewed to the right (that is, higher proportions have lower incomes) although the distributions for White British and Black African groups have two-peaks (or are bi-modal) with a higher peak at a higher level of individual income. Compared to White British women with children lower proportions of Black Caribbean and Black African women with children have lower levels of income and the opposite is the case at higher levels of income. Thus we find that the average individual incomes of Black Caribbean and Black African women with children are higher than that of their White British counterparts.

Compared to White British women with children much larger proportions of Bangladeshi and Pakistani women with children have low individual incomes (around £50 or lower). The opposite is the case at higher levels of income (around £200 per week or higher). This is reflected in the lower average individual incomes of these groups compared to White British women with children.

We also find that compared to White British women with children larger proportions of Indian and Chinese women with children have low individual incomes. Note, though, that these differences in proportions are lower than in the case of Bangladeshi and Pakistani women. At very high levels of income also we find larger proportions of Chinese women with children and to a lesser extent Indian women with children than White British women with children. This implies greater dispersion in the individual income within these groups than for White British women with children. (See further Section 2.4.)

As we have seen before, one of the reasons for the skewed distribution of incomes is the high proportion of women who are non-employed. Interestingly, compared to the overall sample, women with dependent children in most ethnic groups have lower proportions of non-employed, as we can see from Figure 55. This is consequent on many of the non-employed being retired or students, both of which are groups that do not typically have dependent children. The exceptions are Black African, Bangladeshi and Pakistani women. For these three groups, the population of all women and the population of women with dependent children are closer than for other groups. Chinese women with children have a much higher proportion of self-employed women than in the overall sample.

Figure 55: Distribution of employment status among by ethnic groups

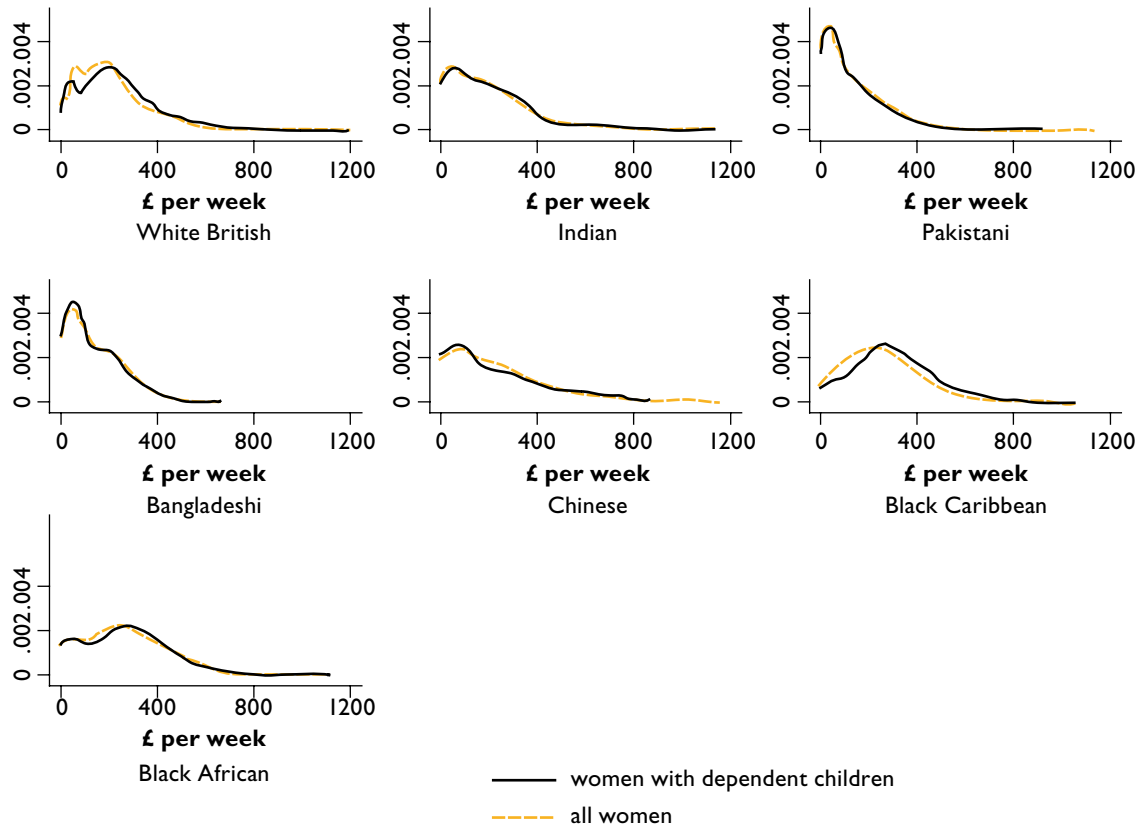


Source: *Family Resources Survey* and *Households Below Average Income 2003/04–2007/08*.

We also find that the higher proportions of Chinese women with higher incomes compensate for the higher proportions with lower income, resulting in the average individual income of White British women with children being lower than that of Chinese women with children. But in the case of Indian women with children, the proportions with higher income were not large enough to compensate for the higher proportions with lower income and so we find that their average individual income is lower than that of White British women with children.

Compared to the overall sample, Figure 56 shows that the distributions are generally quite similar, especially for Bangladeshi, Pakistani and Indian women. Some differences are evident in the case of Black Caribbean, Black African and White British women and to a much lesser extent for Chinese women. As compared to all Chinese women a slightly higher proportion of Chinese women with children have lower incomes (around £100 per week) and the opposite is true at higher levels (around £200 per week). Interestingly the average individual income of Chinese women with children is eight per cent higher than all Chinese women, implying a higher degree of income dispersion for Chinese women with children.

Figure 56: Distribution of individual income of women with children and all women, by ethnic group

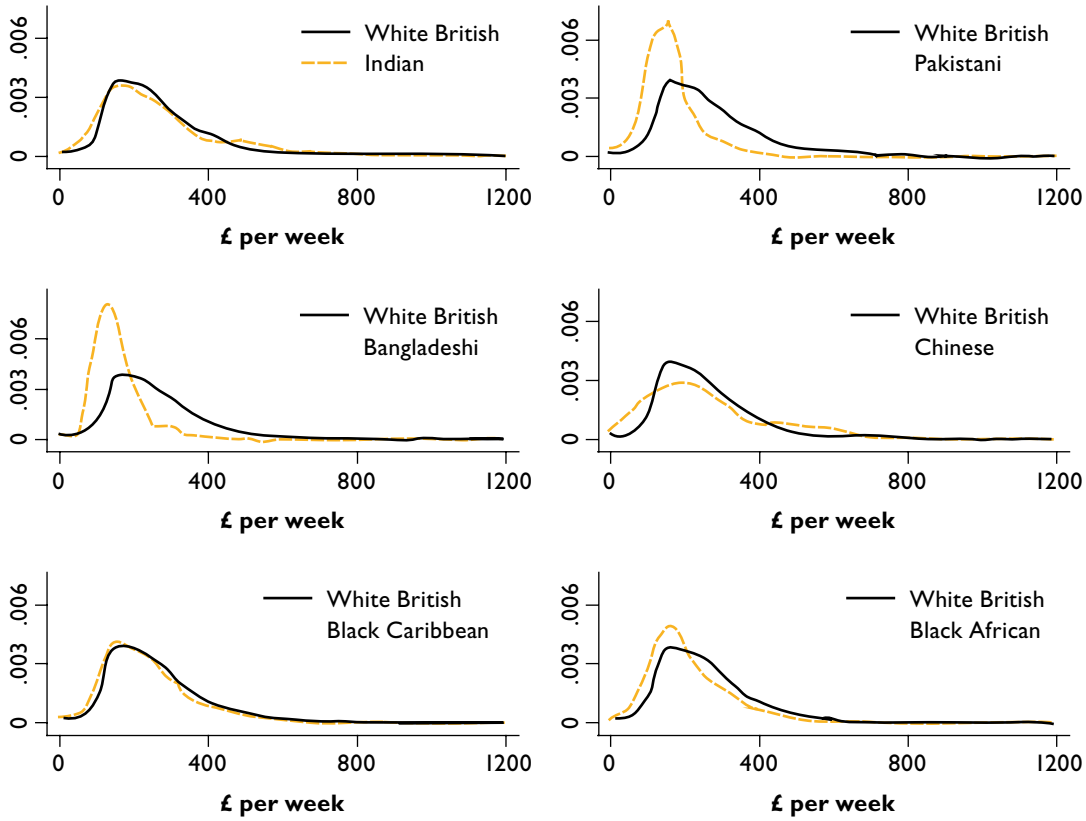


Source: *Family Resources Survey* and *Households Below Average Income 2003/04–2007/08*.
Note: for better readability we have curtailed individual and equivalent household income to incomes greater than or equal to zero and less than £1200 per week.

As in the overall sample the income distribution for White British women is twin-peaked at the lower levels of income but in this sample a higher proportion of women have higher incomes and a lower proportion have lower incomes, which is reflected in fatter tails of the distribution. In other words individual income is less dispersed among White British women with children. Like White British women with children, Black Caribbean and Black African women with children also have fatter tails and lower proportions with lower incomes (and less dispersed incomes).

Next we turn, in Figure 57, to the distribution of equivalent household incomes of women with children, which, as in the overall sample, are much smoother than the distribution of individual incomes and are uni-peaked. These are still skewed to the right. That is, a higher proportion of women have lower incomes. The distribution of Black Caribbean women with children is almost identical to that of White British women with children. As compared to White British women with children slightly higher proportions of Black African women with children have lower equivalent household incomes and slightly lower proportions have higher incomes. We can say the same thing about Bangladeshi and Pakistani women with children, except that the difference in proportions from that of White British women with children is considerably higher. Distributions of equivalent household income of Indian and Chinese women with children are quite similar to that of White British women with children but in their case, higher proportions have incomes lower than around £100 per week and greater than £400 per week. That is, their distributions are slightly more dispersed than those of White British women.

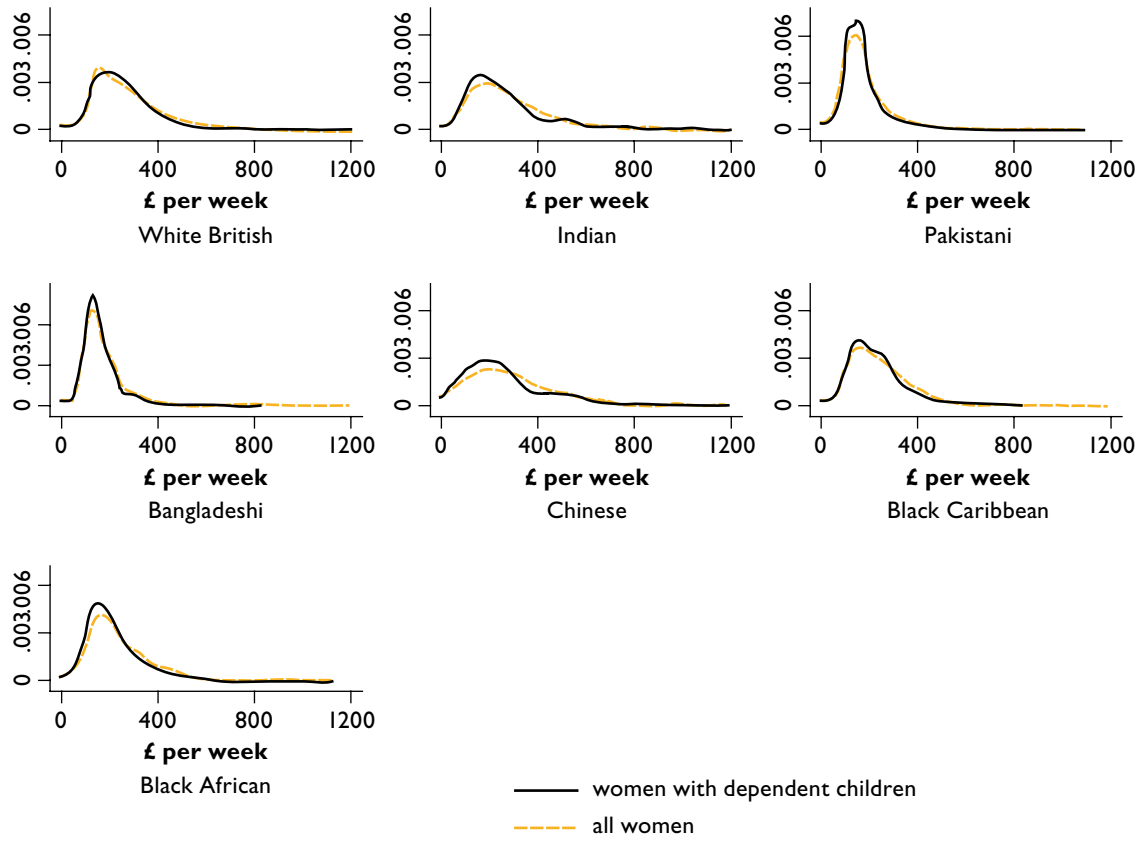
Figure 57: Distribution of equivalent household income of women with children, by ethnic group



Source: Family *Resources Survey* and *Households Below Average Income 2003/04–2007/08.*
Note: for better readability we have curtailed individual and equivalent household income to incomes greater than or equal to zero and less than £1200 per week.

Compared to the overall sample, Figure 58 shows that distributions for equivalent household income of women with children while quite similar (except for Chinese women) are all more skewed to the right, meaning higher proportions have lower incomes. This is expected since children who are typically non-earners lower equivalent incomes. We showed above that for all groups other than the Chinese, the mean equivalent household incomes of men and women were lower for those with children. The distribution for Chinese women with children is more skewed to the right relative to the distribution for all Chinese women. However, the mean equivalent household income for Chinese women with children is higher than for all Chinese women. This is because of the presence of some outliers with very high equivalent household incomes. If we constrain the equivalent household incomes to less than £1200 per week (which covers 99 per cent of Chinese women), we find that the mean equivalent household income of Chinese women with children is lower than that of all Chinese women.

Figure 58: Distribution of equivalent household income of women with children and all women, by ethnic group

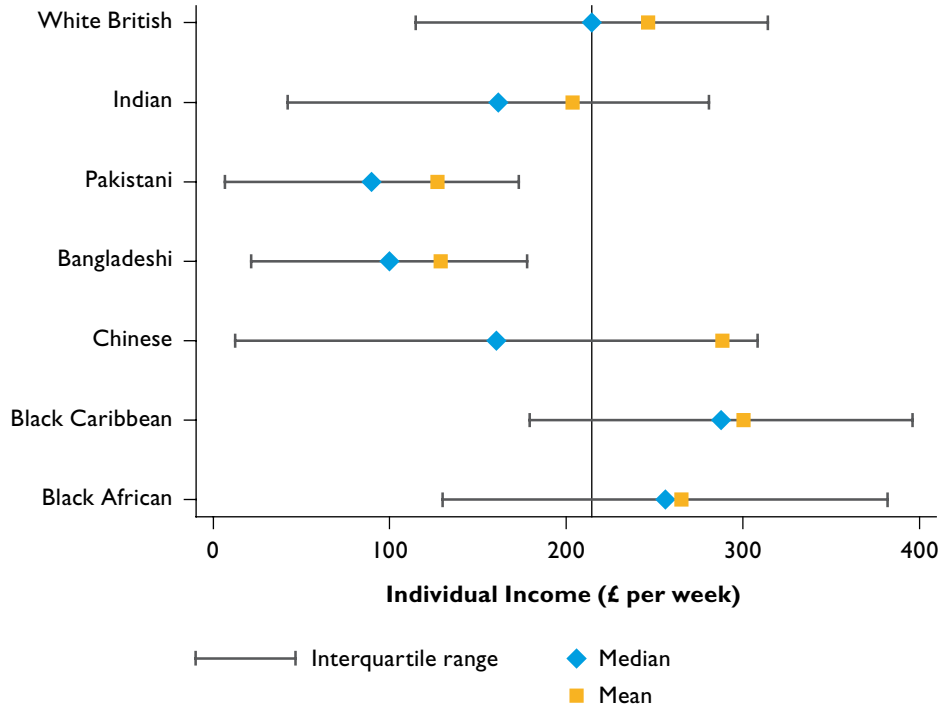


Source: *Family Resources Survey* and *Households Below Average Income 2003/04–2007/08*.
Note: for better readability we have curtailed individual and equivalent household income to incomes greater than or equal to zero and less than £1200 per week.

Another measure of dispersion is the interquartile range which is the middle 50 per cent of the population or sample. It therefore measures dispersion around the median. The interquartile range will be higher for samples with dispersed incomes in the middle ranges. As mentioned earlier, the mean and median are closer where incomes are less dispersed, but, unlike the inter-quartile range, this relates to dispersion over the entire distribution. Also, generally if the median is lower than the mean it implies that the distribution is skewed to the right, that is, there are a higher proportion of women with lower incomes, though this does not hold in case of multi-modal distributions.

In Figure 59 we show the mean, median and interquartile range of women with children by ethnic groups. In this sub-sample of women with children, the interquartile range is smallest for Bangladeshi and Pakistani women, higher for Black Caribbean, Black African women, White British and Indian, and the widest for Chinese women. These patterns are similar to those in the overall sample. Using the difference between mean and median as a measure of the overall dispersion we find that Black Caribbean and Black African women with children have the lowest dispersion, Bangladeshi, Pakistani, Indian and White British women with children have higher levels of dispersion and Chinese women with children the highest. As in the overall sample, the middle 50 percent of Bangladeshi and Pakistani women with children, ranked in terms of their individual income, have incomes that are lower than the bottom 50 percent of White British, Black Caribbean and Black African women with children.

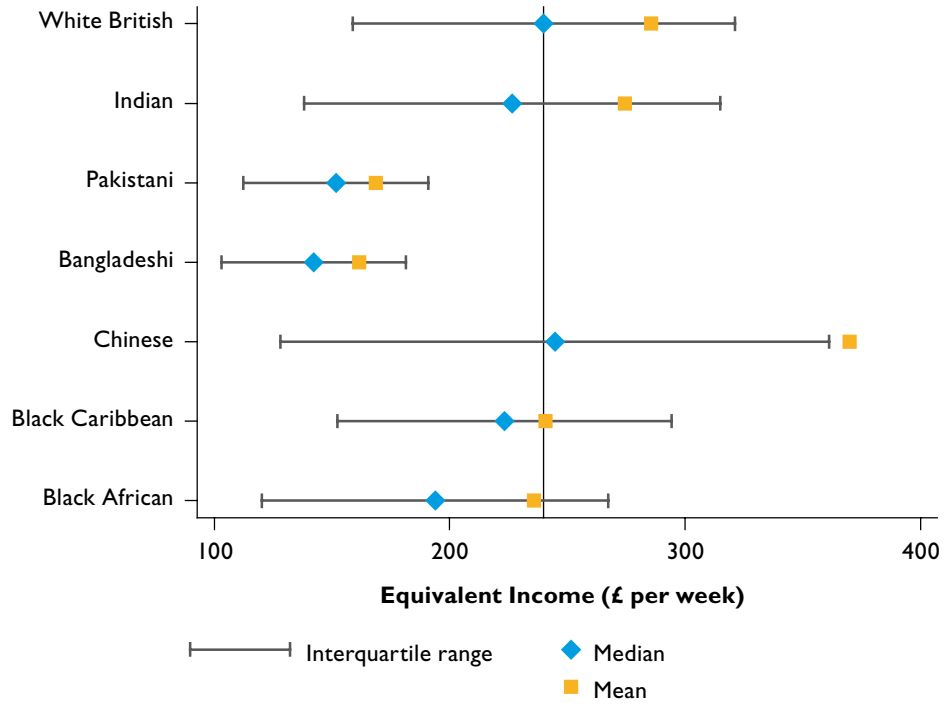
Figure 59: Distribution of women's individual income around the median, by ethnic group



Source: *Family Resources Survey* and *Households Below Average Income 2003/04–2007/08*.

Figure 60 shows the mean, median and interquartile range of equivalent household incomes for women with children of different ethnic groups. As compared to individual income, the dispersion of equivalent household income (as measured by the interquartile range) is smaller for all groups but the relative levels of dispersion are the same. Compared to the dispersion of equivalent household income for women in the overall sample, the dispersion for women with children is slightly lower. The overall dispersion in equivalent household income of women with children, as measured by the difference in mean and median, is lowest for Bangladeshi, Black Caribbean and Pakistani women, and highest for Chinese women. So, by both measures, Bangladeshi and Pakistani women with children have lowest dispersion in household incomes and Chinese women the highest.

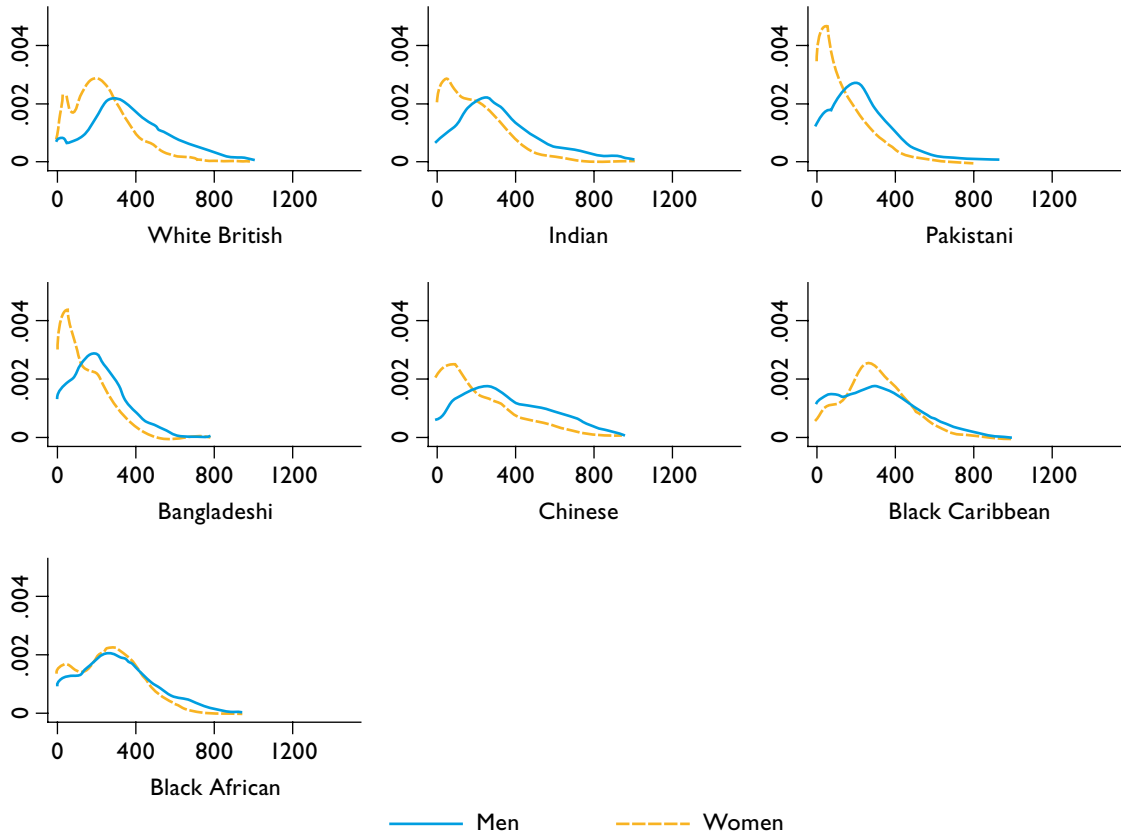
Figure 60: Distribution of women's equivalent income around the median, by ethnic group



Source: Family *Resources Survey* and *Households Below Average Income 2003/04–2007/08*.

Figure 61 shows the distribution of individual incomes of men and women with children by ethnic group. First we observe that the distribution of individual income for men in most ethnic groups, other than Black Caribbean and Black African, are less skewed to the right than women in the same ethnic group. In other words, higher proportions of men have higher incomes than women for these ethnic groups. Also the distributions for men are always uni-peaked unlike women in some ethnic groups. These distributions are very similar to the corresponding ones for the overall sample with some exceptions. First, a higher proportion of Black Caribbean women with children have income in the middle ranges than men. In the overall sample the distributions of individual income for Black Caribbean men and women are almost identical. Second, a lower proportion of Chinese women with children have income in the middle ranges than men. In the overall sample, this difference was less.

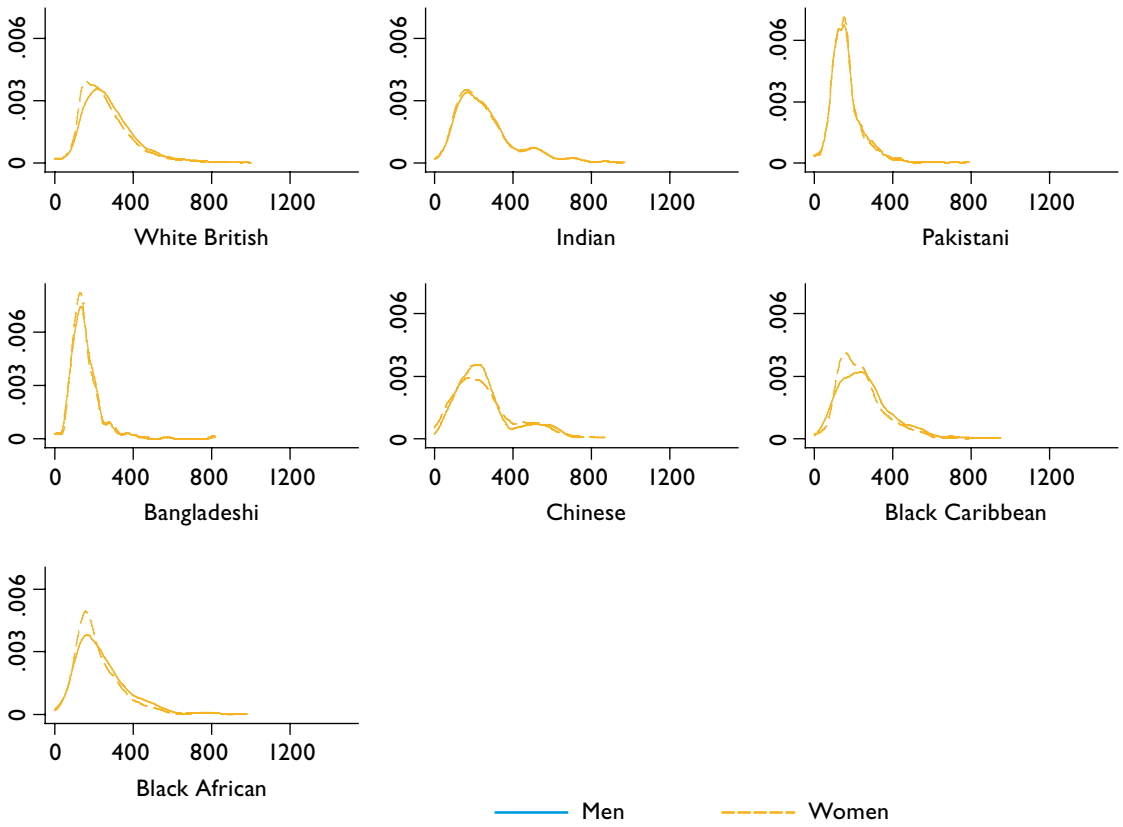
Figure 61: Distribution of individual income of men and women with children for each ethnic group



Source: *Family Resources Survey* and *Households Below Average Income 2003/04–2007/08.*
Note for better readability we have curtailed individual and equivalent household income to incomes greater than or equal to zero and less than £1200 per week.

Next we turn to equivalent household incomes. Figure 62 shows that these are all uni-peaked, have almost the same modal values and are skewed to the right. The distributions for men and women with children are remarkably similar for Indian, Pakistani and Bangladeshi groups. For all other groups, a higher proportion of women have the modal income than men. It is likely that difference in incomes of lone parents is driving these results. In the overall sample, the distributions between men and women are almost identical for all groups, except for Black Africans. Black African women and men have very similar modal values but a higher proportion of women have this modal household income that men.

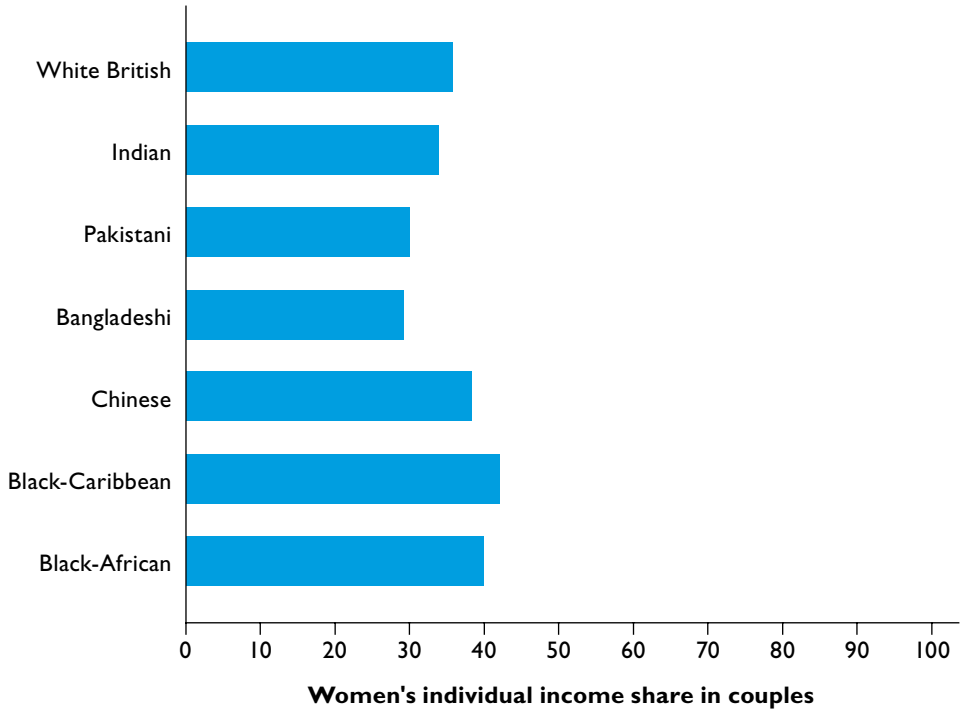
Figure 62: Distribution of equivalent household income of men and women with children for each ethnic group



Source: *Family Resources Survey* and *Households Below Average Income 2003/04–2007/08*.
Note for better readability we have curtailed individual and equivalent household income to incomes greater than or equal to zero and less than £1200 per week.

Equivalent household income is a useful tool in understanding the economic well-being of individuals living in multi-person households. However, the implicit assumption in its computation is that all income is pooled and equally shared. As mentioned earlier we want to examine this income sharing assumption by looking at the share of woman's individual income in that of her and her spouse or partner's individual incomes. We do this in Figure 63. We can see from Figure 63 that Black Caribbean women with children have the highest share of individual incomes, followed by Black African and White British women with children. As compared to the overall sample, the income shares of women are the same for White women, lower for Chinese and Black African women and higher for all other women. The striking difference between the two samples is the drop in the income share of Chinese women – from 38.3 per cent to 33.3 per cent.

Figure 63: Women's individual income as a share of joint individual incomes in couples



Source: *Family Resources Survey* and *Households Below Average Income 2003/04–2007/08*.

Summary

The individual income distributions of women with children in all groups except Black Caribbean are skewed to the right. This is partly to do with the high proportions of non-employed with no income from earnings. However, compared to the overall sample, women with dependent children in most ethnic groups have lower proportions of non-employed. This is consequent on many of the non-employed being retired or students, both of which are groups that do not typically have dependent children. The exceptions are Black African, Bangladeshi and Pakistani women.

Individual income is less dispersed among White British women with children than among all women. Like White British women with children, Black Caribbean and Black African women with children have less dispersed incomes and lower proportions with lower incomes. Compared to White British women with children much larger proportions of Bangladeshi and Pakistani women with children have low individual incomes.

Distributions for equivalent household income of women with children, when compared with those for all women, while similar, are more skewed to the right, meaning higher proportions have lower incomes.

Looking at the interquartile range and the gap between the median and the mean as indicators of dispersion, among women with children the interquartile range is smallest for Bangladeshi and Pakistani women, higher for Black Caribbean, Black African, White British and Indian women, and widest for Chinese women. Black Caribbean and Black African women with children have the lowest gap between mean and median, Bangladeshi, Pakistani, Indian and White British women with children have higher levels of dispersion, measured in this way, and Chinese women with children the highest. As in the overall sample, the middle 50 percent of Bangladeshi and Pakistani women with children, ranked in terms of their individual income, have incomes that are less than the cut off for the bottom 50 percent of White British, Black Caribbean and Black African women with children. As compared to individual income, the dispersion of equivalent household income as measured by the interquartile range is lower for all groups, but the relative levels of dispersion are the same.

When using equivalent income as a measure of economic well being, the assumption is that income is pooled, but this may depend on the relative shares of income brought by adults in couples. When looking at the average shares of combined individual incomes in couples, Black Caribbean women with children have the highest share, followed by Black African and White British women with children. As compared to the overall sample, the income shares of women are the same for White women, lower for Chinese and Black African women and higher for all other women.

2.4 Women with children's economic inequalities: between and within group comparisons

It is evident from the different inequality measures illustrated in Table 19 that Chinese adults with children have the highest level of individual income inequality, White British, Black Caribbean and Black Africans have the lowest level and Pakistani, Bangladeshi and Indian groups a middle level. This holds for almost all inequality measures, although the relative position within these three broad categories changes when we use different inequality measures. The 90:10 ratio inequality measure gives somewhat anomalous result partly because it is not sufficiently robust with smaller samples. According to this measure, individual income inequality of Chinese adults with children is lower than that of Indian, Pakistani and Bangladeshi adults with children. Compared with the overall sample we find that the general pattern of relative inequality in the two samples is the same with one difference – in the overall sample Pakistani adults have the highest level of individual income inequality by all measures and the Chinese are in the middle category. This is not surprising since we have observed earlier that the level of dispersion is higher among Chinese women with children than all Chinese women.

Table 19: Measures of individual income inequality for families with children, by ethnic group

	90:10 ratio	75:25 ratio	Gini	Mean logarithmic deviation
All	12.75	2.79	0.433	0.493
White British	10.29	2.64	0.420	0.435
Indian	30.53	3.49	0.491	0.715
Pakistani	131.60	5.91	0.503	0.791
Bangladeshi	347.92	4.47	0.457	0.705
Chinese	26.52	7.14	0.575	0.878
Black Caribbean	12.21	2.59	0.369	0.475
Black African	27.21	3.03	0.406	0.616

Source: *Family Resources Survey* and *Households Below Average Income 2003/04–2007/08.*
Note: in order to calculate the mean logarithmic deviation, zero incomes have been adjusted to 1. Inequality calculated using net income is, as would be expected lower than that we would find if we used gross incomes instead. Measures have been calculated by means of Jenkins' user-written Stata program *ineqdeco*.

In comparison with all adults, individual income inequality is higher for adults with children (this is consistent across all measures). The same is true for White British adults. It is generally lower for other groups, although this is less clear because different inequality measures provide different answers. The 90:10 ratio which highlights inequality between the two extremes shows that inequality in extreme values is higher for Black Caribbean and Black African adults with children than all adults in the same groups and lower for all other groups. The 75:25 ratio which measures inequality in the region around the median shows that inequality is higher for adults with children in Indian, Pakistani and Bangladeshi groups but lower for the others. In terms of the gini coefficient, we find that individual income inequality among adults with children is higher than among adults for Indian and Chinese groups. Finally, in terms of the mean logarithmic deviation, which we are using for computing within and between group inequalities, we find that inequality among adults with children is higher for Chinese and Black Caribbean groups.

To understand to what extent overall inequality stems from inequality within different ethnic groups, we decompose the mean logarithmic deviation into within- and between- group components. We also look at this separately for men and women. Table 20 shows that in this sub-sample with children, inequality among women is lower than among men. The opposite is true for the overall sample. In other words, women with children are more similar to each other in terms of their individual incomes than men or women without children, who in turn are more similar than men with children. One possible reason for the high degree of similarity in income of women with children is that a higher proportion of the individual income of women with children is from benefit income than for women without children (see Section 2.5).

As in the overall sample we find that between group inequality constitutes a very small proportion of total inequality for this sample of adults with children but it contributes more than in the overall sample. The proportions are 1 per cent, 1.7 per cent and 1.4 per cent for adults with children, women with children and men with children respectively and 0.4 per cent, 0.5 per cent and 0.5 per cent for all adults, women and men.

Table 20: Individual income inequality for families with children: within and between ethnic group contribution

	Total inequality	Within group	Between group
All	0.493	0.488	0.005
Women	0.417	0.411	0.007
Men	0.504	0.497	0.007

Source: *Family Resources Survey* and *Households Below Average Income 2003/04–2007/08.*
Notes: The inequality measure is the mean logarithmic deviation. In order to calculate the mean logarithmic deviation, zero incomes have been adjusted to 1. Inequality calculated using net income is, as would be expected lower than that we would find if we used gross incomes instead.

Next we analyze observed inequality as measured by mean logarithmic deviation for each ethnic group in terms of the inequality within and between men and women in that group: see Table 21. As in the overall sample, inequality between men and women in each ethnic group contributes to a very small extent to the overall ethnic group inequality varying between zero in case of Black Caribbean adults with children to 9 per cent in case of Indian adults with children. These proportions are remarkably similar in the two samples. We also find that inequality among women with children is less than that among men with children for White British and Black Caribbean groups, almost the same for Bangladeshis and greater for all other groups. Since White British is the majority group in the sample, we find the same is true of all men and women with children. In the overall sample, there was almost no difference in the inequality among White British men and woman and greater inequality among Black African men than women.

Table 21: Individual income inequality by ethnic group of families with children: within and between sex contribution

	All	Men	Women	Within sex contribution	Between sex contribution
White British	0.435	0.463	0.345	0.398	0.037
Indian	0.715	0.605	0.712	0.661	0.054
Pakistani	0.791	0.681	0.790	0.737	0.054
Bangladeshi	0.705	0.675	0.669	0.672	0.033
Chinese	0.878	0.600	1.047	0.852	0.027
Black Caribbean	0.475	0.795	0.275	0.475	0.000
Black African	0.616	0.566	0.646	0.614	0.002

Source: *Family Resources Survey* and *Households Below Average Income 2003/04–2007/08.*
Notes: The inequality measure is the mean logarithmic deviation. In order to calculate the mean logarithmic deviation, zero incomes have been adjusted to 1. Inequality calculated using net income is, as would be expected lower than that we would find if we used gross incomes instead.

Next we turn to equivalent household income among adults with children. As expected, Table 22 shows that equivalent household income inequality is much lower than individual income inequality for all adults with children, overall as well as among different ethnic groups. This holds no matter which inequality measure is used. We have already seen that the equivalent household income distributions are much smoother and less skewed than the individual income distributions. This is quite possibly due to a large number of women with zero incomes (mostly those who are out of the labour force or unemployed) sharing a household with their spouse or partner with a relatively high income. Compared to the all adult sample, adults with children of all ethnic groups other than Chinese have lower equivalent household income inequality. Equivalent household income inequality is higher for Chinese adults with children than all Chinese adults if we use gini coefficient or mean logarithmic deviation measures.

Table 22: Measures of equivalent household income inequality for families with children, by ethnic group

	90:10 ratio	75:25 ratio	Gini	Mean logarithmic deviation
All	4.13	2.11	0.24	0.34
White British	3.99	2.07	0.22	0.33
Indian	4.96	2.42	0.30	0.37
Pakistani	3.76	1.94	0.26	0.33
Bangladeshi	3.49	1.79	0.18	0.30
Chinese	6.67	2.52	0.45	0.41
Black Caribbean	3.93	2.11	0.23	0.32
Black African	4.42	2.15	0.28	0.35

Source: *Family Resources Survey* and *Households Below Average Income 2003/04–2007/08.*
Note: in order to calculate the mean logarithmic deviation, zero incomes have been adjusted to 1. Inequality calculated using net income is, as would be expected lower than that we would find if we used gross incomes instead.

As equivalent household incomes reflect income sharing within households the difference in inequality among men and women is much lower than the difference in individual income inequality among men and women as we see from Table 23. As with individual income inequality, between group differences are much less important than within group differences.

Table 23: Equivalent household income inequality for families with children: within and between ethnic group contribution

	Total inequality	Within group	Between group
All	0.211	0.206	0.005
Women	0.206	0.201	0.005
Men	0.215	0.210	0.005

Source: *Family Resources Survey* and *Households Below Average Income 2003/04–2007/08.*
Notes: The inequality measure is the mean logarithmic deviation. In order to calculate the mean logarithmic deviation, zero incomes have been adjusted to 1. Inequality calculated using net income is, as would be expected lower than that we would find if we used gross incomes instead.

Summary

In comparison with all adults, individual income inequality is higher for adults with children across all measures. The same is true for White British adults. It is generally lower for other groups, although there is some variation across measures. Chinese adults with children have the highest level of individual income inequality, White British, Black Caribbean and Black Africans have the lowest level and Pakistani, Bangladeshi and Indian groups a middle level. Among those with children, inequality among women is lower than among men, though the opposite is true for the overall sample.

Equivalent household income inequality is much lower than individual income inequality for all adults with children, overall as well as among different ethnic groups. This holds no matter which inequality measure is used.

Between group inequality for individual incomes constitutes a very small proportion of total inequality for this sample of adults with children; but it contributes more than in the overall sample. As with individual income inequality, between group differences in equivalent income are much less important than within group differences.

Inequality between men and women in each ethnic group contributes to a very small extent to the overall ethnic group individual income inequality varying between zero in the case of Black Caribbean adults with children to nine per cent of total inequality in the case of Indian adults with children. Inequality among women with children is less than that among men with children for White British and Black Caribbean groups, almost the same for Bangladeshis and greater for all other groups.

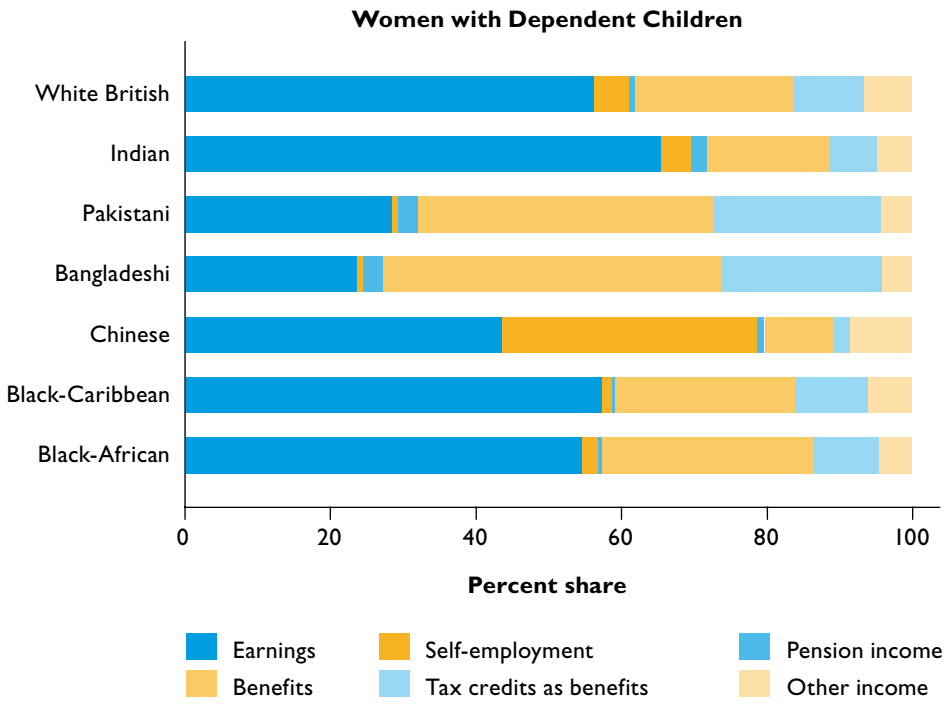
These differences in inequality between household and individual measures and between all women and women with children imply that the sources of income are playing different roles across subpopulations and measures. We explore this issue further in the next section.

2.5. Income composition and the contribution of income sources to inequalities of women with children

In this section we examine the sources of individual and household income for women of different ethnic groups to get a better understanding of the differences in income inequality and poverty rates that we have observed. As in the overall sample, labour income constitutes a very large portion of the total individual income of women for all women with children other than Pakistani and Bangladeshi women with children: for them benefits income is the major component of individual income. There are a few interesting and some expected differences between this sample of women with children and the overall sample. For White British women, labour income constitutes a larger proportion of individual income for women with children than women without children. This is due to older women being both less likely to be in work or to have dependent children. This can be seen in Figure 64.

As we saw in Section 2.2, this sample is much younger than the overall sample of women. We therefore find that pension income constitutes a very small portion of total income. Also, as expected, a larger proportion of total individual income of women with children comes from benefits and tax credit income received as benefit than it does for women without children. For White British and Chinese women with children this proportion is double or more than double that of all White British and Chinese women. Finally, while a higher proportion of the individual income of Chinese women with children comes from self-employment earnings than for Chinese women without children a lower proportion comes from other income sources.

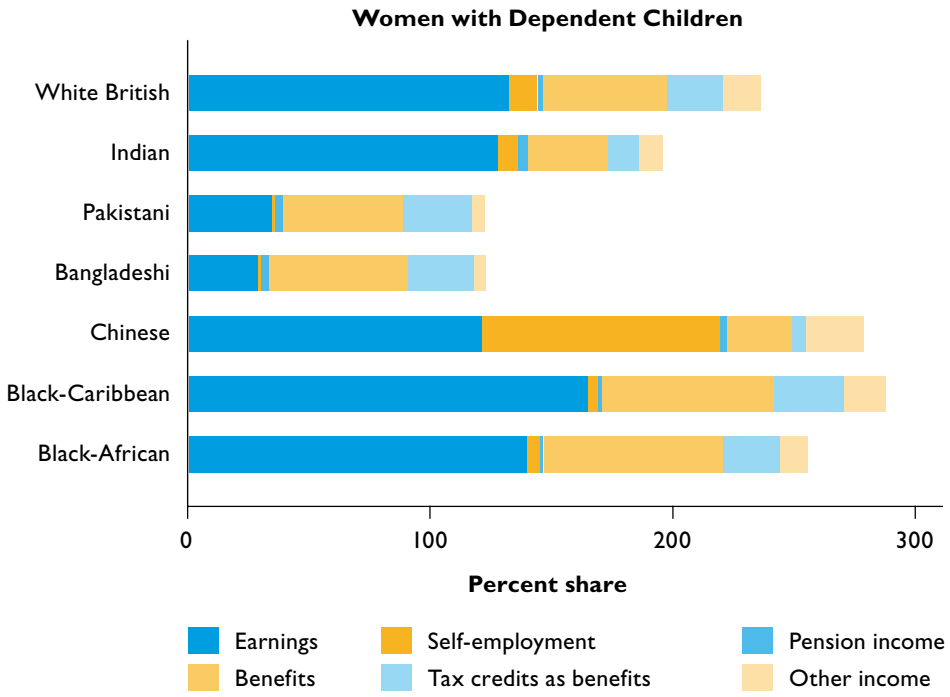
Figure 64: Composition of individual incomes of women with children by ethnic group



Source: *Family Resources Survey* and *Households Below Average Income 2003/04–2007/08.*

To put these proportions of different sources in perspective we also provide, in Figure 65, the absolute average income from these different sources for all ethnic groups. As we have seen in section 2.1, average individual income is highest for Black Caribbean women with children and most of it comes from earnings and benefits and tax credits. Unlike in the overall sample where a higher proportion of older Black Caribbean women received pension income, in this sample their income structure is very similar to Black African women. Chinese women with children also have high average individual incomes but most of it comes from earnings and self-employment income. Pakistani and Bangladeshi women have very low average individual incomes which are similar to each other in levels and composition.

Figure 65: Women's average individual income components by ethnic group



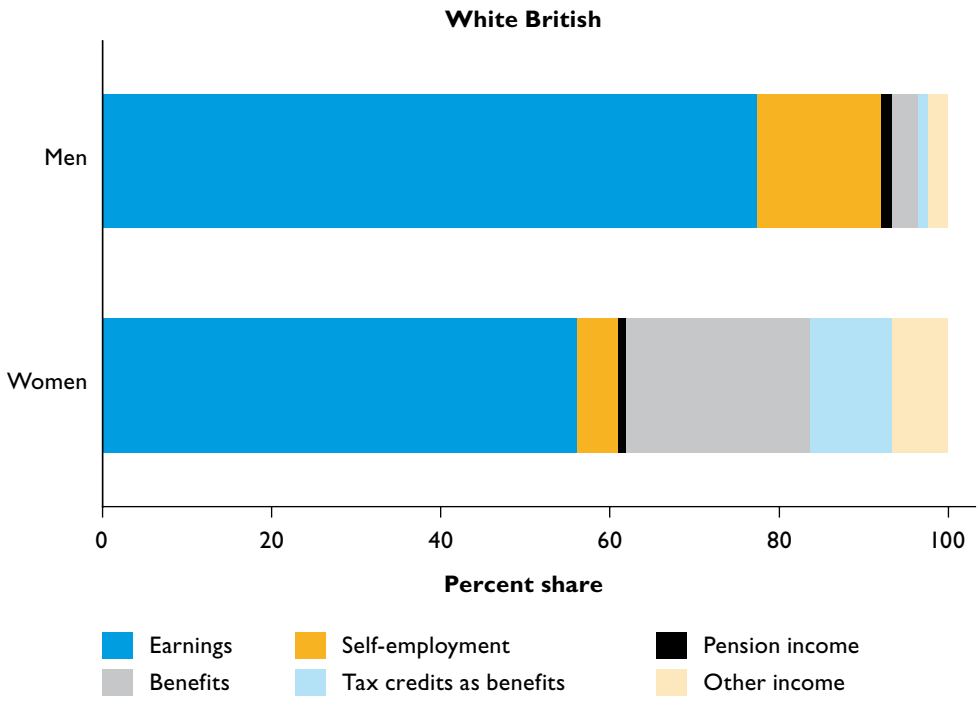
Source: *Family Resources Survey* and *Households Below Average Income 2003/04–2007/08*.

Most women other than Chinese and Black Caribbean women live with men from the same ethnic group. A better understanding of the household economic situation of women thus requires looking into the economic condition of men in that group. In addition, any discussion of women's economic situation and economic opportunities is incomplete without looking into gendered income patterns within each ethnic group. In Figures 66-72 we thus look at the composition of individual income for men and women of each ethnic group separately. Compared to women, men with children receive a much larger share of their income from earnings and from self-employment income (except for Chinese men) and a much smaller share from benefits and tax credits as benefits.

We find that men with children of almost all ethnic groups receive a larger share of their individual income from labour income (except Pakistani and Bangladeshi men), self-employment income (except for Black African men) and tax credits received as benefits and a smaller share from pensions and from other income (except Black Caribbean men) when compared to all men in those ethnic groups. Benefit income is of more importance to Bangladeshi, Chinese and Black African men with children than those without children.

Figure 66 compares White British men and women with children. We see that while men receive most of their individual income from earnings and self employment income, women receive most of their income from earnings (though to a lesser extent than men do), benefits income and tax credits received as benefits. In this sample, which is younger than the overall sample, on average pension income is a very small contributor to individual income of both men and women.

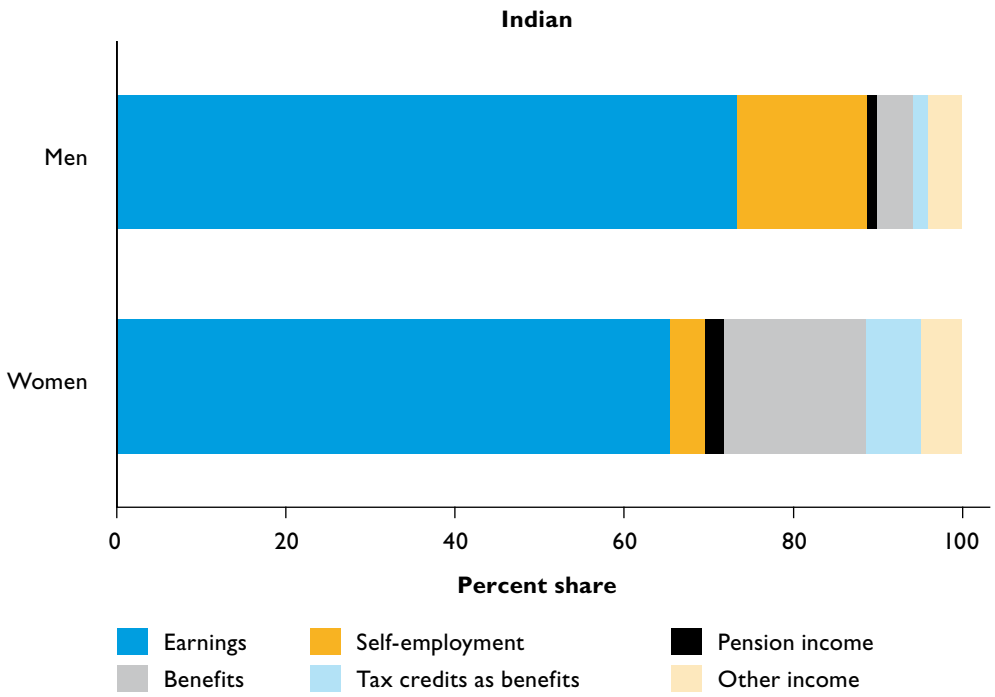
Figure 66: Individual income shares of White British men and women with children



Source: *Family Resources Survey* and *Households Below Average Income 2003/04–2007/08*.

Figure 67 shows that Indian men and women with children have a very similar income composition to White British men and women with children, respectively.

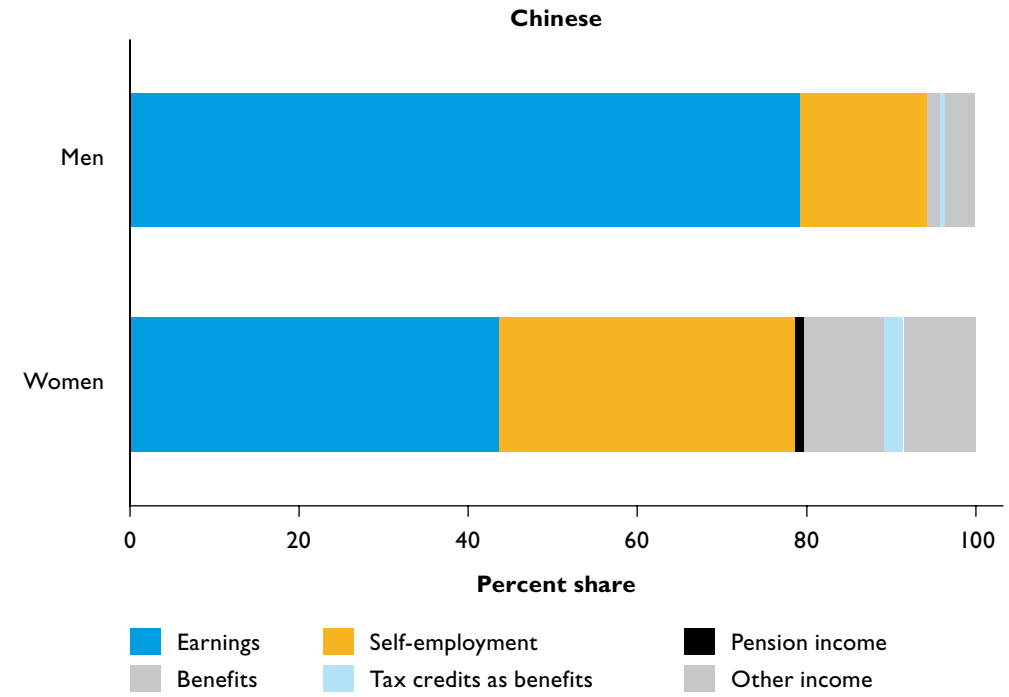
Figure 67: Individual income shares of Indian men and women with children



Source: *Family Resources Survey* and *Households Below Average Income 2003/04–2007/08*.

Turning to Figure 68, we see that Chinese men with children have a very similar income structure to White British men with children; but Chinese women with children have a very different income structure that is not only different from Chinese men but from men or women of any other ethnic group. We should be aware, however, that sample sizes for this subpopulation are small. Self employment earnings are a very important factor in their income; almost as important as earnings income. While the share of other income in total individual income is 21 per cent and 24 per cent for Chinese men and women, it is only 4 per cent and 9 per cent for Chinese men and women with children. In the overall sample a relatively large proportion of Chinese men and women are students who are more likely to have other income and less likely to be parents.

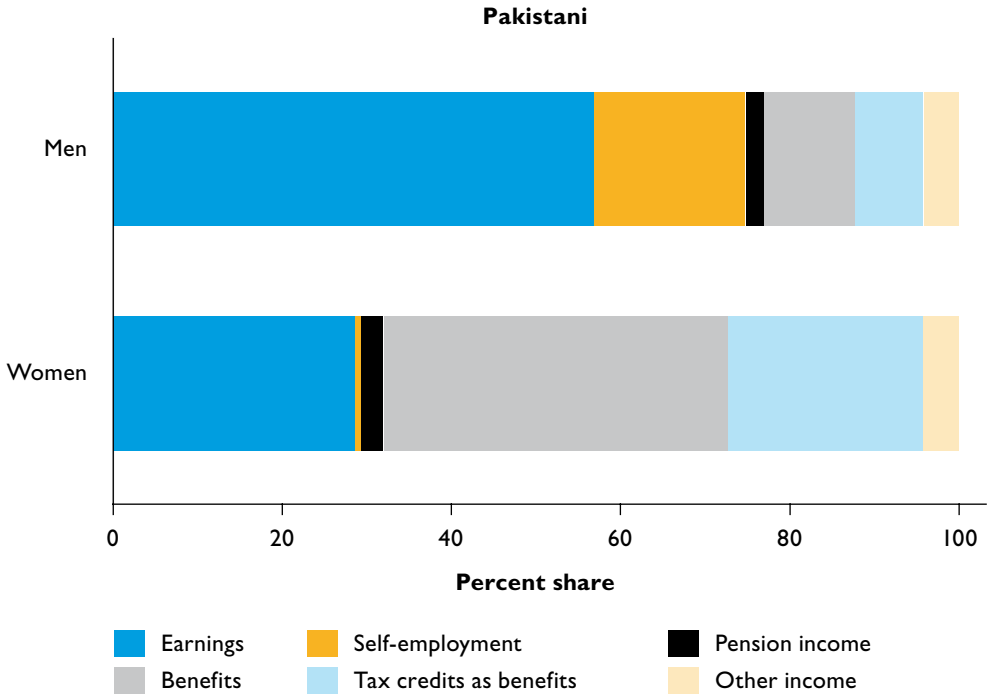
Figure 68: Individual income shares of Chinese men and women with children



Source: *Family Resources Survey* and *Households Below Average Income 2003/04–2007/08*.

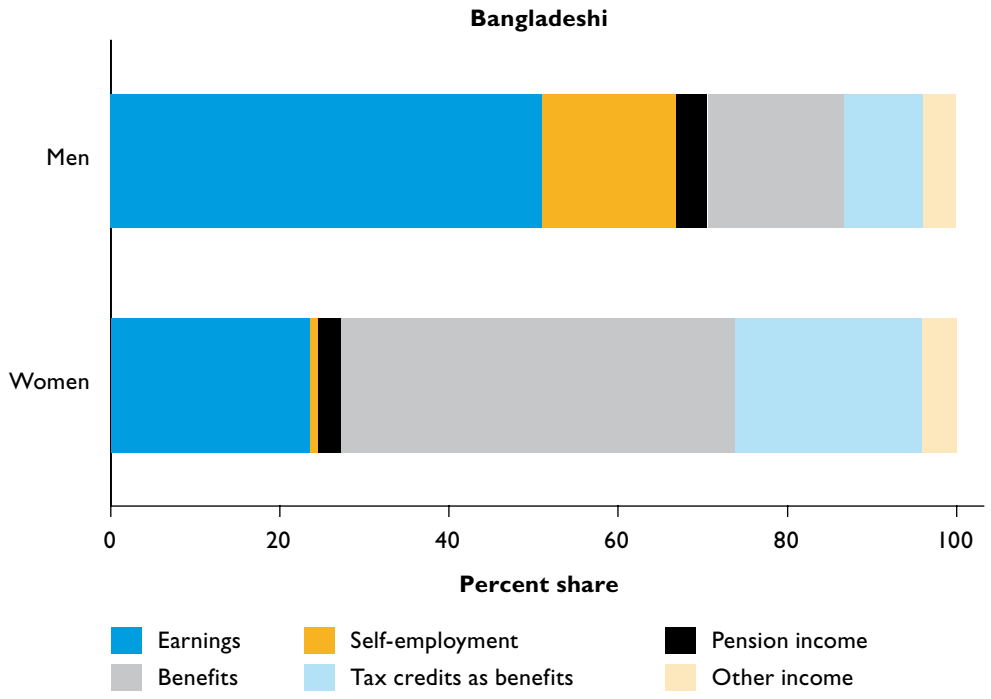
Figures 69 and 70 show that while Pakistani and Bangladeshi men with children receive most of their income from earnings, and some from self-employment, unlike men in other groups they also receive a substantial portion of their income from benefits and tax credits. Comparatively, Pakistani women with children receive a smaller proportion of their income as earnings; most of it comes as benefits and tax credits received as benefits.

Figure 69: Individual income shares of Pakistani men and women with children



Source: *Family Resources Survey* and *Households Below Average Income 2003/04–2007/08*.

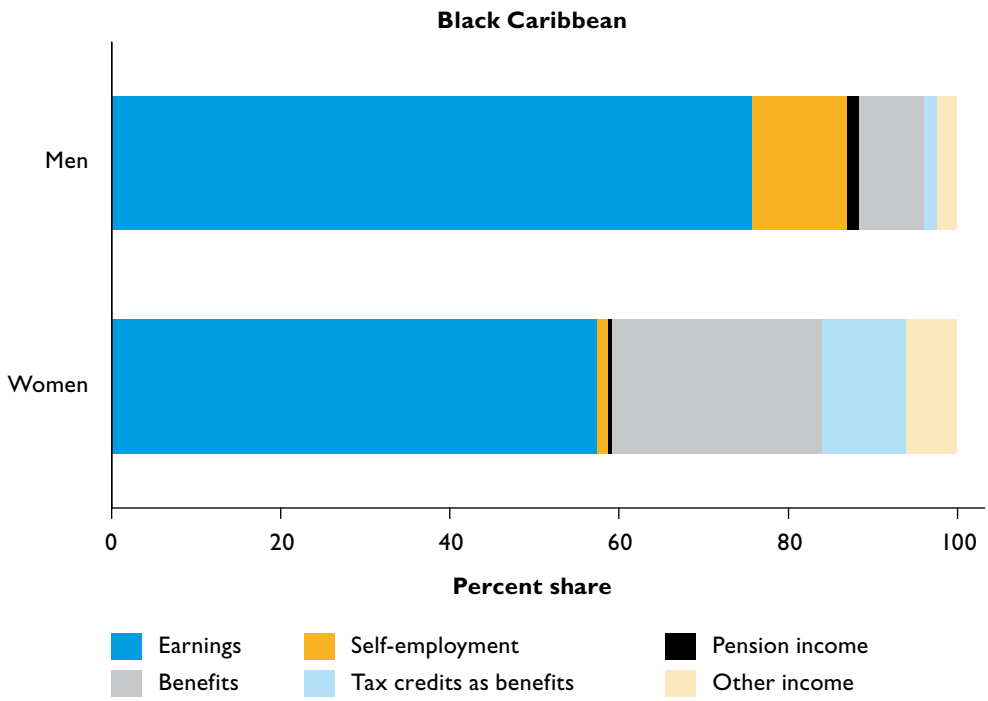
Figure 70: Individual income shares of Bangladeshi men and women with children



Source: *Family Resources Survey* and *Households Below Average Income 2003/04–2007/08*.

Figure 71 illustrates the income components of Black Caribbean men and women with children. We see that these men and women, even though they have almost the same average individual incomes, have very different income sources. While Black Caribbean men with children receive 76 per cent of their income from earnings, 11 per cent from self employment income and 8 per cent from benefits, Black Caribbean women with children receive about 58 per cent of their income from earnings and 35 per cent from benefits and tax credits received as benefits.

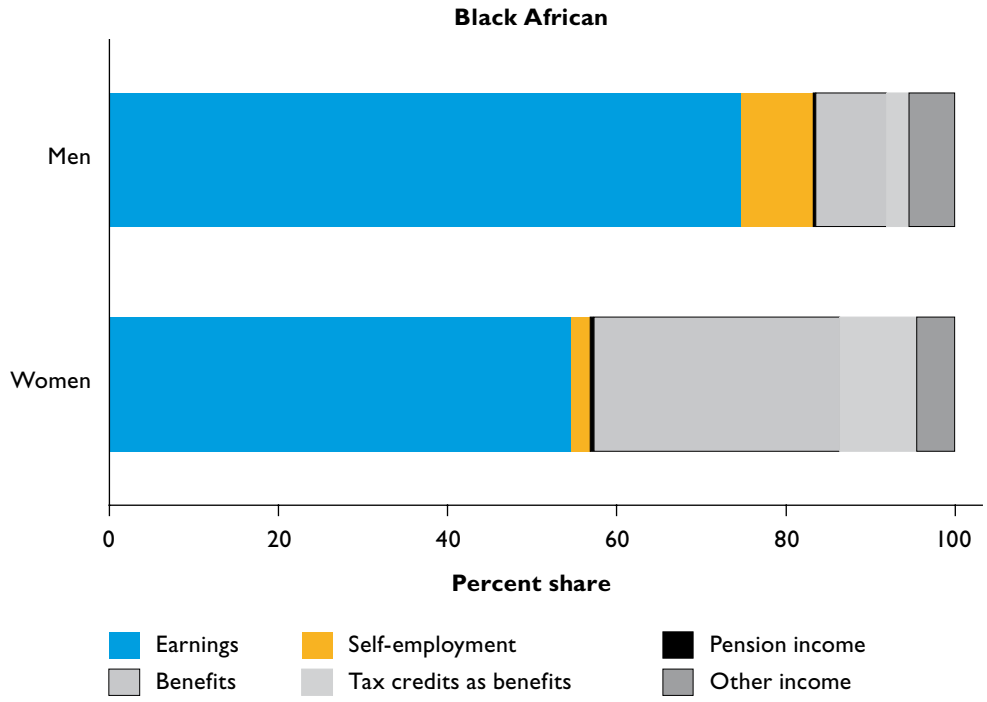
Figure 71: Individual income shares of Black Caribbean men and women with children



Source: *Family Resources Survey* and *Households Below Average Income 2003/04–2007/08*.

Black African women with children have higher average individual income than Black African men with children. From Figure 72 we can see that while Black African men with children receive very little of their individual income from benefits (75 per cent of their income from earnings, 9 per cent from self employment income and 8 per cent from benefits), Black African women with children do make use of benefits and tax credits: about 55 per cent of their income is from earnings on average and 40 per cent from benefits and tax credits received as benefits. The gender difference in income composition of Black Africans is very similar to that of Black Caribbeans.

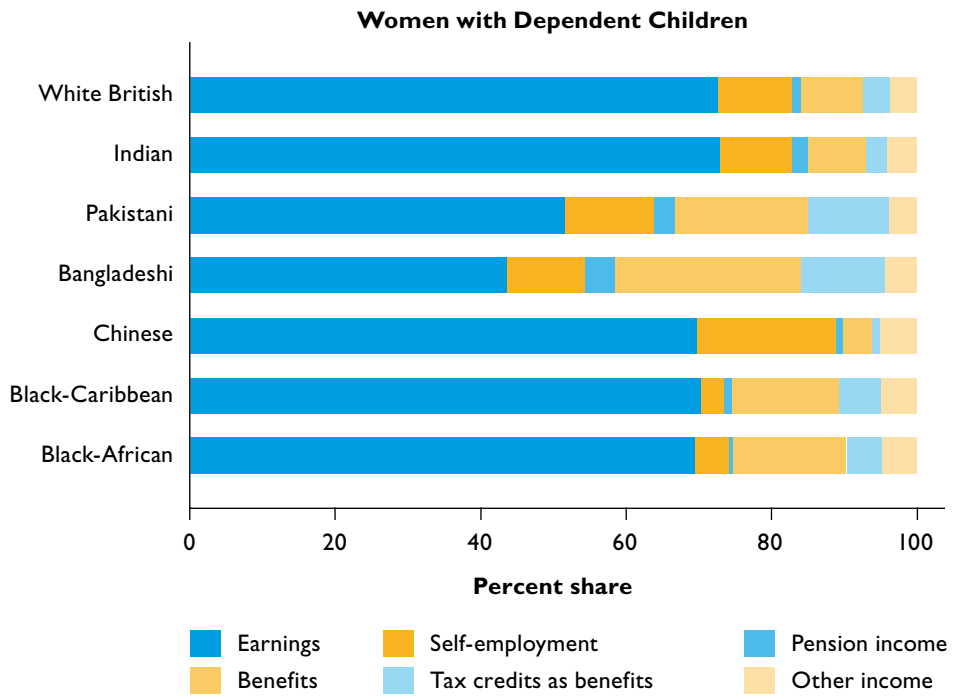
Figure 72: Individual income shares of Black African men and women with children



Source: *Family Resources Survey* and *Households Below Average Income 2003/04–2007/08*.

We have discussed the income sources for men and women separately, and now we take a look at the income sources of women's total household income. This reflects the income sources of both men and women in each ethnic group. Figure 73 shows that, given that this sample of adults with children being younger than the overall sample, the contribution of pension income is lower, and the presence of children explains the higher contribution of benefits and benefit tax credits. For White British and Chinese women with children labour income is a more significant contributor to their household income than for those without children. For Chinese women, other income was a major contributor to household income but not for Chinese women with children, for whom self-employment earnings was more important.

Figure 73: Components of total household income by ethnic group, women



Source: *Family Resources Survey* and *Households Below Average Income 2003/04–2007/08*.

In the previous section, we discussed income inequalities within and between groups for different ethnic groups and for men and women separately; and in this section we have looked at which sources of income are important for different ethnic groups and also for men and women in these ethnic groups. Here we move a step further and examine which sources of income contribute more to income inequality.

As Table 24 shows, income from earnings and self-employment income tend to be the major contributors to overall inequality within the sexes. But earnings income is more important in explaining income inequality among women (51 per cent) than among men (47 per cent), and self-employment earnings for income inequality among men (51 per cent) than among women (33 per cent). Benefit income and tax credits received as benefits reduce individual income inequality but only among men and reduce household income inequality. But this beneficial effect of benefits on income inequality is quite small.

Table 24: Contributions of income sources to inequality, for families with children

	All women, individual	All men, individual	All women, household
Earnings	51.2	47.2	67.6
Self-employment	32.9	50.9	31.8
Investment income	1.9	1.7	2.4
Pension income	2.9	0.4	1.1
Benefit income	2.9	–0.8	–2.6
Tax credits (received as benefits)	2.2	–0.2	–1.4
Other income	5.9	0.7	1.2
Total	100.0	100.0	100.0

Source: *Family Resources Survey* and *Households Below Average Income 2003/04–2007/08*.
Note that as we are looking at household income components we are looking at total, non-equivalised household incomes.

Similar to our approach in Section 1, we examine the contribution of different sources of income to income inequality among men and women with children of the different ethnic minority groups. As inequality among White British men and women with children is not very different from that of all women and men with children we do not consider them separately here. In Table 25, we find that inequality in earnings income explains more than 75 per cent of within group income inequality among Indian women, Chinese men, Pakistani men and Black Caribbean and Black African men and women with children, but only around 40-50 per cent among Indian men, Pakistani women and Bangladeshi women with children. It only explains 2 per cent of income inequality among Chinese women with children, for whom most is explained by differences in self-employment earnings. Self-employment earnings also explain around 60 per cent of the inequality among Indian men and Bangladeshi men with children, 30 per cent among Black Caribbean men with children and 10 per cent among Black African men and women with children. For Bangladeshi and Pakistani women with children within group differences in benefits and tax credits received as benefits explains around 40 per cent and 60 per cent of their respective income inequalities. Benefit income reduces individual income inequality only among Indian men and Black Caribbean men with children.

Turning to equivalent household income inequality (Table 26), among Black Caribbean, Indian, Black African and Pakistani women with children, differences in earnings to a greater extent (more than 85 per cent) and self-employment earnings to a lesser extent (less than 20 per cent) explains their household income inequality. Among the other groups self-employment earnings play a more important role: 35 per cent for White British, 50 per cent for Bangladeshi and 65 per cent for Chinese women with children. Benefit income and tax credits received as benefits contribute to reducing income inequality to a small extent among all groups.

Summary

Labour income constitutes a large portion of the total individual income of women for all women with children other than Pakistani and Bangladeshi women with children: for these groups of women benefits income is the major component of individual income on average. Compared to all women, a larger proportion of individual income of women with children comes from benefits and tax credit income received as benefit. For White British and Chinese women with children this proportion is double or more than double that of all White British and Chinese women.

Average individual income is highest for Black Caribbean women with children and most of it comes from earnings and benefits and tax credits. The distribution of income sources is very similar to that of Black African women. Chinese women with children also has high average individual incomes but most of it comes from earnings and self-employment income. Pakistani and Bangladeshi women have very low average individual incomes, which are similar to each other in levels and composition.

Compared to women, men with children receive a much larger share of their individual income from earnings and from self-employment income and a much smaller share from benefits and tax credits.

Income from earnings and self-employment income tend to be the major contributors to overall inequality within the sexes. But earnings income is more important in explaining income inequality among women, and self-employment earnings for income inequality among men. Benefit income and tax credits received as benefits reduce individual income inequality among men but not women. Benefits and tax credits also reduce household income inequality but to quite a small degree, and this is the case across all ethnic groups.

Inequality in earnings explains more than 75 per cent of within group income inequality among Indian women, Chinese men, Pakistani men and Black Caribbean and Black African men and women with children but only around 40-50 per cent among Indian men, Pakistani women and Bangladeshi women with children. Self-employment earnings account for around 60 per cent of inequality among Indian men and Bangladeshi men with children, 30 per cent among Black Caribbean men with children and 10 per cent among Black African men and women with children. For Bangladeshi and Pakistani women with children, within group differences in benefits and tax credits received as benefits explain around 40 per cent and 60 per cent of their respective individual income inequalities.

The fact that benefits and tax credits contribute to income individual income inequality even among men and women with children, even if they reduce inequality at the household level, may indicate that allocation of benefit income may partly stem from the different circumstances of benefit receipt. Women living on their own with children are not only more likely to be in receipt of benefits but also are the only eligible recipients, while women living in a couple may have an earning partner, or their partner may be in receipt of benefits leaving them with correspondingly little control over income. Moreover, tax credits may amplify labour earnings, contrasting with those who have neither source of income. Investigation of income sources and their unequal distribution therefore has potentially something to tell as about resource allocation within households.

Table 25: Contributions income sources to individual income inequality by ethnic group and sex

	Indian		Pakistani		Bangladeshi		Chinese		Black Caribbean		Black African	
	Women	Men	Women	Men	Women	Men	Women	Men	Women	Men	Women	Men
	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
Earnings	80.5	35.9	54.5	75.1	37.4	32.0	2.1	96.6	79.7	71.8	74.9	84.5
Self-employment	9.7	63.6	1.6	16.6	1.6	57.0	97.7	2.4	1.5	29.1	12.7	10.7
Investment income	3.5	1.4	0.2	1.6	0.1	0.9	0.2	0.7	0.3	0.3	0.2	0.2
Pension income	–0.6	–0.2	0.1	–0.5	1.4	1.0	–0.0	0.0	–0.4	1.0	–0.0	–0.2
Benefit income	3.3	–0.8	26.5	1.3	38.8	5.1	0.0	–0.3	2.7	–1.4	7.5	1.9
Tax credits	0.8	–0.3	15.1	2.0	19.1	3.9	–0.1	0.1	7.1	0.5	4.2	1.5
Other income	2.8	0.5	2.1	3.9	1.6	0.2	0.2	0.5	9.0	–1.2	0.5	1.4
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Source: *Family Resources Survey* and *Households Below Average Income 2003/04–2007/08*.

Table 26: Contributions of income sources to household income inequality by ethnic group: women

	White British	Indian	Pakistani	Bangladeshi	Chinese	Black Caribbean	Black African
	(%)	(%)	(%)	(%)	(%)	(%)	(%)
Earnings	64.0	87.4	90.6	51.0	34.1	101.5	85.5
Self-employment	35.0	12.1	13.2	49.1	64.7	5.7	18.6
Investment income	2.6	1.3	0.9	0.6	1.8	1.8	1.1
Pension income	1.3	0.7	0.6	1.4	0.1	0.6	0.0
Benefit income	–2.7	–1.4	–5.4	–2.4	–0.7	–8.2	–6.0
Tax credits	–1.5	–0.9	–1.2	–1.7	–0.3	–2.0	–1.3
Other income	1.2	0.8	1.3	2.1	0.2	0.5	2.2
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Source: *Family Resources Survey* and *Households Below Average Income 2003/04–2007/08*.

2.6. Simulations: Effect of elimination of within and between group income inequalities on poverty rates

In this section we examine the effect of removing within and between group income inequalities among women with children on poverty rates of men, women and their children across ethnic groups. As explained in section 1.6 we simulate individual and household incomes of women under four different scenarios: equalising within group individual and equivalent household incomes of women with children by assigning every woman the mean income of her group, and equalising between group individual and equivalent household incomes by assigning every woman the mean age-adjusted income of White British women. The mean being sensitive to extreme values, the median is often considered a more robust representation of average income, so we carry out an alternative set of simulation exercises with median incomes. When we simulate new incomes, the poverty line or poverty threshold, measured as 60 per cent of the overall median, also shifts and so we recalculate the poverty line to represent the new distributions of total income. We note that the simulations are carried out for the overall sample, but here we discuss the impact of that overall equalisation between women on families with dependent children.

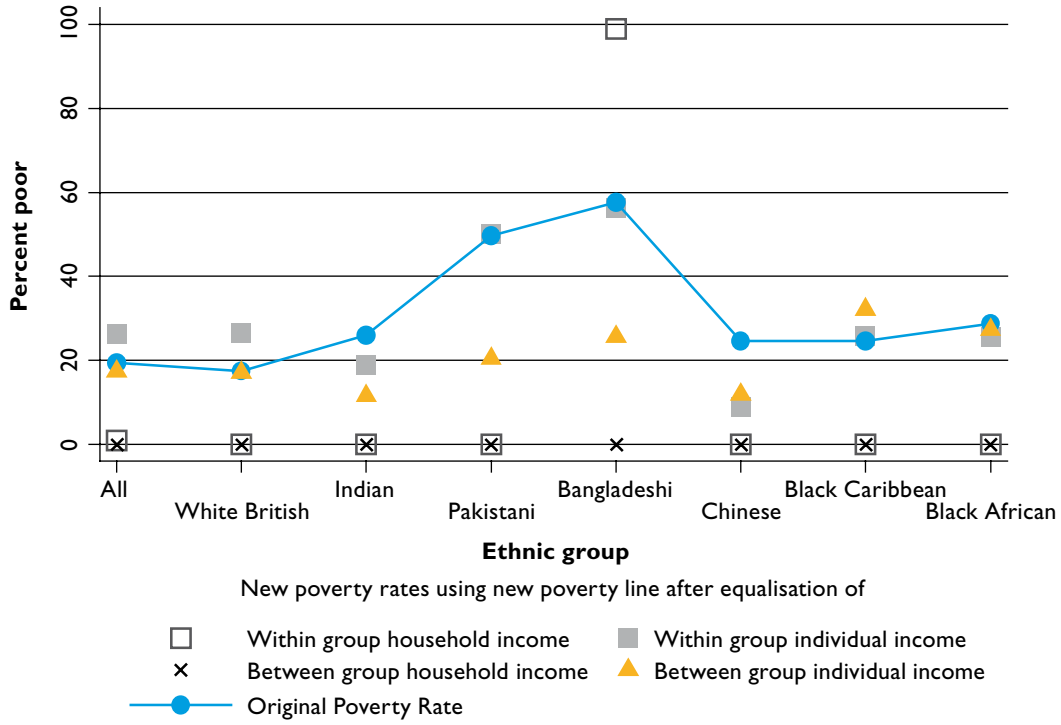
Figures 74-75 illustrate the effect of equalisation to mean incomes on women and men's poverty rates and Figures 77-78 illustrate the effect from equalisation to median incomes. We discuss the effect of the simulation exercises on children's poverty rates (see Figures 76 and 79). The ethnic group of the head of household is assigned to all children in the household.

To summarise the similarities and differences in the outcomes of the simulation exercises on poverty rates of men and women with children vis-à-vis all men and women, there are a number of key points to note. First, when we equalise within or between group equivalent household incomes (to the mean or median) among women with children, their poverty rates become zero except for Bangladeshi women. This is the same as for women without children. For men with children this gain is much higher compared to men without children, because there are very few men only households with children. Among men and women living in households with at least one dependent child, 1.2 per cent live in men only households and 13.2 per cent in women only households. So, most of these men are in households with women, which means the effect on their poverty status will be similar to that of women.

Second, equalising within group individual incomes among women with children either increases women's poverty rates or reduces it very little, the exceptions being Chinese and Black African women. It increases poverty rates only for all men. The effect on poverty rates when positive is definitely lower than that found with the overall sample except for Black African men. It is possible that child-related benefit income women with children and low income receive (to compensate for greater economic hardships that may face), increases their income to above the mean or median. Women without children, by contrast, have lower average incomes. When we equalise incomes to the mean or median, we hypothetically take away income from those with incomes higher than the mean or median. If the equalised income of women falls to the mean, and if their income (as would be expected) was key in keeping the household income above the poverty threshold, then this move drops them below it. In effect, the ineffectiveness (in most cases) of equalisation in reducing the poverty of women with children highlights the role of the benefit system (on top of earnings) and the additional income coming into families with children through the mother in maintaining many families with children out of poverty.

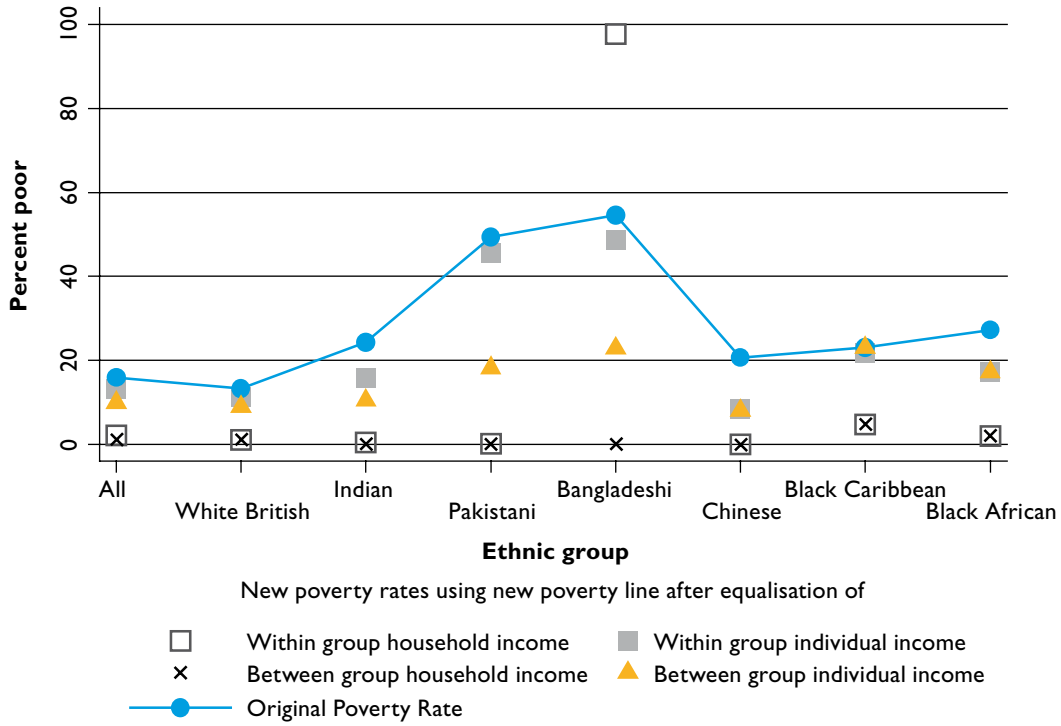
Third, equalising between group individual income among women with children reduces poverty rates, although very little for White British and Black African women and Black Caribbean men, and increases it for Black Caribbean women. As compared to the overall sample, the decrease in poverty rates is less for Black African men and Chinese men and women.

Figure 74: Impact of equalisation (to the mean) of women's incomes on poverty rates (based on new poverty lines) of women with children by ethnic group



Source: Family *Resources Survey* and *Households Below Average Income 2003/04–2007/08.*

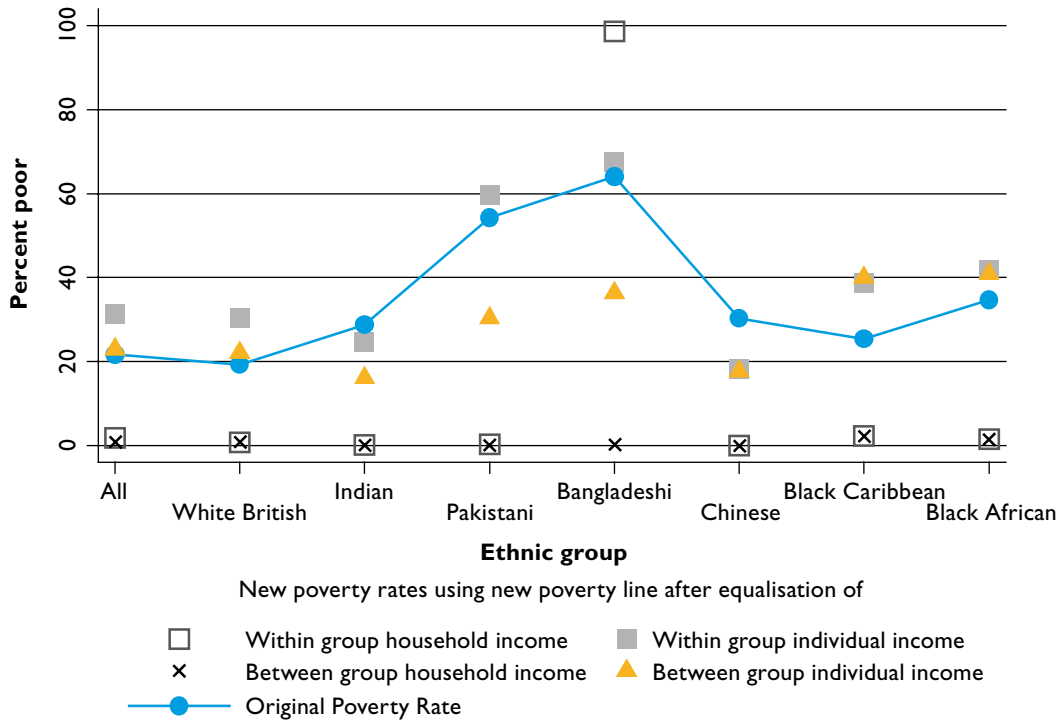
Figure 75: Impact of equalisation (to the mean) of women's incomes on poverty rates (based on new poverty lines) of men with children by ethnic group



Source: *Family Resources Survey* and *Households Below Average Income 2003/04–2007/08.*

The impact on children's poverty rates can be predicted to be very similar to women with children since children are more likely to live with women than with men. But it will be amplified as poor households are more likely to have more children (this is true for all ethnic groups). The differences across groups will be commensurately larger in accordance with the differences in family sizes, and demographic profiles of the different groups. In Figure 76, we show the impact of equalisation to the mean of women's incomes on children's poverty rates by ethnic group.

Figure 76: Impact of equalisation (to the mean) of women's incomes on poverty rates (based on new poverty lines) of children by ethnic group



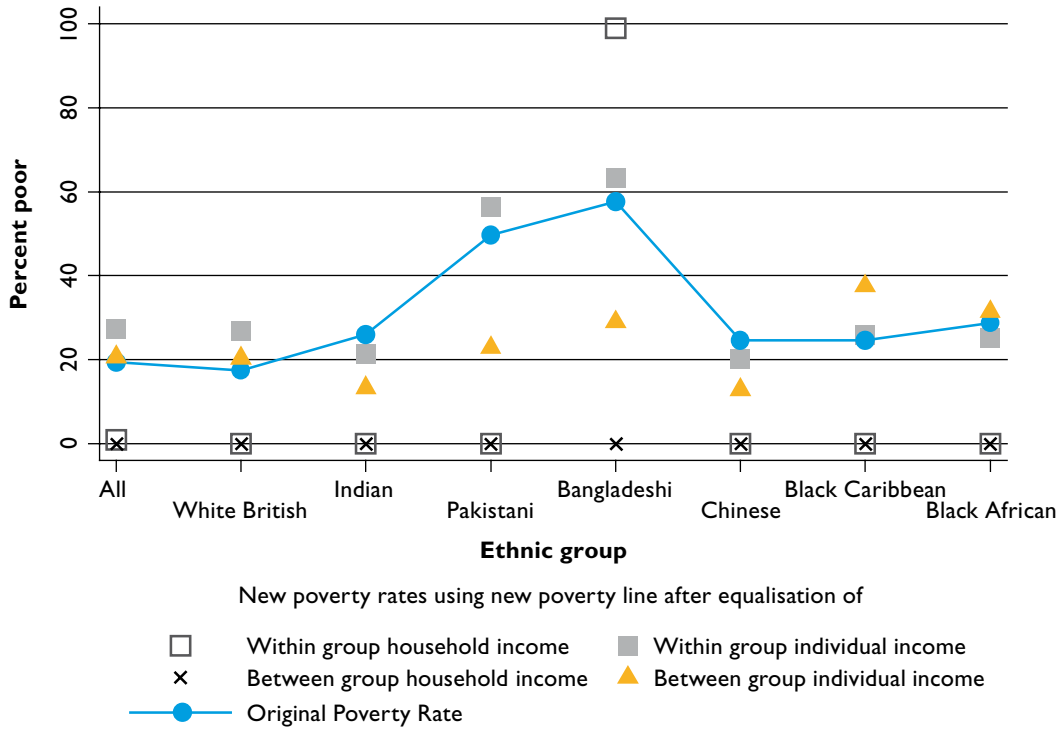
Source: *Family Resources Survey* and *Households Below Average Income 2003/04–2007/08.*
Note children are assigned the ethnic group of the head of the household.

For many groups equalising within group individual income inequalities of women increases child poverty rates as they do for women with children. The exceptions are Indian and Chinese children: for these groups, the wider income dispersion shifting up the mean allows equalisation to have far more impact. For the other groups, the lower household incomes of those with more children are not raised sufficiently under the simulation to bring them beyond the poverty line. Moreover, individual incomes are influenced by child related benefits that are necessary to avoid child poverty, and equalising incomes may thus disadvantage households with larger numbers of children.

Again as for women with children, the equalisation of within and between group household income inequalities would result in zero poverty rates, except for Bangladeshi children. For all other cases, the effect of women's income equalisation is weaker on child poverty rates than on poverty rates of women with children. This is consistent with poor households being more likely to have a larger number of children. The Bangladeshi group is different because the original poverty rates of Bangladeshi women with children (56 percent) was substantially lower than that of Bangladeshi children (64 per cent); but after equalisation poverty rates of all become 100 per cent, meaning a lower impact on poverty rates for Bangladeshi children than on Bangladeshi women.

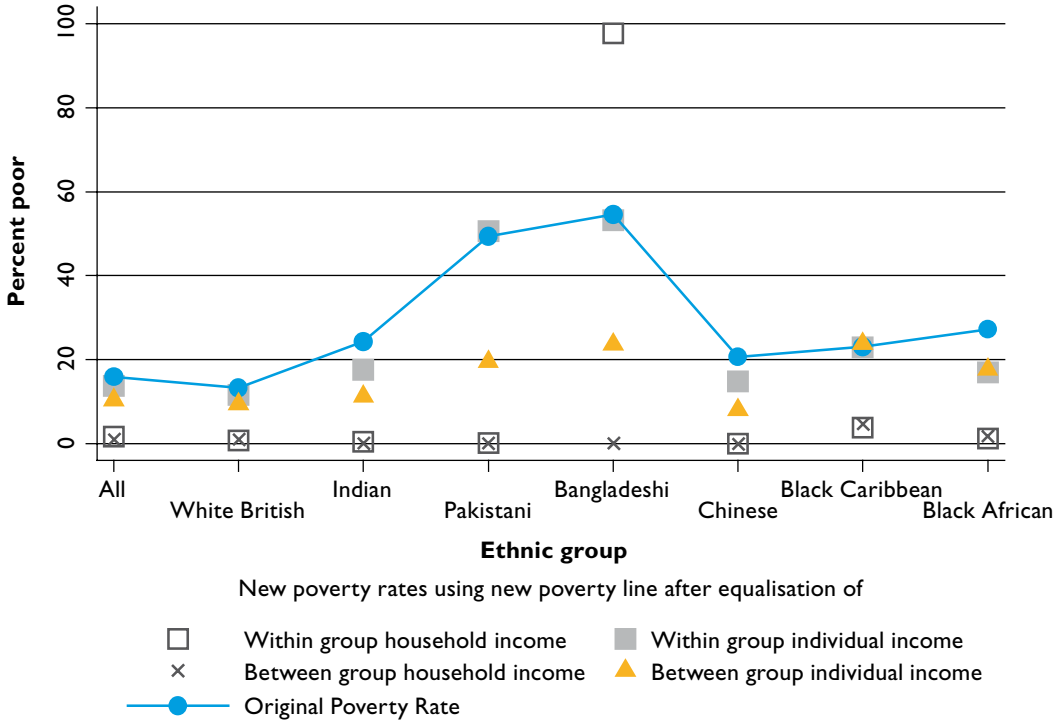
Next we take a look at the effect on poverty rates of equalising to median instead of mean incomes (Figures 77-79). As we saw in section 1.6, equalisation to median incomes has a stronger effect on poverty reduction than equalisation to mean incomes. Comparing the effect on poverty rates for the overall sample with this sample of women with children, we find similar results as with equalisation to mean incomes.

Figure 77: Impact of equalisation (to the median) of women's incomes on poverty rates (based on new poverty lines) of women with children by ethnic group



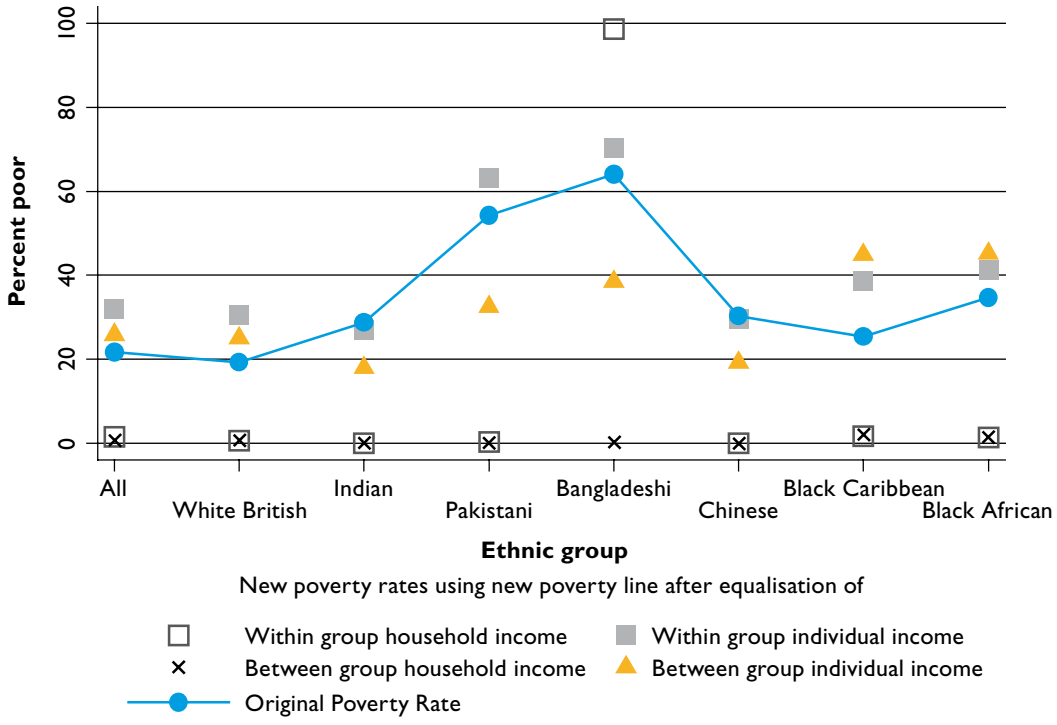
Source: *Family Resources Survey* and *Households Below Average Income 2003/04–2007/08*.

Figure 78: Impact of equalisation (to the median) of women's incomes on poverty rates (based on new poverty lines) of men with children by ethnic group



Source: *Family Resources Survey* and *Households Below Average Income 2003/04–2007/08*.

Figure 79: Impact of equalisation (to the median) of women's incomes on poverty rates (based on new poverty lines) of children by ethnic group



Source: *Family Resources Survey* and *Households Below Average Income 2003/04–2007/08*.

Winners and Losers

We have discussed overall changes in poverty rates when incomes are simulated to eliminate income inequalities among women. But if we want to understand who is likely to gain (and lose) from these exercises a closer look at the characteristics of winners and losers of these simulation exercises is warranted. In Table 27 we show what proportion of the sample move into and out of poverty and what proportion remain in the same poverty status. As most children live with women, their experience is similar to that of women. A higher proportion of women and their children are expected to move out of poverty under these different simulations than men.

Table 27: Poverty transitions of men and women with children as a result of simulating incomes to eliminate within and between group individual and equivalent household income inequalities among women with children

	Within group household income (%)	Within group individual income (%)	Between group household income (%)	Between group individual income (%)
All men and women with children				
Move out of poverty	17%	7%	18%	10%
Move into poverty	1%	10%	0%	6%
Remain in poverty	1%	10%	0%	8%
Remain out of poverty	82%	72%	82%	76%
Among women with children				
Move out of poverty	19%	8%	19%	10%
Move into poverty	0%	14%	0%	8%
Remain in poverty	1%	12%	0%	9%
Remain out of poverty	80%	66%	81%	72%
Among men with children				
Move out of poverty	15%	7%	15%	9%
Move into poverty	1%	5%	0%	3%
Remain in poverty	1%	9%	1%	7%
Remain out of poverty	83%	79%	84%	81%
Among Children				
Move out of poverty	19%	8%	20%	10%
Move into poverty	1%	11%	0%	7%
Remain in poverty	1%	13%	0%	10%
Remain out of poverty	79%	69%	79%	72%

Source: *Family Resources Survey* and *Households Below Average Income 2003/04–2007/08.*
Notes: calculations based on those above and below the poverty threshold using original incomes and poverty threshold and position above or below the new poverty threshold using simulated equalised incomes.

In Table 28 we see the characteristics of those who are more likely to move out of poverty and who are more likely to move into poverty. The characteristics of winners and losers among women with children are quite similar to those among all women. As in the overall sample we find that poor women living as a couple with a spouse or partner are less likely to move out of poverty and non poor women in these circumstances are more likely to move into poverty. In almost all other aspects (ethnic group and age group), the characteristics of losers and winners among women with children are quite similar to that of all women. While post-retirement age poor women are less likely to move out of poverty (and non-poor women are more likely to move into poverty), when their age adjusted incomes are equalised with the age-adjusted incomes of White British women, among women with children that does not hold; but there are very few women in these age groups who live with dependent children. As women in this analysis are all those who live in households with dependent children, the results of the analysis apply to children as well. For example, we can say that poor children living with an adult couple are less likely to move out of poverty than poor children living with their mothers (or a single adult woman) only when women's within and between group individual incomes are equalised.

Table 28: Estimated coefficients from logistic regressions of being a *winner* and a *loser* among women with dependent children

	New poverty status is computed using new simulated incomes and original poverty line, when income is simulated to equalise			
	Within group individual income	**Between group individual income**	**Within group individual income**	**Between group individual income**
	Winner		*Loser*	
Constant	-0.64 ***	0.34 ***	-1.95 ***	-2.89 ***
Living as a couple with spouse or partner	-0.40 ***	-0.33 ***	1.60 ***	1.33 ***
Ethnic group (omitted: White British)				
Indian	0.88 ***	0.85 ***	-0.29 **	-0.39 **
Pakistani	-0.42 ***	0.66 ***	0.87 ***	-0.15
Bangladeshi	-0.73 ***	0.54 ***	0.81 ***	-0.03
Chinese	1.78 ***	0.45	-1.34 ***	-0.87 *
Black Caribbean	0.90 ***	-0.43 **	0.14	1.04 ***
Black African	0.85 ***	0.07	-0.11	0.72 ***
Age group (omitted: 45-54 years)				
16-24 years	0.68 ***	-0.68 ***	-0.27 ***	0.93 ***
24-34 years	-0.14 **	-0.17 ***	0.09 **	0.34 ***
45-54 years	0.24 ***	-0.19 **	-0.24 ***	0.26 ***
55-64 years	0.93 ***	-0.29 *	-0.69 ***	0.54 ***
65-74 years	0.74 ***	0.72 **	-1.97 ***	-0.34
75+ years	0.99 *	0.88	-3.45 ***	-1.55 ***
Observations	7511	7511	30229	30229

Note:* p<.10, ** p<.05 and *** p<.01

Summary

As with all women, equalizing equivalent household incomes between groups to the majority, age-adjusted average, proves effective equalization in eliminating poverty or coming close to eliminating it for men, women and children. Equalising women's equivalent income within groups for women with children, as for all women is sensitive to where the group mean falls relative to the poverty line and thus results in close to 100 per cent poverty rate for Bangladeshi women with children as for all women. Equalising women's individual income within groups has a relatively minor impact on risks of poverty for men and women living with children and for children, once the new poverty line is taken into account. Equalizing women's individual incomes to the majority average across groups has a much stronger impact for the poorest groups, but actually increases the proportions of children living with Black Caribbean and Black African and White British mothers who would be in poverty.

Consistent with the analysis of income inequality in the previous section this may demonstrate how benefit income, and possibly earnings, which increase inequality in individual incomes among women, may be contributing to keeping children in some families out of poverty. If their incomes are equalized to the group average, then this advantage is lost. This would seem to be particular salient for those groups with higher rates of lone parenthood (Black Caribbean, Black African and White British mothers), where the women's higher individual incomes constitute the sole source of family income, and reducing it to the average increases the risk that the family income is disproportionately reduced compared to families where the woman's income constitutes a 'secondary' source. Moreover the impact of the equalization to the majority average reveals that the reference point is relatively low. On the other hand, for the poorest women and children, equalizing women's individual incomes to the majority average would be sufficient to move substantial proportions of them out of poverty.

2.7 Deprivation and ethnicity

Deprivation indicators have been collected in the Family Resources Survey since 2004/5 following a comprehensive consultation on child poverty measurement and the most effective means to monitor progress (Department for Work and Pensions 2003). The 21 indicators cover a series of measures, with 11 relating to adults and family circumstances as a whole, and 10 relating specifically to children. They are constructed into a single score based on lacking goods or experiences, and the score takes account of how common it is in the population to have or own the experiences or goods identified (see Box 6).

Deprivation indicators provide a complement to income measures of poverty. While the claims that they constitute direct measures of standard of living are probably overstated (see, for example, the discussion of this point in Berthoud et al. (2004)), they may be more highly correlated with persistent poverty, and thus shed light on those experiencing more entrenched poverty (Gordon 2006). This is especially important given the relative lack of measures of persistent poverty that are able to differentiate between ethnic groups (though for a partial picture see the final subsection of this report).

Moreover, Brewer et al. (2008) have suggested that discrepancies between income and deprivation measures of poverty among lone parents may indicate some underestimate of poverty among this group, when simply using an income measure. Deprivation measures thus have the ability to enhance – or complicate – our understanding of inequalities in economic well being among women of different ethnic groups in families with children.

As well as comparing the distribution of deprivation for women living with children across ethnic groups, we can also explore the intersection between income poverty and deprivation. We do this

in two ways. Firstly, we illustrate across ethnic groups the proportions matching the child poverty indicator of living below 70 per cent of median equivalent household income and having a family deprivation score of 25+ (Department for Work and Pensions 2009). We also look at how men and women of different ethnic groups fare on this indicator.

Secondly, we compare average deprivation among those who are both poor and income poor across ethnic groups. Regardless of differences across groups in rates of poverty or rates of deprivation, a reasonable assumption might be that among those who are income poor deprivation would be relatively high, but that given that women from all groups are living on household incomes below the poverty threshold, we might expect the rates of deprivation to be similar across groups. Similarly, among those living in households with equivalent incomes above the poverty threshold, we would expect average deprivation to be relatively low, but would not necessarily expect variation across groups.

Box 6: Measuring Deprivation

There has been much debate about how best to measure deprivation. In terms of determining whether someone is deprived or not, there are the choices and number of indicators to consider, and whether there should be some allowance made for 'preferences' in choosing to forego one item but maybe being well supplied on another. Once these decisions have been taken, there still remain questions of how to construct a measure of deprivation from a given set of indicators. Issues have been whether different indicators should be summed or treated as distinct, or whether they should be grouped in some way; whether, if summed, they should be given equal weight and, if not, how they should be evaluated relative to each other.

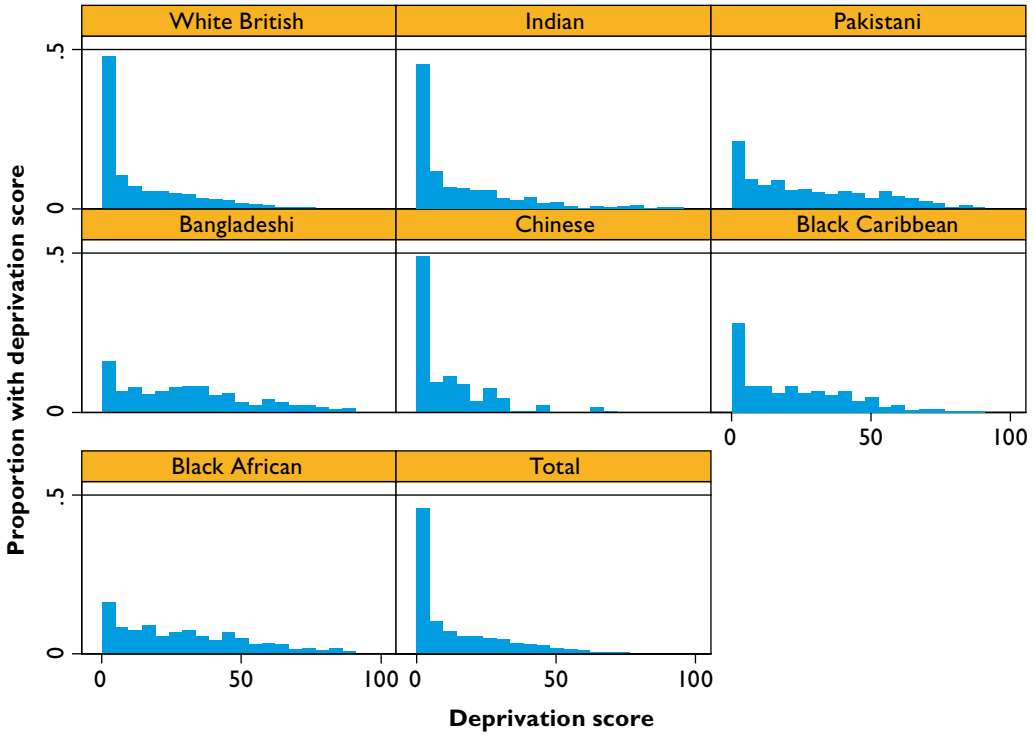
An overview of the various positions and approaches can be found in Willitts (2006), which specified the approach adopted in measuring deprivation for the purposes of evaluation of progress on child poverty. In brief, the recommended approach involves summing indicators, but weighting each indicator by its population prevalence. That is, lacking goods or experiences which are more common is taken to be more serious (given a greater weight) than lacking less commonly held goods or experiences. The resulting weighted scores are then adjusted so that they fall between 0 (no deprivation) and a theoretical maximum of 100 which would mean being deprived on each of the 21 indicators. The score does not have a direct interpretation: one point higher or lower does not mean deprived on one more item, and 10 per cent higher or lower does not mean being deprived on 10 per cent more or fewer items. But it is felt, nevertheless, more effectively to capture the concept of deprivation as lacking things which others not only can be expected to have but actually do have.

The weighted scores are derived from measuring not simply lacks, but enforced lacks, that is those things that individuals say they would like but cannot afford. Despite the criticisms of using self-report of enforced lack as a measure (McKay 2004), this was felt to go some way to allowing preferences to vary. At the same time, as in most of the deprivation literature (Gordon et al. 2000; Nolan and Whelan 1996), deprivation scores are only deemed to indicate deprivation when they are experienced by those on a lower income. In HBAI, the indicator employing deprivation score is measured among those below 70 per cent of median equivalised household income. This excludes those who have a substantial income but very different lifestyle choices from being counted as deprived. To be counted as deprived, a threshold score of 25 is used. While this is an arbitrary threshold, as with the income poverty measure, it is regarded as capturing, when combined with relatively low income, an extent of deprivation that is beyond what society should consider as acceptable for families with children.

First, we consider how the distribution of deprivation scores varies across children and across women living with children, according to their ethnic group. The distribution of deprivation is highly skewed. Averaged across the four years of our sample, many children lived in families that had a deprivation score of 0 (nearly 40 per cent of children), just under a quarter lived in families with a score above 25 and only around 6 per cent lived in families with a score above 50. The mean score was just under 15 and the median 7.5. Similarly for women living in families with children, nearly two fifths lived in families with a score of zero, 23 per cent lived in families with a score of 25 or more and only 5 per cent in families with a score of 50 or more. Among women the mean score was around 14 and the median was around 5.

While this skewed distribution can be found across all ethnic groups, Figures 80 and 81 show that there are nevertheless clear differences in the distribution according to ethnic group. Figure 80 shows the distribution for dependent children and Figure 81 for women living in families with dependent children.

Figure 80: Distribution of deprivation scores by ethnic group, dependent children



Source: *Family Resources Survey* and *Households Below Average Income data for 2004/5-2007/8.*
Note: ethnic group is that of the head of the household in which the child is living

We can see that among Bangladeshi, Pakistani, Black Caribbean and Black African children there are smaller proportions with low or zero deprivation scores and a correspondingly greater spread across the distribution, particularly up to scores of around 60. It is clear that the group with the highest concentration of extremely high scores is Bangladeshi children, but the spread across Black African children is also striking.

These distributions are summarised in Table 29, summarising the spread of deprivation scores across the distribution. They also show that the mean deprivation scores vary dramatically across groups from a mean score of 11 among Chinese children to a mean score of 31 among Bangladeshi children.

Table 29: Mean, 25th 50th and 75th percentiles of deprivation scores among dependent children, by ethnic group

Ethnic group	Mean	25th percentile	Median	75th percentile
White	13.6	0.0	5.5	22.1
Indian	14.6	0.0	7.5	22.5
Pakistani	27.2	7.7	22.4	44.8
Bangladeshi	30.6	11.7	28.4	45.6
Chinese	10.7	0.0	5.5	17.0
Black Caribbean	22.2	3.8	18.7	35.3
Black African	29.3	9.8	26.0	45.7

Source: *Family Resources Survey* and *Households Below Average Income data for 2004/5-2007/8*, weighted
Note: ethnic group is that of the head of household within which the child is living.

We can see from Table 30, that for Pakistani, Bangladeshi, Black Caribbean and Black African children these means are significantly different from those for White British children, as they are, too, for men and women from these groups.

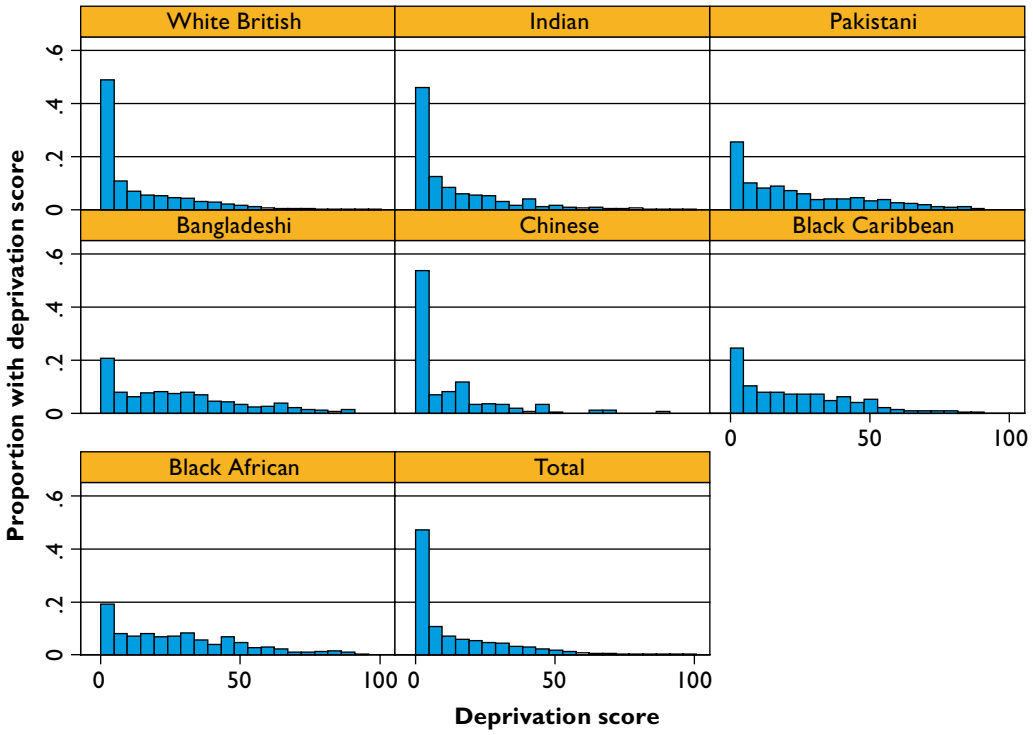
Table 30: Mean deprivation scores and 95 per cent confidence intervals for men women and children, by ethnic group

	Women			Men			Children		
	Mean	Lower Bound	Upper Bound	Mean	Lower Bound	Upper Bound	Mean	Lower Bound	Upper Bound
White British	13	*12.8*	*13.2*	9.1	*8.9*	*9.3*	13.1	*12.9*	*13.3*
Indian	13.6	*12.2*	*15.1*	12.1	*10.6*	*13.5*	13.4	*12*	*14.8*
Pakistani	24.2	*22.2*	*26.2*	22.5	*20.4*	*24.6*	24.5	*22.5*	*26.5*
Bangladeshi	27.2	*23.7*	*30.6*	26.2	*22.5*	*29.9*	27	*23.6*	*30.4*
Chinese	11.2	*8*	*14.4*	9.4	*6.1*	*12.7*	11.2	*7.9*	*14.5*
Black Caribbean	22.6	*20.5*	*24.7*	15.7	*12.9*	*18.5*	22.8	*20.7*	*24.8*
Black African	27.7	*25.6*	*29.7*	21.2	*18.6*	*23.8*	27.9	*25.8*	*29.9*

Source: *Family Resources Survey and Households Below Average Income data for 2004/5-2007/8*, weighted
Note: ethnic group is that of the head of household within which the child is living.

If, instead of children, we look at the distribution of deprivation scores among women living with children, in Figure 81 we see a very similar pattern to that of children, as shown in Figure 80.

Figure 81: Distribution of deprivation scores by ethnic group, women with dependent children



Source: *Family Resources Survey* and *Households Below Average Income data for 2004/5-2007/8.*

We next turn to consider the proportions of those who correspond with the child deprivation indicator of having an equivalent income below 70 per cent of the median combined with a deprivation score of over 25. Over the four years we consider here, overall 16 or 17 per cent of children were in this situation in any given year (Department for Work and Pensions 2009). Table 31 shows how the rates vary across ethnic groups.

Table 31: Rates of being both deprived and below 70% median, by ethnic group

	Children	Women living with children	Men living with children
White	14.5	12.9	7.1
Indian	13.4	11.9	10.1
Pakistani	39.1	30.9	29.5
Bangladeshi	48.4	40.4	39.2
Chinese	8.3	10.1	6.5
Black Caribbean	21.0	20.4	15.2
Black African	33.5	29.3	20.2

Source: *Family Resources Survey* and *Households Below Average Income data for 2004/5-2007/8*, weighted
Note ethnic group is that of the head of household within which the child is living.

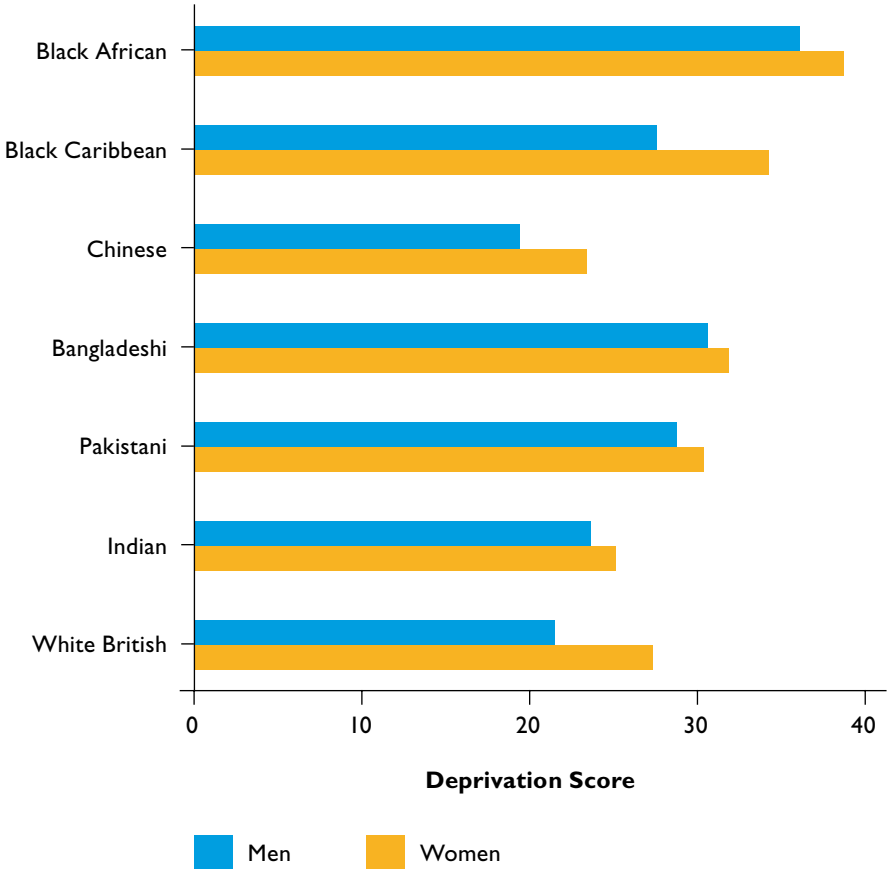
We can see that nearly half of Bangladeshi children are deprived according to this indicator, compared, as noted with between 16 and 17 per cent of children overall. Chinese children were least likely to be deprived. We also see that two-fifths of Bangladeshi women living with children are deprived, around 30 per cent of Pakistani and Black African women and 20 per cent of Black Caribbean women. Rates are lower for men for each group but show a similar pattern. The lower rates of deprivation among men are likely to be driven by high rates of deprivation among lone parents, with the majority of lone parents being women. Women from certain minority groups are, then, at severe risk of material deprivation and much more likely than women as a whole to suffer extreme levels of deprivation.

Finally, we consider whether there are ethnic differences among those poor and those not poor, designating 'poor' according to the standard measure of having equivalent household incomes below 60 per cent of median. The extent to which there is variation among women in their risks of deprivation can be informative about the extent to which the average experience of poverty varies qualitatively across groups. It is also indicative of the ways in which, for women managing on a tight budget, they and their families may go without 'normal' goods, potentially prioritising basic family provisioning, which may in some cases be more expensive for minority groups (Oldfield et al. 2001) or even aspects of children's well-being considered more important and not measured by these indicators, such as, for example, additional educational support or opportunities. Moreover, higher rates of deprivation among the poor may, as mentioned above, be indicative of longer term or more entrenched poverty, (an issue examined explicitly in the next section); while higher rates of deprivation among those not poor, may indicate lower average incomes over time, even if they are not (currently) below the poverty threshold.

It has also been argued that examining deprivation can highlight discrepancies in the ability of standard poverty measures to effectively discriminate between those with low living standards and those without. In particular, it has been argued that low income measures may underestimate the hardship experienced by lone parents (Brewer et al. 2008). We do not explicitly address that question, but it is notable that Black African and Black Caribbean women have relatively high rates of lone parenthood and show relatively high deprivation rates.

Figure 82 illustrates average deprivation scores among those who are income poor; while Figure 83 illustrates the average rates among those who are not income poor, and showing the average scores for both men and women by ethnic group.

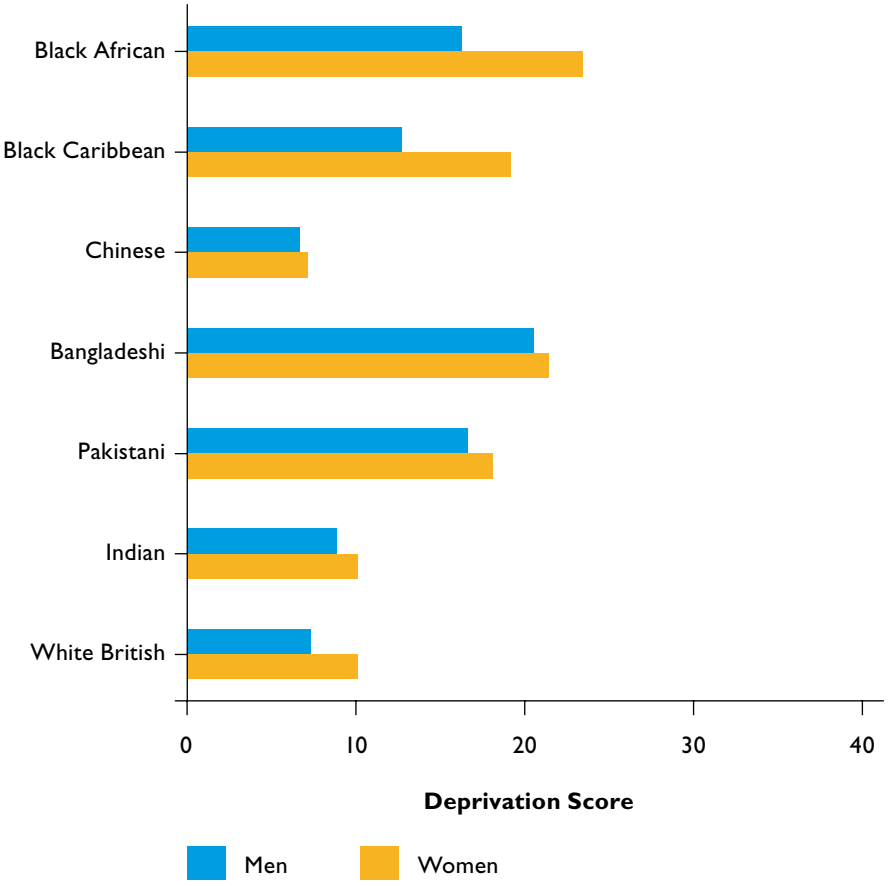
Figure 82: Average deprivation score among those poor (equivalent incomes below 60 per cent of median equivalent household income), for those in families with children, by ethnic group and sex



Source: *Family Resources Survey* and *Households Below Average Income data for 2004/5-2007/8*, weighted.

Comparing Figures 82 and 83, we can see, as we would expect that average deprivation is higher among the poor than among those with household incomes above the poverty threshold. Women on low incomes have an average deprivation score of around 28 and men of around 23, while above the poverty threshold women's average score is around 11 and men's around 8. There is nevertheless, in Figure 82, more variation both between groups and between men and women of different groups in their average deprivation scores, than you would expect given that these are all on a low income. In particular we can see that Black African women on a low income have the highest average deprivation rates of any the sub-populations illustrated.

Figure 83: Average deprivation score among those not poor (equivalent incomes above 60 per cent of median equivalent household income), for those living with children, by sex and ethnic group



Source: *Family Resources Survey* and *Households Below Average Income data for 2004/5-2007/8*, weighted.

Table 32 shows the extent to which these differences among those on a low income are statistically significantly different from each other, at conventional 95 per cent levels. In fact, none of the differences between men and women of the same group are statistically significantly different from each other, but Black African and Black Caribbean women have significantly higher average deprivation scores than the average for White British women on a low income; and Pakistani, Bangladeshi, Black African and Black Caribbean men have significantly higher deprivation scores on average than White British men on a low income. The differences between men derive from the fact that most men will be living in couples, whereas the greater deprivation of Pakistani and Bangladeshi women in couples is partly balanced by the higher proportions of White British women who are lone parents and at higher risk of deprivation. It is notable the extent to which, among those income poor, group specific rates of family type, specifically lone parenthood, appear to matter for deprivation rates. On the other hand the fact that Pakistani and Bangladeshi women have high rates of deprivation despite low rates of lone parenthood, and the fact that, additionally Black African and Black Caribbean men have higher rates of deprivation than White British men draws attention to the second factor that we posited in explaining variation among those on a low income: the greater risks of persistent or entrenched poverty that may be a critical factor for these groups, an inference supported by the analysis in the next section.

Table 32: Deprivation scores among those on a low income for men and women with 95 per cent confidence intervals, by ethnic group

	Women			Men		
	Mean	*LB*	*UB*	Mean	*LB*	*UB*
White	27.3	*26.7*	*28*	21.5	*20.6*	*22.3*
Indian	25.1	*21.7*	*28.6*	23.6	*20*	*27.2*
Pakistani	30.4	*27.3*	*33.6*	**28.8**	*25.5*	*32*
Bangladeshi	31.9	*27*	*36.8*	**30.6**	*25.3*	*35.9*
Chinese	23.4	*15.9*	*30.9*	19.4	*10.4*	*28.4*
Black Caribbean	**34.3**	*29.9*	*38.6*	27.6	*20.4*	*34.8*
Black African	**38.7**	*34.6*	*42.9*	**36.1**	*30*	*42.3*

Source: *Family Resources Survey* and *Households Below Average Income data for 2004/5-2007/8*, weighted.

Turning to those above the low income threshold, we again see that there are higher average rates of deprivation among Black African, Black Caribbean Bangladeshi and Pakistani women. And Table 33 allows us to determine that these are significantly different from those of White British women. Average deprivation is also higher for Indian, Pakistani, Bangladeshi, Black Caribbean and Black African men compared to White British men. This suggests that for all these groups, being above the low income threshold does not translate into a comparable standard of living on average. Interestingly, for Black Caribbean, Black African and White British women there are also significant differences between their deprivation scores and those of men of the same group. This is consistent with the fact that women from these groups are more likely to be lone parents than those from other groups and that lone parents on average face a lower standard of living *even above the low income threshold*, than their income position would suggest. However, even though they are worse off than men of the same group, it is the gaps between women across groups that are the more striking: White British women in families with children still face relatively low deprivation scores if they are above the low income threshold; and, given that most of them are likely to be so, this indicates average economic well-being that is substantially higher than that experienced by not only Pakistani and Bangladeshi women but also Black Caribbean and Black African women.

Table 33: Deprivation scores among those above the low income threshold for men and women with 95 per cent confidence intervals, by ethnic group

	Women			Men		
	Mean	*LB*	*UB*	Mean	*LB*	*UB*
White	*10.2*	*9.9*	*10.4*	7.3	*7.1*	*7.5*
Indian	10.1	*8.7*	*11.5*	**8.9**	*7.5*	*10.3*
Pakistani	**18.2**	*16*	*20.5*	**16.6**	*14.2*	*19*
Bangladeshi	**21.1**	*16.8*	*25.4*	**20.5**	*16*	*25*
Chinese	7.4	*4.4*	*10.3*	6.7	*3.8*	*9.6*
Black Caribbean	***19.4***	*17.2*	*21.6*	**12.7**	*9.9*	*15.5*
Black African	***23.5***	*21.3*	*25.7*	**16.3**	*13.9*	*18.6*

Source: *Family Resources Survey* and *Households Below Average Income data for 2004/5-2007/8*, weighted.

Summary

Deprivation measures are now well established as an alternative but complementary measure of economic well-being to income poverty measures, providing indicators of material standards of living. Deprivation scores are highly skewed with many families with children having no deprivation while a few have extremely high levels.

This section shows that there are significant differences in the distribution of deprivation scores across ethnic group. Mean deprivation scores vary dramatically from a mean score of 11 among Chinese children to a mean score of 31 among Bangladeshi children. The distribution also varies across groups with the 75th percentile being a score of around 22 for White British and Indian children but around 45 for Pakistani, Bangladeshi and Black African children, with Black Caribbean children in between. Women living in families with children tend to have higher deprivation scores than men, largely resulting from the greater risk of deprivation faced by lone parents.

Using a combined measure of a deprivation score above 25 combined with an income below 70 per cent of the median, nearly half of Bangladeshi children are deprived, compared with between 16 and 17 per cent of children overall, with Chinese children being least likely to be deprived. Focusing on women living with children, two-fifths of Bangladeshi women are deprived, around 30 per cent of Pakistani and Black African women and 20 per cent of Black Caribbean women. Rates are lower for men for each group but show a similar pattern.

If we compare deprivation scores among those who are income poor, that is have incomes below the 60 per cent of median cut-off, poor women with children have an average deprivation score of around 28 and men of around 23. Above the poverty threshold women's average score is around 11 and men's around 8. Black African women on a low income have the highest average deprivation rates of any the groups. There is also variation in deprivation scores among those above the low income threshold, which suggests that being non-poor is differently experienced on average across ethnic groups.

Among those income poor, group specific rates of family type, specifically lone parenthood, appear to matter for deprivation rates. On the other hand the fact that Pakistani and Bangladeshi women have high rates of deprivation despite low rates of lone parenthood, and the fact that, additionally Black African and Black Caribbean men have higher rates of deprivation that White British men draws attention to the implication that deprivation provides an indication of greater risks of persistent or entrenched poverty.

This is the issue that is covered in the next section, where we look at poverty over time among women in families with young children.

2.8 Poverty persistence among women with children

It is widely recognised that poverty persistence is a more serious concern for current well being and future outcomes – particularly in relation to children – than poverty measured just at a point in time. For this reason measures of poverty persistence are built into the targets associated with the monitoring of child poverty and the ambition to eliminate it. However, the data used for monitoring poverty persistence are not susceptible to breakdowns by ethnic group. To shed some light on the issue of poverty persistence among ethnic minority women we turn, therefore, to the Millennium Cohort Study (MCS), which can inform us about poverty persistence among women who had a child in the period 2000-2001 (see further, Box 2). The data are therefore not informative about all women, nor indeed all women with children, but are representative of that cohort of mothers with a child of this age. Given that the children are so young this may be of particular interest since it tells us about those who are at a fairly early stage in family life and may be indicative of what we can expect for these groups in the future. Moreover, in this analysis the poverty persistence of women and their children is necessarily linked: the poverty risks of the particular cohort children are the same as those of their mothers.

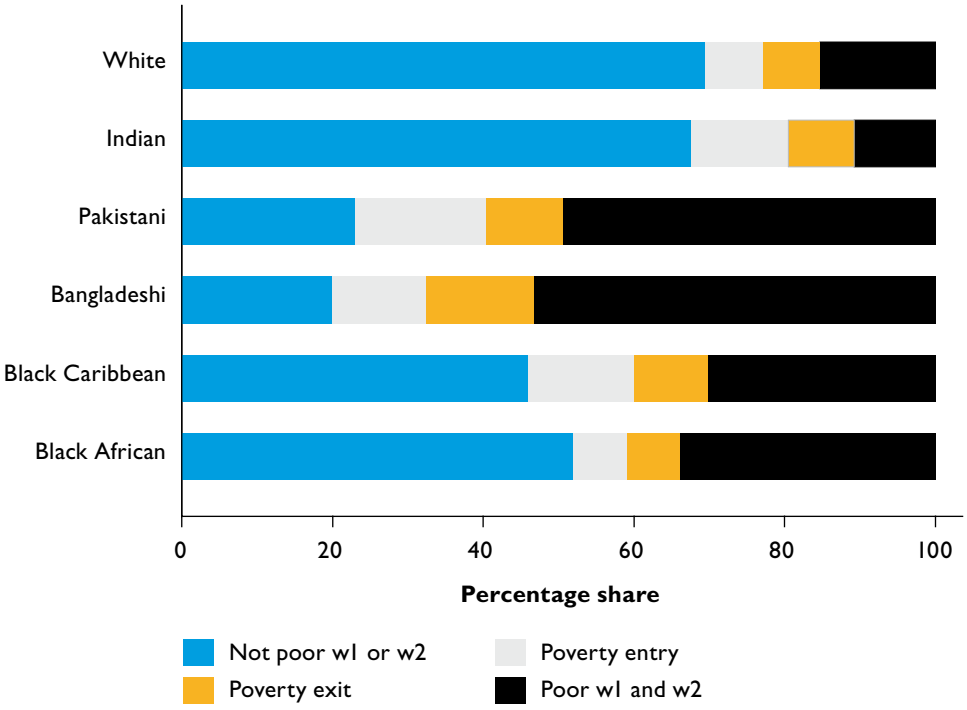
Four sweeps of the MCS have now taken place. However, derived equivalent income measures and corresponding poverty rates had only been calculated and incorporated into the first two waves, until near the final completion of this study. The first illustrations thus concentrate on transitions between those first two sweeps. Sweep 4, and a new release of sweep 3 containing poverty measures became available just at the conclusion of the project and therefore these are used in the final illustration covering patterns of poverty persistence across the full four waves. The children were around 9 months and around 2-3 years old, at sweeps 1 and 2 rising to around 5 and around 7 at the latter two sweeps.

We should note that the poverty measures are not nearly as robust as those in HBAI and show some distinctive differences from the 'official' poverty rates, even when comparing women with children of similar ages and at similar time points (Ketende and Joshi 2008; Platt 2010). The absolute rates should therefore be treated with some caution. But the overall patterns of transitions and persistence are likely to be indicative of the true extent of these poverty dynamics.

We start by looking at transitions between poverty states over the first two sweeps. We focus only on those families where the main respondent was a woman, excluding the tiny number (28) of cases where the main carer was a man.

Figure 84 shows the proportions of women by ethnic group falling into four patterns of poverty: not poor in either wave, entry (i.e. not poor in wave 1 but poor in wave 2), exit (i.e. poor in wave 1 but not poor in wave 2) and "persistently poor" or poor in both waves. Note that numbers of Chinese women in this source are too small for analysis, so we focus only on the 6 remaining groups. While the majority of women were not poor in either wave, we see some quite striking differences between ethnic groups.

Figure 84: Poverty transition patterns among women with young children, by ethnic group



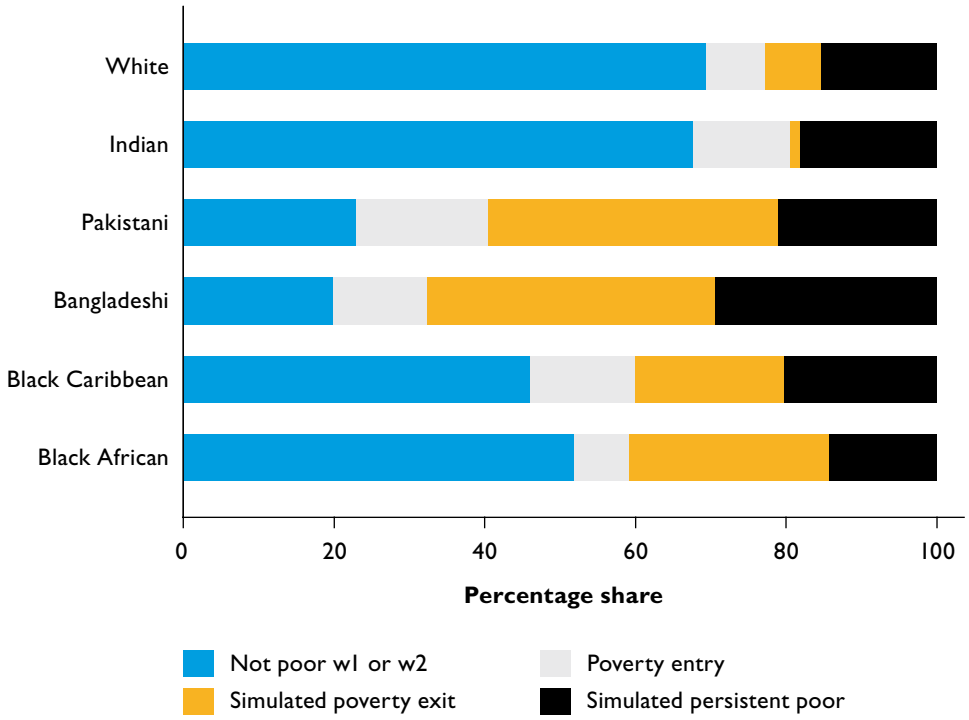
Source: *Millennium Cohort Study,* Waves 1 and 2. Estimates weighted to adjust for sample design and non-response.

Figure 84 reveals that poverty persistence rates were lowest for Indian and White mothers and highest for Bangladeshi and Pakistani mothers, of whom around half were poor in both waves. Black Caribbean and Black African women had persistence rates that were somewhere in between at around 30 per cent. These patterns of persistent poverty more or less reflect those of cross-sectional poverty across the groups, except for being lowest for Indian mothers.

We can think of poverty persistence as being the failure to exit poverty having once experienced it. If we look at all those poor in wave 1, which are the two right hand bars in the figure, we can then calculate what proportion of them exit. We can see that around a third of those White women who were poor in wave 1 exited, while the remaining two thirds were also poor in wave 2. Continuing our consideration of how we might understand equality across groups and what it would mean for poverty risks, we could therefore apply this exit rate to the other ethnic groups to determine what their poverty persistence would be in the face of a similar chance of moving out of poverty. This means that we take as given the wave one poverty rates, and simply explore how they might vary at wave 2 under assumptions of equal exit.

Figure 85 shows the results of such a simulation, applying the White women's exit rates to all ethnic groups. By construction, the two left hand sections of the columns remain the same, as does the overall wave 1 poverty rate (the length covered by sections 3 and 4 combined); but we see some dramatic differences in persistence.

Figure 85: Poverty persistence among women by ethnic group, under assumptions of equal exit rates

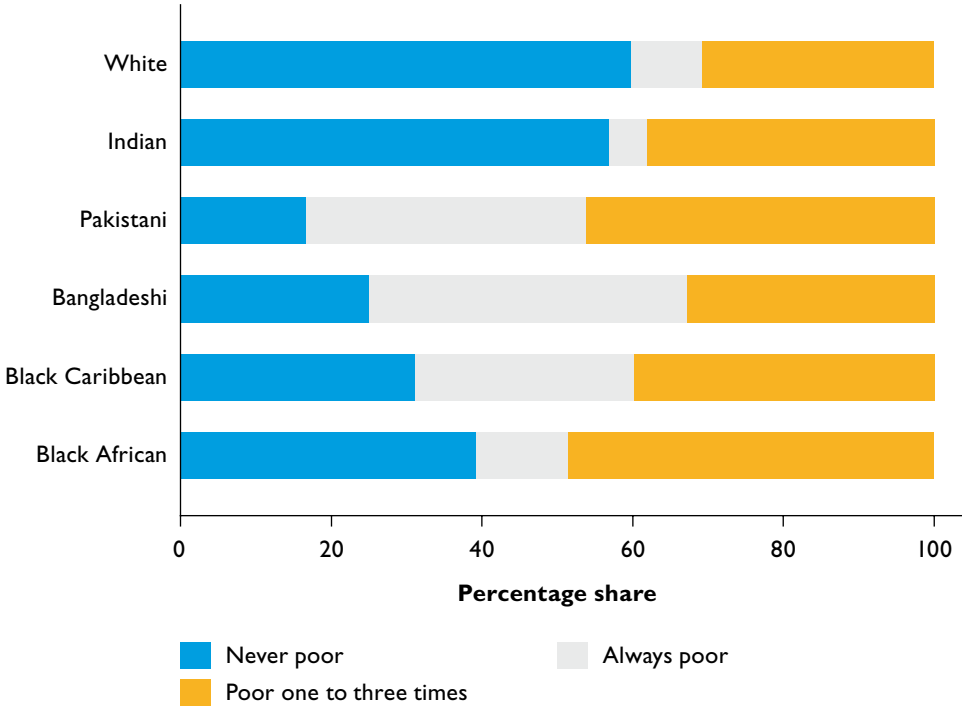


Source: *Millennium Cohort Study,* Waves 1 and 2. Estimates are weighted to adjust for sample design and non-response.

We see that for the Indian women persistence has marginally increased, making their overall poverty rate slightly higher than, though very similar to, that of White women. For all minority groups, except Bangladeshi women, proportions experiencing poverty persistence are reduced to very similar levels around or under 20 per cent on the assumption of equal exit rates. This would suggest that for Pakistani, Black Caribbean and Black African women, it is the difficulties leaving poverty that are more implicated in their poverty persistence than their overall starting rates of poverty, though the two are likely to be linked.

Finally we briefly turn to consider persistence and intermittent poverty across the four sweeps of the study. Figure 86 shows the proportions of mothers by ethnic group who were not poor on any of the waves, who were poor at all four time points they were measured over the first seven or so years of the child's life and who were poor on at least one of the occasions, but not all four.

Figure 86: Patterns of poverty over four sweeps of the MCS, by ethnic group



Source: *Millennium Cohort Study,* Sweeps 1-4 Note: Estimates are weighted to adjust for sample design and non-response.

Figure 86 immediately shows the striking differences in poverty persistence across the groups, with the rates for Pakistani, Bangladeshi and Black Caribbean women with young children standing out. It is remarkable that these women should be consistently measured as having low incomes over a period spanning seven years. Black African women do not face such high persistence rates, but they have very high rates of having been poor at least once over the four sweeps, with only 40 per cent having been never poor at any of the four points observed. It is only White and Indian women who have less than a 50 per cent chance of having been below the income threshold on any of the four occasions.

Summary

Poverty persistence is potentially of greater concern from the point of view of welfare and future opportunities than poverty incidence. Using a sample of women with children born around the beginning of the new century, we can see that there are striking differences in risks of poverty persistence, and poverty entry across ethnic groups. Bangladeshi children have particular high risks of poverty persistence though they are also high for Pakistani children and to a slightly less extreme degree among Black African and Black Caribbean children. White and Indian children not only are less likely to start off poor, they also have greater chances of exiting poverty. If exit rates were the same across all the groups, many of the differences in poverty persistence would disappear.

Section 3: Conclusions and Key Points

This report has provided a detailed account of the inequalities in economic well being that are found among women and between women and men. Using individual income measures and measures of equivalent household income it has shown the income disparities that exist across women of different ethnic groups in average income. These are found both across women of all ages and family circumstances, as illustrated in the first section of the report, and across women living with dependent children, the focus of the second section of the report. There are substantial variations in average individual and household incomes across groups. For individual incomes, Chinese and Black Caribbean women have the highest average incomes, whereas average equivalent income among Indian and White British women are substantially higher than those of Black African and Black Caribbean women.

Since individual income and equivalent household income tell us different things about women's economic well-being, it is hard to give an overall ranking of women's economic position as a result of the different stories told by the two measures. Nevertheless Pakistani and particularly Bangladeshi women have very low average income when both individual and equivalent income are considered. Overall there would appear to be three types of experience. First some women have moderate average individual incomes but their average equivalent household incomes are relatively high. This is the case with Indian and White British women. A second set of women have relatively high individual incomes but their average household incomes are much lower. This is the case with Black Caribbean and Black African women. Finally, there are groups of women who have both low individual and household income, as with Pakistani and Bangladeshi women. Chinese women do not fit easily into any of the three patterns. They are closest to the Indian pattern, but with high average incomes on both individual and household measures and wide income dispersion, they form a heterogeneous group.

With the first 'type', the women benefit from their household circumstances, on the assumption of household sharing, but they may have less control over income and they may not get the full benefit of the overall household income. In the second case, the household circumstances of the women do not increase the potentially available income to them, so they may face greater difficulties in some cases of making ends meet. On the other hand they may have greater control over income, given the share that they contribute. In the third case, the women also do not gain substantial benefit from household sharing, but nor are they making a major contribution to limited household resources. In such cases it is not clear whether greater control would represent a benefit or a burden.

If we compare income and pay gaps, calculated in a similar way, and with White British men as a reference category, we can see that pay gaps only give a very partial picture of women's economic well being, and reveal a very different pattern of relative income position. This is partly because not all women are in employment. It is therefore important that income is considered alongside pay, when examining gendered inequalities, particular the inequalities of ethnic minority women, if we want to obtain a proper grasp of them.

There is also great variation in incomes across women of the same ethnic group with high levels of within group inequality. This is true of all groups, though the income distribution is more compressed for some groups, such as Caribbean and Bangladeshi women, and more dispersed for others, such as Chinese and Indian women. Individual income inequality is largely driven by the numbers of women

with zero or negligible household incomes. Inequalities in equivalent income reflect both the extent to which those with higher individual incomes live together and the impact of differences in family sizes, which affect the equivalent income attributed to the household. That is, even if original total household income was the same across all groups, differences in family size would mean that some were better off in equivalent income terms than others. Both factors contribute to the extent of observed inequality in equivalent incomes.

The report also illustrates some strikingly different poverty risks across women of different ethnic groups. All groups of ethnic minority women experience excess poverty. That is, women from all minority groups have higher average poverty rates than women on average. However, poverty rates are particularly high for Pakistani and Bangladeshi women, though they are also high for Black African women and relatively high for Caribbean and Indian women.

Poverty rates cannot simply be read off from average incomes since they also depend on how income is distributed across groups and the extent to which there is dispersion or polarisation in incomes, and how individual incomes combine with those of other household members and the demands on income of other household members, including children. For example, Black Caribbean women have relatively high and relatively concentrated individual incomes. Nevertheless, they have above average poverty rates, and their average household income does not match to their individual income.

Diversity across women of different ethnic groups in economic well being and in the particular way it is measured is, then, the main finding of the report; but the patterns across measures within groups are also informative about the options open to women and the trade-offs they may themselves be making about different forms of economic – and other – well-being.

Exploring material deprivation among women with children complicates the story further. While the poorest groups (Pakistani and Bangladeshi women) have high average deprivation scores, Black African women also have particularly high scores. Along with Bangladeshi women their median deprivation score is above the cut off used to define deprivation for the purposes of official child poverty monitoring. Among those not income poor, Black African women have the highest average scores, suggesting either a history of income poverty, or that income poverty measures do not fully capture the economic disadvantage of this group. Differences in scores among those poor indicate that deprivation may be able to discriminate between those who are long-standing poor and those for whom poverty is less entrenched. When we turn to consider poverty dynamics and persistence, Bangladeshi women with young children have the highest rates of persistent poverty, consistent with their very high rates of cross-sectional poverty, while persistence among Indian women is low. Black African women do not have such high rates of persistent poverty as Pakistani and Bangladeshi women but they are very likely to experience poverty at some point over the four observations. Looking just at two wave transitions, we can show that equalising poverty exit rates across groups would dramatically reduce poverty persistence, indicating that focusing on moves out of poverty (and remaining out) have the potential to change the poverty distribution, even if the starting points are very different.

Of course average income patterns do not necessarily say much about all or even the majority of women in any group when there is high income inequality. The incomes of the majority may be far from the average, either above it or below it, in the case of highly dispersed incomes, with little common experience across different women from the same group. We can see that individual income inequality is high across all groups of women. Indeed it tends to be higher among minorities than majority. Within group income inequality therefore contributes far more to overall income inequality among women than between group income inequalities. This is partly a consequence of the extent of income inequalities across all groups and the fact that White British women are numerically dominant

and therefore income inequalities among them dominate relative contribution of within and between group inequalities.

Nevertheless, when looking at a range around the middle of the distribution, rather than just the mid-point and looking at the extent to which poverty rates are at odds with average (or median) incomes, can be informative about the extent to which there is dispersion or polarisation in incomes within groups of women. When we look at the incomes of the 25th to 75th percentiles we can see that for Pakistani and Bangladeshi women, the middle range of incomes for this group falls below the 50th percentile for a number of other groups, indicating a distinctive low income experience that can be generalised, even if there are still some well-off Pakistani and Bangladeshi women. This is much less the case with Chinese women, where incomes appear to be more polarised, and where some very high incomes draw up the average. For these women, it is hard to say that the mid-points of the distribution summarise a common experience. Relatively high average incomes for Indian women alongside above average poverty rates are also indicative of dispersion and some polarisation of incomes in this group.

Turning to income sources, for all groups of women except Bangladeshi women, earnings contribute over half of average income for the group, though there is some variation in the components of income. Self-employment plays a major role in the incomes of Chinese women, whereas it is negligible for many groups, and pension-related income is more relevant for White British women's incomes, on average than it is for other groups. Benefits and tax credits play a substantial role in the incomes of women with children and in the average individual incomes of Black Caribbean women with children in particular, though their proportionate contribution is highest for those who have the lowest earnings, that is, Pakistani and Bangladeshi women.

Differences in labour income are the main contributory factors in income inequality among women, and self-employment plays a disproportionately high role within that, particularly for Chinese women, reflecting the ways in which self-employment can be associated both with the high incomes of entrepreneurs or with rather low status and poorly paid jobs. Benefit and tax credit income contributes to inequality among women when looking at individual incomes, but, as expected it moderates inequality at the household level. This is because child related benefits, for example, may be the sole source of individual income for some women and differentiate them from those with no source of individual income. We find, for example that a relatively high proportion of Pakistani and Bangladeshi women have zero individual incomes (12-15 per cent) and 11 per cent of Indian women are also in this position. But at the household level benefits go more to the worse off than to the better off households.

Women have different demographic profiles. However differences in age distributions across groups do not account for differences in poverty. Similarly, focusing just on those with children does not account for differences in poverty rates between groups. Women with children, like men, have higher individual incomes on average than those without. This partly reflects the role of child related benefits and partly the greater earnings potential during the mid-life ages, when men and women are most likely to be living with dependent children. Pakistani and Bangladeshi women, are, however, an exception to this pattern. For them, individual incomes are very low but those of women with children are on average even lower. Moreover, Bangladeshi men are the only group of men whose average individual incomes among those with dependent children are lower than the overall group average. This is a striking finding since it relates to the incomes of men and women before taking account of the demands on income made by having children. Part of the reason is that those adults without children in this group are a small and relatively distinct group. Among women they are likely to comprise those young women who have not yet started a family and who are more likely to be in

paid work in the first place. Among men they are also likely to be younger on average and may include some labour migrants, with consequences for patterns of earnings.

Greater individual incomes among men and women with children do not, however, fully compensate for the costs of children, since average equivalent household income of those with children is lower than equivalent income of all women (or men). This is the case for men and women from all ethnic groups except Chinese men and women. Thus higher earnings or the potential of child related sources of incomes do not result in greater economic welfare among those with children compared to those without. Though of course economic welfare is not likely to be the only consideration for families with children.

Focusing on women with children, Black Caribbean women have the highest individual incomes on average, whereas among all women it is Chinese women. But when looking at equivalent income among women with children, Chinese, White British and Indian women are on average better off than Black Caribbean women. Women with children are more likely to be poor than women without children. This is despite the fact that those without children are more likely to be pensioners or students. For example, poverty rates of Black African, Chinese, Indian and Bangladeshi women with children were, respectively, 27 per cent, 20 per cent, 13 per cent and 11 per cent higher than their counterparts without children.

The report also considered what the potential impact of removing inequality might be. The degree of inequality both within and between groups of women might imply that equalisation would bring clear reductions in the poverty rate. However, the consequences of equalising incomes are not clear-cut. Within group equalisation of individual incomes brings benefits in terms of poverty reduction for some groups of women, where average individual incomes tend to be higher, but has less impact on groups with lower average incomes. It is also relevant what the incomes of other members of the household are and the relative importance of women's incomes. Raising women's incomes where men's incomes are still extremely low will not bring the household out of poverty. Conversely reducing incomes to the mean where the woman's income is the key component of household income may bring families that were not poor into poverty.

Between group equalisation in individual incomes is much more effective in reducing poverty rates overall. It has the potential for a major reduction of poverty among the worst off groups, but less so for those with higher individual incomes. To the extent that families with children have additional income to compensate for the costs of children, equalising across women may penalise them and thereby their children. Again the particular contribution of women's incomes among those groups with higher average individual incomes is relevant to whether equalisation across groups is positive or negative for poverty rates. It is also worth noting that the impact of equalising women's incomes between groups is distinct from the levels of income inequality they experience. It matters whereabouts across the distribution their incomes are situated. Some average household incomes can be so low that equalising within group simply puts them all below the poverty line arising from the new distribution of incomes.

Families with children on average have higher incomes than those without, but the increased earnings and benefits associated with having children do not compensate for the costs of children: women with children are still on average less well off than those without children. This is also reflected in the fact that women's poverty rates are higher than men's overall and for the different ethnic groups. Most children live with an adult woman, not all children live with men, and children are both at higher risk of poverty themselves and a risk factor for those they live with. While individual income inequality among women is high, reducing inequality between women either within or between groups would not on its own solve the problem of poverty, though it would have some beneficial impacts for some

groups under certain scenarios. Some groups would be more affected by within group and some by between group equalisation. More importantly, as long as there are wider income inequalities, addressing inequalities among women are only going to be part of the picture. Equalising the disposable income of households across groups, taking account of all those contributing to household income is, clearly, the most effective way to address poverty, which implies that group inequalities have to be seen in the context of wider social inequalities. Having a compressed income distribution across society may be good for everyone, but the compressed income distribution experienced by a particular group (whether women, or ethnic minority group or women from a particular ethnic group) is not necessarily good for that group.

Ethnic minority women's economic well-being is therefore a cause for concern whether we are looking at equivalent household income or individual income, though the measure matters for whether some groups appear to be doing relatively well or relatively poorly compared to other women. Since women have lower incomes than men on average, they tend to benefit economically from living in households with other adults. But this is only on the assumption that pooling of household incomes takes place in an equitable fashion. Pay rates and even employment rates are not a particularly good indicator of the differences in economic well-being that women from different ethnic groups face, whatever assumptions we make about income pooling. Indeed in some cases they may be misleading. Thus if we are concerned about the well-being of women and those who live with them, particularly children, it is important to measure their economic situation directly. That is the contribution of this study.

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Appendix: Data and Methods

Data Acknowledgements

In this report we used the Family Resources Survey (FRS) from 2003/04 to 2007/08, its derived dataset, Households Below Average Income (HBAI) for the same years. We also used the Millennium Cohort Study (MCS) sweeps 1-4 for one section of the analysis. Full details of the data sets are as follows:

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Department for Work and Pensions, *Households Below Average Income, 1994/95-2007/08* [computer file]. *3rd Edition*. Colchester, Essex: UK Data Archive [distributor], July 2009. SN: 5828.

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The Department for Work and Pensions, Centre for Longitudinal Studies and the UK Data Archive bear no responsibility for their further analysis or interpretation.

Family Resources Survey (FRS) and Households Below Average Income (HBAI)

We pooled the FRS and the HBAI data from 2003/04–2007/08. The HBAI sample excludes households where spouses are temporarily absent and so to use information from the HBAI and the FRS we needed to restrict the FRS data to the HBAI sample. Additionally, we did not include persons living in Northern Ireland, because the coding of ethnic group differs in Northern Ireland. Our sample therefore consists of adults living in private households in Great Britain.

Net Individual Income: We used the derived variable NINDINC available in HBAI. This refers to all income that accrues to an individual net of taxes. Specifically, this variable includes earnings, self-employment income, disability and other benefit income, retirement pension income plus other pension incomes, investment income, working tax credit received as benefit and other sources of income including allowances from friends and relatives, incomes from sub-tenants, odd jobs etc., *net* of taxes

Equivalent Net Household Income: We used the derived variable S_OE_BHC available in the HBAI, but divided it by 1.5 to change the normalisation from a childless couple to a single adult with no children. S_OE_BHC adds up the incomes of all household members net of taxes (but does not exclude housing costs) and then equivalises it by the OECD equivalence scale modified to normalise to a childless couple.

In sections 1.5 and 2.5 where we discuss income sources and contribution of different income sources to overall inequality, we combined all pension and retirement income, all benefit income, and all investment and other incomes.

Income variables in any wave of FRS are deflated by a price index to September-October of that year to eliminate variations in prices within that year. In our pooled dataset we further deflated these income variables using the Consumer Price Index provided by the ONS to eliminate variations in prices across the years (http://www.statistics.gov.uk/downloads/theme_economy/Focus_on_CPI_October_2008.pdf). This price index normalises incomes to June 2005 and we used the price indices corresponding to October of each year.

Month, Year	Price Index	Month, Year	Price Index
June 2005	**100.0**		
October 2003	97.2	October 2004	98.4
October 2005	100.7	October 2006	103.2
October 2007	105.3	October 2008	110.0

Poverty threshold: HBAI provides the poverty threshold for each yearly dataset based on the equivalised net household incomes before housing costs (S_OE_BHC) for that year's sample. This is equal to 60 percent of the median of equivalent net household income of the sample for any given wave/year. As our analysis is based on a pooled sample of 5 years of data, we computed a poverty threshold based on the weighted pooled sample (including Northern Ireland).

Weights: We used adult weights (GROSS3) available with the FRS dataset for analysis of adult men and women. This takes account of sampling design and non-response and scales up the adults in the sample to the UK population. The construction of this weight uses a number of adjustment factors such as age, sex, marital status, region and tenure. When calculating and recalculating poverty rates we weighted by the HBAI population weights, GS_NEWPP. Child poverty rates were obtained using the child population weights, GS_NEWCH.

Age: We used the variable AGE80, which top codes all persons above the age of 80 years to 80 years.

Ethnicity: We modified the individual and household ethnic group variables provided by FRS (ETHGRP and ETHGRPHH) by combining certain categories. We recoded ethnic categories "Any other", "Any other white background", "Any other Black/Black British background" and "Any other Asian/Asian British background" to "*other*" and "Mixed – White and Black Caribbean", "Mixed – White and Black African", "Mixed – White and Asian" and "Any other mixed background" to "*mixed*". We retained as discrete categories on which we focus our analysis: "White British", "Asian or Asian British – Indian", "Asian or Asian British – Pakistani", "Asian or Asian British – Bangladeshi", "Chinese", "Black or Black British – Caribbean" and "Black or Black British – African".

Household ethnic group (ETHGRPHH) is the ethnic group of the head of household.

Child ethnicity: We assigned the ethnicity of the head of household to the children in the household.

Child poverty: Children living in a poor household (i.e., equivalent household income is below the poverty threshold) are deemed to be poor.

Deprivation Scores: Starting from 2004/05, someone from each benefit unit where there were dependent children was asked about 21 goods and activities whether they had (or did) each good or activity, and whether they did not have (or do) it because they couldn't afford it or because they did not need it. These included items some of which were applicable to adults and some to children only. We computed a deprivation score for each benefit unit in line with the recommended methodology by taking the weighted average of their scores (1 being lacking the item because they can't afford it, 0 otherwise), where weights are the prevalence weights of each item. Prevalence weights refer to the extent to which an item is held by benefit units in the sample; an item that is owned by most benefit units will have a high prevalence weight. Thus the weights reflect how 'normal' it is to have the items and that lacking something held by most families indicates greater deprivation. As this score is available only for families with children, the analysis only applies to families with children.

Benefit Unit: A family is referred to as benefit unit in these datasets. It is defined as a single adult or a couple and all their dependent children. A household may thus consist of more than one benefit unit.

Measuring income inequality and sources of income inequality

We computed four measures of income inequality: 90:10 ratio, 75:25 ratio, gini coefficient and the mean logarithmic deviation. These inequality measures have different properties and therefore provide slightly different estimates of the extent of inequality within a group. However, they are largely consistent. Since the 90:10 ratio in particular is less robust in small samples, we focused on the mean logarithmic deviation. We also computed within and between group (mean logarithmic deviation) inequality by gender and ethnicity. We computed these using Stata user-defined program *ineqfaq* (version 2.0.0 Stephen P. Jenkins, March 2009).

We computed the contribution of different income sources to total inequality using another Stata user-defined program, *ineqdeco* (version 2.0.2 S. Jenkins May 2008).

Further details on the measures can be found in the help files accompanying the Stata programs and see also the overview of inequality measurement in Jenkins and van Kerm (2009).

Simulated incomes and new poverty lines:

To eliminate within group individual income inequality for women we hypothetically gave to (or took away from) each woman an amount of money that would make her individual income the same as that of the average of her group. Individual incomes of men were left unchanged. We recalculated the equivalent household incomes for each household by totalling the individual incomes of household members and then dividing this by the OECD equivalence scale (normalised to 1 for a single person with no children).

To eliminate between group individual income inequality we eliminated the inequality in age-adjusted individual income between White British women and women of other ethnic groups. To estimate age adjusted individual incomes, we regressed individual incomes of women on their age, age squared and age cubed. The estimated residuals were their individual incomes net of age effect. Next, we computed the mean individual income (net of age effect) of white British women. By adding the difference of each woman's (net of age effect) individual income from this mean to their actual individual incomes we got the new simulated income that eliminates between group income inequalities among women. We did not simulate incomes of men. We recalculated the equivalent household income as above.

We simulated household incomes by methods similar to that for individual incomes described above, setting household incomes to own group mean and age-adjusted household income to the mean of age-adjusted household income of White British women. The motivation of this simulation exercise is to see what happens to poverty rates when household income changes. So, we assigned all men living with women the new simulated household incomes of these women. If there is more than one woman within a household then their new simulated household equivalent incomes would be different if their age and/or ethnicity are different. We resolved this issue by averaging the new hypothetical household incomes of all women in a household and assigning that mean to all household members. Single men and men not living with women were assigned their original equivalent household incomes.

We repeated these simulation exercises by using median instead of mean incomes.

In each case we recalculated poverty rates using these new simulated incomes and the corresponding new poverty threshold. That is we calculated the median of the new equivalent incomes of all individuals and set the new poverty threshold at 60 per cent of this new median. We then calculated the new hypothetical poverty rates on the basis of all those living in households with new simulated equivalent incomes below the new poverty threshold.

Estimating characteristics of winners and losers

To understand who are more likely to move out of and into poverty by our simulation exercises (see above), we estimated the probability of moving out of poverty among those women who are in poverty (*winners*) and also estimated the probability of moving into poverty among those women not in poverty (*losers*) using logistic regressions. The characteristics we controlled for are whether the woman is living with a partner or spouse as a couple, if there is a dependent child present in the household, her ethnic group and her age group. While this method may not allow us to make causal inferences, it does allow us to say how these characteristics are associated or correlated with being a *winner* or a *loser*.

Millennium Cohort Study (MCS)

The Millennium Cohort Study is a study of a sample of children born in 2000-2001, who are followed over time as they grow up. The sample population for the study was drawn from all live births in the UK over 12 months from 1 September 2000 in England & Wales and 1 December 2000 in Scotland & Northern Ireland. The sample was selected from a random sample of electoral wards, disproportionately stratified to ensure adequate representation of all four UK countries, deprived areas and areas with high concentrations of Black and Asian families. Stratification and cluster variables and weights to adjust for survey design and non-response are included in the dataset and applied in all analyses, in line with the guidance (Plewis 2007). Weights are available at each wave which take account of additional attrition on top of the original adjustments needed to account for the particular design of the sample and the initial sweep 1 non-response. Weights that applied at the latest sweep were used in cross-wave analyses.

At the time of analysis three waves of data were available but derived poverty variables were only supplied with waves 1 and 2. We therefore focused analysis on these two waves. However, shortly before completion of the final version of the report, a release of the data including a poverty measure for wave 3 and the release of wave 4 with a corresponding derived poverty measure enabled an analysis of the pattern of poverty persistence of mothers living with young children across four waves of the study.

Measures of women's poverty persistence are based on those families of cohort members where the main respondent is a woman, and use her self-reported ethnic group. Ethnic group categories are harmonised across the four countries of the UK. This means that there is a broader White category than the White British used for the FRS/HBAI analysis. The Chinese group is too small for analysis in this report.

Derived variables based on the banded income measure which represent a poverty threshold adjusted to household size are included with each wave of data. These do not exactly map on the rates we might expect for mothers with children of the ages of the young children according to FRS estimates. However, they do converge more closely to FRS estimates when considering only the sample retained across the four sweeps. See Tables A1 and A2, below. This lack of congruence is perhaps unsurprising given that the MCS measures are based on mid-points of banded income variables rather than the systematic reconstruction of household income used in the FRS. (See the discussion in Ketende and Joshi 2008.) Nevertheless the poverty variables are indicative of relative deprivation across the groups and are used for enabling consideration of poverty persistence across women with children by ethnic group.

Table A1: Child poverty rates in the MCS and equivalent rates derived from the FRS by mother's or main carer's ethnic group

	% Poor Wave 1 cross-section	FRS equiv-alent	% Poor Wave 2 cross-section	FRS equiv-alent	% Poor Wave 3 cross-section	FRS equiv-alent	% Poor Wave 4 cross-section	FRS equiv-alent
White	26	22	26	20	28	20	24	18
Indian	27	26	26	22	31	24	24	29
Pakistani	63	58	68	52	71	47	64	59
Bangladeshi	74	68	71	60	71	59	68	63
Black Caribbean	49	41	47	32	49	33	49	26
Black African	49	39	50	32	46	35	44	30

Sources: *Millennium Cohort Study sweeps 1-4, Family Resources Survey and HBAI 2001/02-2007/08*
Notes: The comparison is constructed using pooled waves of FRS/HBAI data which *approximately* represent the age of the child and the data of the sweep for each sweep. Ethnic group for the FRS has been constructed to be that of the mother, except where no mother is present when the father is used. FRS/HBAI data for each child are population weighted using the benefit unit weight, GS_NEWBU. MCS data are weighted by the relevant weights for each sweep. Despite pooling three or four waves of data for each comparison the sample sizes for minority group children in the FRS remain small and so the estimates presented have large confidence intervals. Some part of the difference between the MCS estimates and the FRS-based estimates will be due to sampling variation across both surveys.

Table A1: Child poverty rates in the MCS and equivalent rates derived from the FRS by mother's or main carer's ethnic group (continued)

	% Poor wave 1 cross-section	% Poor wave 1 waves 1-2 responding	% Poor wave 1 waves 1-3 responding	% Poor wave 1 waves 1-4 responding	FRS Equivalent
White	26	26	24	24	22
Indian	27	21	24	21	26
Pakistani	63	61	59	60	58
Bangladeshi	74	69	64	61	68
Black Caribbean	49	45	40	44	41
Black African	49	47	42	39	39

Sources: *Millennium Cohort Study sweeps 1-4, Family Resources Survey and HBAI 2001/02-2007/08*

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