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**Persistent employment disadvantage, 1974 to 2003**

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## Persistent Employment Disadvantage, 1974 to 2003

Richard Berthoud and Morten Blekesaune

ISER Working Paper  
2006-9

## **Acknowledgement:**

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The new analysis was commissioned by the Department for Work and Pensions as a DWP-contribution to the Equalities Review's activities.

This (first) part of the ISER analysis is largely derived from an ongoing project based on the same General Household Survey data, and addressing some similar issues, which had been commissioned earlier by the Joseph Rowntree Foundation under its Poverty and Disadvantage Programme. A later paper for the Equalities Review will be based on entirely new analysis of the ONS Longitudinal Study.

The GHS source files have been made available by the UK Data Archive. We are grateful to Kyriaki Nanou who painstakingly assembled and checked the main data set from 28 separate files. Particular thanks also to Anthony Heath and Jane Roberts of Nuffield College, Oxford, and (separately) to Howard Redway of the DWP, for providing access to variables derived in the course of their own analyses of the same data source.

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## ABSTRACT

The research compares the employment prospects of disadvantaged social groups in Britain over the past 30 years. It uses data from the General Household Survey, conducted almost every year between 1974 and 2003, with a total sample of 368,000 adults aged 20 to 59. A logistic regression equation estimates the probability of having a job for each member of the sample, taking account of gender and family structure, disability, ethnicity and age (and controlling also for educational qualifications and regional unemployment rates). Net differences in employment probabilities are interpreted as 'employment penalties' experienced by the social group in question. Some of these penalties have increased, and others have decreased, over the period.

## NON-TECHNICAL SUMMARY

Women, ethnic minorities, disabled people and older people are all at a disadvantage in the UK labour market in terms of their likelihood of having a job. But almost all forms of disadvantage have been in decline over the past 10 years.

This study, undertaken at the request of the Equalities Review, measures 'employment penalties' – the extent to which women are less likely to have a job than men, ethnic minorities less likely than white people and so on, after taking account of factors like education, local labour markets, etc. These 'penalties' can be interpreted as indicators of labour market disadvantage, but 'discrimination' as such (that is, unfair refusal of jobs by employers on the grounds of gender, ethnicity and so on) is only one of several potential contributions to the employment differences between groups.

Some of the most striking findings concern trends over three decades:

- Women's, and especially mothers', employment penalties have been falling rapidly – even though they still have much lower employment rates than men.
- In contrast, the employment disadvantage associated with disability increased steadily between the 1970s and the mid-1990s.
- Men and women in their fifties are also worse off than they used to be.
- Other groups showing increasing disadvantage over the 1970s, 1980s and early 1990s include Caribbean, Pakistani and Bangladeshi men.
- But several of these trends toward increasing disadvantage reversed around the mid 1990s. Almost all forms of disadvantage seem to have been in decline over the most recent period.

Analysis of employment rates over the past few years shows that:

- Women as a group face an employment penalty of about 15 percentage points compared with men as a group.
- More detailed analysis shows that it is mothers who are much less likely to have a job than either childless women, or men (with or without children). Single women are not disadvantaged compared with single men.
- People with a long-standing limiting illness or impairment are also about 15 percentage points behind those with no health problem. Other studies suggest that more severely disabled people are much more disadvantaged than that.
- People in their fifties are also disadvantaged compared with younger adults.
- Employment penalties vary widely between minority ethnic groups. Caribbean women are actually a bit more likely to have a job than equivalent white women. All other minority groups are worse off than whites, but Pakistani and Bangladeshi women are by far the most disadvantaged.

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## 1. Objectives

*'Despite 40 years of legislation to protect people from discrimination, evidence suggests that there are still social, economic, cultural or other factors that individually or in combination may limit or deny individuals the opportunity to make the best of their abilities and to contribute to society fully.'*<sup>1</sup>

The government has set up an Equalities Review, which will:

- 1. Provide an understanding of the long term and underlying causes of disadvantage that need to be addressed by public policy.*
- 2. Make practical recommendations on key policy priorities for: the Government and public sector; employers and trade unions; civic society and the voluntary sector.*
- 3. Inform both the modernisation of equality legislation, towards a Single Equality Act; and the development of the new Commission for Equality and Human Rights.*

The background to the review is the variety of existing policies addressing discrimination and disadvantage experienced by different social groups. Thus there are separate laws, and separate Commissions, covering race relations, gender inequalities and disability rights. The Government plans to introduce a unified body of legislation, and a new overarching Commission, to address all of these specific disadvantages, as well as a broader promotion of human rights. This perspective switches the focus from the individual issues of ethnic disadvantage, women's rights, disability discrimination, and so on, to an overview of all group-based disadvantages.

There has been a parallel tradition of research into the extent of disadvantage among specific social groups – ethnic minorities, women, disabled people and so on.<sup>2</sup> Sometimes (especially in the case of race relations), such research has directly influenced the introduction of new policies. But, again, there has been little research providing an integrated view of the experience of all such groups.

This paper presents the results of an analysis, requested by the Equalities Review panel, of *persistent employment disadvantage*, covering as many social groups as possible, using the same source of data, so that direct comparisons can be made. It compares the employment positions of British adults by ethnic group, by gender and family structure, by disability and by age, so that we can show which groups have been, and are, the most disadvantaged.

We have interpreted the word 'persistent' to mean 'long-lasting'. The issue can be thought of in two ways:

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<sup>1</sup> Text in italics on this page is quoted from the terms of reference for the Equalities Review.

<sup>2</sup> The longest research sequence covers ethnic disadvantage. See W. Daniel, *Racial Discrimination in England*, Penguin, 1967, D. Smith, *Racial Disadvantage in Britain*, Penguin, 1976, C. Brown, *Black and White Britain*, Heinemann, 1984 and T. Modood and others, *Ethnic Minorities in Britain: diversity and disadvantage*, Policy Studies institute, 1997

*At the level of society as a whole:* a disadvantage would be seen to be persistent if there had been no improvement in the social position of the group under consideration (relative to others) over years or decades.

*At the level of individuals:* disadvantage would be seen to be persistent if individual members of the group experienced a poor social position continuously for many years or decades.

Analysis of these two levels of 'persistence' requires different types of data: the first, a series of 'cross-sectional' studies describing society at different time periods, the second, a 'longitudinal' study providing information about the same individuals at different time periods.

This present paper addresses the first kind of persistence. It uses an almost-continuous series of data going back to 1974, to show how much worse members of the four social groups under consideration have fared in the labour market, and whether their situation has been improving or deteriorating.

A second paper, part of the same project, will address the second kind of persistence. It will use the ONS Longitudinal Study - a single source of data about the same individuals, monitored every ten years since 1971 - to show how far members of each social group tend to be found in a similar labour market position at distinct points across their lives.

The first analysis, based on a unique historical source of data covering a sample of 368,000 adults, provides two important perspectives for an understanding of employment disadvantage: an explicit comparison between groups, each of which may be disadvantaged for different reasons; and an analysis of trends over thirty years. The first of these perspectives is unusual; the second is unique to the current research.

In emphasising the new contribution made by this paper, it is also important to recognise some of the limitations inherent in a large-scale, broad-grain analysis of this kind.

- The research focuses on disadvantages in employment, and does not consider other potential social problems that may be faced by the same social groups.
- This quantitative analysis makes statistical comparisons between large groups of people, and makes no attempt to show the personal variations in lived experiences such as could be derived from qualitative research. And the broad-brush analytical model designed to make comparisons between groups is not as detailed or as sophisticated as would be appropriate for a study focussed on any one group.
- The paper shows that certain groups are less likely to have a job than others; and also shows how this probability compares with other people with otherwise similar characteristics (such as family position, education, regional labour market). The research does not reveal the social or economic processes which explain these differences.



## 2. The General Household Survey

The General Household Survey (GHS) is a continuous multipurpose survey of large random samples of households across Great Britain. The survey has been conducted, using a new sample each time, every year since 1974, with the exception of 1997 and 1999. The latest available data relate to 2003.<sup>3</sup>

The analysis in this paper is based on adults aged 20 to 59. Young adults, aged 16 to 19, have not been included because such a high proportion of them are still in full-time education. Men aged 60 to 64 have been omitted because, although still below pensionable age, a high proportion of them have in fact retired – and in this age group, ‘early retirement’ is sometimes a marker of privilege and sometimes a marker of disadvantage.

Each of the 28 annual GHSs included in the analysis covers between 10,000 and 17,000 men and women within this age range, with an overall total of 368,321.<sup>4</sup> Where results are shown for a series of years combined, each annual survey has been given equal weight, without regard to the number of respondents in the sample, or to the number of adults in the population in the years in question.<sup>5</sup>

All the annual surveys asked questions about respondents’ economic activity, and (with some exceptions) about the set of personal characteristics that are known to be associated with people’s job prospects. Some of these questions (notably age and sex) were asked and coded identically in every survey, and could easily be compared across the sequence. Others, notably educational qualifications and ethnic group, were asked and/or coded in different ways across the sequence, and a major preparatory task was to ensure that these data were recoded to be as comparable as possible from year to year.

People have been defined as ‘in work’ if they had a job for 16 hours or more per week at the time they took part in the survey. Less than 16 hours was not counted, on the ground that very short hours cannot be considered either a primary activity or a means of earning a living.<sup>6</sup> The 16 hour cut off is enshrined in current social security and tax-credit legislation, although the formal boundary was at 30 hours at the beginning of the period under review. Those in full-time education have also been classified as ‘in work’, because it is widely considered to be both hard work, and a long-term economic investment. All references in this paper to ‘in work’ and synonyms such as ‘have a job’ or ‘in employment’ refer to this definition.

The analysis compares employment rates across four dimensions of potential disadvantage: age, disability, gender (and family structure) and ethnicity. Table 1 summarises these four dimensions across the most recent four years (2000 to 2003), showing the proportion of all

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<sup>3</sup> Since 2000 the annual sample has based on financial years, eg April 2003 to March 2004, but we have labelled these according to the first-named year, eg 2003, for convenience.

<sup>4</sup> The GHS did not ask questions about limiting long-standing illness in 1977 and 1978. Analysis taking account of disability, including all estimates of employment penalties, is based on 26 years of data, with a total sample of 337,103.

<sup>5</sup> Calculations of standard errors have taken account both of weighting across years, and of clustering of observations within households.

<sup>6</sup> ‘Mini-jobs’ of less than 16 hours may be worth encouraging, especially among mothers, as a stepping stone towards more substantial employment (see M. Iacovou and R. Berthoud, *Parents and Employment*, DSS Research Report 109, Department of Social Security, 1999).

adults aged 20-59 in that group, and the average employment rate of that group among men and women separately.

**Table 1: Summary of social groups and their employment rates, 2000-2003**

	Proportion of sample %	Employment rate	
		Men	Women
<b>Age</b>			
20-49	75	89%	68%
50-59	25	78%	57%
<b>Disability</b>			
None	84	91%	70%
Has a limiting long-standing condition	16	57%	41%
<b>Family</b>			
Partnered man	34	89%	
Single man	14	78%	
Single woman, no kids	10		76%
Partnered woman, no kids	18		70%
Partnered woman with kids 11 plus	5		70%
Lone parent with kids 11 plus	2		65%
Partnered with kids 0-10	13		54%
Lone parent with kids 0-10	4		45%
<b>Ethnic group</b>			
White	92	86%	66%
Caribbean	1.3	83%	74%
Indian	1.7	87%	59%
Pakistani/Bangladeshi	1.5	75%	27%
Other	3.4	78%	58%

Note: All analysis based on adults aged 20-59. Men are classified as partnered or single, without regard to whether they have children or not. See Appendix D for details of the classification by ethnic group. Results for the 'other' ethnic group will not be presented further, because it contains such a wide variety of ethnicities.

The analysis will also take account of two other factors which are known to have a major influence on employment rates: educational qualifications and regional unemployment.

- The GHS coding frame for qualifications changed quite frequently, but it was possible to regroup the codes to the consistent framework shown in Appendix A. The level of qualifications increased hugely over the period; the analysis takes account of the range of qualifications reported each year, and does not make assumptions about the relative value of educational achievements at different periods.
- The GHS recorded the region within which each household was interviewed. We have calculated the unemployment rate from the survey data in the standard way, dividing the number of people reported to be “unemployed and looking for work”, by the total of

employed plus unemployed. The overall rate varied from year to year, but it is the variation between regions within any year that is taken into account in the analysis.

As with all research of this kind, the findings should be treated just as ‘estimates’, with a margin of error either way associated with sampling considerations, measurement uncertainties and analytical simplifications. It is the broad differences and trends that matter.

### **3. Analytical approach**

This paper single-mindedly pursues one objective: to show how the probability of having a job differs between the social groups under consideration, and how those probabilities have varied over the 30 year period for which we have data.

#### *Calculating employment ‘gaps’ and ‘penalties’*

For each of the social groups the analysis is in two stages. Take older potential workers, for example – the simplest (and therefore the first) of the groups to be discussed. We define ‘older’ as people over 50 (and still under 60). It can very easily be shown what proportion of 50-59 year olds had a job, in each year. And what proportion of 20-49 year olds had a job. It will always be found that the rate was lower for the older group, and the *employment gap* is simply the difference between the two. Table 1 showed an age-employment gap of 11 percentage points for both men and women over the recent period. The size of the gap can be traced from 1974 to 2003, to show whether it was widening, narrowing or fluctuating over the period (see Figure C1 on page 10 for the first example, dealing with age).

The employment gap has real meaning – older people of working age are actually worse off than younger ones. But it might not necessarily be age as such that is making the difference. Older people have lower levels of educational qualifications, and higher rates of disability, than younger ones, and these characteristics might reduce their job chances, independently of age. On the other hand, older women are less likely to have young children, and this might be an influence to increase their employment rate. So the second, and computationally more complex, stage of the analysis is to calculate how much worse the employment prospects of older people are than those of younger people who are the same in all the other respects under consideration. We will call this corrected difference, after taking account of other characteristics, the *employment penalty* associated with the social group under consideration.

The technique used to estimate these net effects is a logistic regression equation. This calculates a formula which predicts the probability of any individual being in work, based on a set of information about his or her characteristics. Job prospects are found to be higher than average if the individual has good qualifications, lower than average if s/he has poor qualifications; higher if young, lower if old; and so on. The headline results of an equation covering the recent period are shown in Table 2, with a more detailed and more technical version available in Appendix A. The reader does not need to examine the actual results at this stage – they will be narrated group by group in the following sections – but should just note the structure of the equation.

The figures in the column headed ‘regression coefficient’ (Table 2) are the direct output from the model. A straightforward interpretation is that a plus sign means a higher probability of employment associated with the characteristic in question, a minus sign a lower probability. The larger the coefficient (of either sign) the greater the estimated difference.

**Table 2: Summary of logistic regression equation predicting the probability of being in work: 2000-2003**

	Regression coefficient	Employment penalty
<b>Age</b>		
50-59	-0.778	5.7%
<b>Disability</b>		
Has a limiting long-standing condition	-1.533	15.5%
<b>Family</b>		
Partnered man	base case	0
Single man	-1.004	8.1%
Single woman, no kids	-0.987	7.9%
Partnered woman, no kids	-1.109	9.4%
Partnered woman with kids 11 plus	-1.557	15.9%
Lone parent with older kids 11 plus	-1.699	18.4%
Partnered with young kids 0-10	-2.565	37.2%
Lone parent with young kids 0-10	-2.714	40.9%
<b>Ethnic group</b>		
White	base case	0
Caribbean	0.255	-1.2%
Indian	-0.376	2.3%
Pakistani Bangladeshi	-1.167	10.1%

Note: negative coefficients appear as positive penalties, for ease of presentation. Analysis also controls for educational qualifications and regional unemployment rate. A more detailed presentation of the equation is provided in Appendix A.

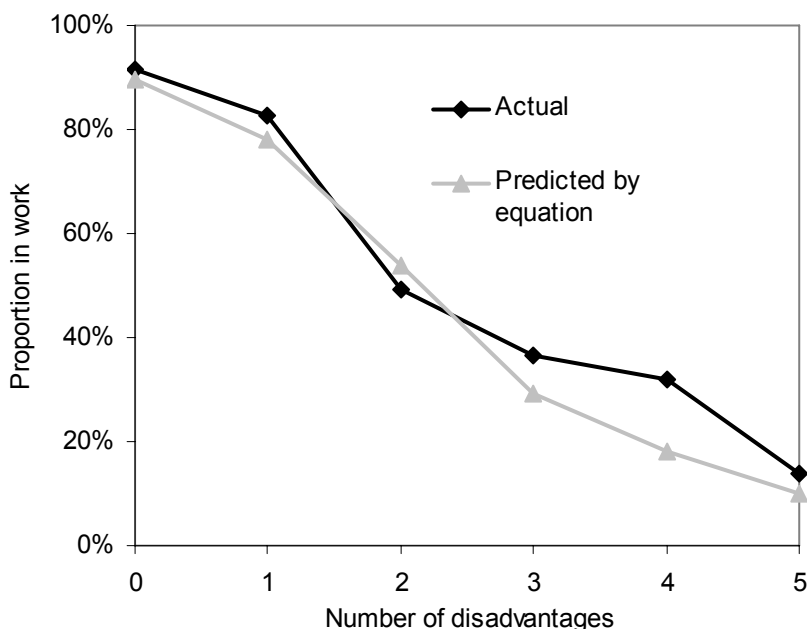
But the coefficients themselves are not easy to interpret directly in terms of a percentage variation in employment rates, so the column headed ‘employment penalty’ shows how much higher or lower the employment rate would be for a ‘standard’ person with just one disadvantage, compared someone with none of them: a younger non-disabled white man with a partner.<sup>7</sup> These calculations (known as ‘marginal effects’) are reported as the *employment penalties* associated with each characteristic in the remainder of the paper.

Of course, individuals may be disadvantaged in more than one way. Some combinations are especially common, while others are rather rare – many older people are disabled, for example, but few of them are mothers of young children. Whereas the ‘regression coefficients’ are strictly additive to make a formula for calculating probabilities, the ‘penalties’ are not strictly additive, though in the broad sense it can be said that they are cumulative: people facing two or three penalties are worse off than those facing only one of them. Figure A demonstrates this by plotting the actual employment rate of people with

<sup>7</sup> The ‘standard’ also has middle-level educational qualifications (O level/GCSE) and lives in an area of average unemployment.

between none and five<sup>8</sup> disadvantaging characteristics (black line), and also the predicted rate of employment for the same groups of people as estimated from the equation in Table 2 (grey line). The more disadvantages, the lower the probability of having a job, down to only about one tenth of the people (only 88 of them in the entire 26-survey data base) with all five.

**Figure A: Employment rates, by number of disadvantages: whole period**



But the main point of the analysis is to isolate the effect – the employment penalty – of each separate disadvantage, rather than the cumulative effect of all of them.<sup>9</sup> Equations like that in Table 2 have been calculated for every single year in the survey period, and the employment penalties are plotted in the graphs which follow. All the graphs are smoothed, taking a moving three-period average to enable the reader to identify longer term trends rather than shorter term fluctuations (which are often associated with sampling error).<sup>10</sup>

The main text records the findings year by year for Great Britain as a whole. Appendix B provides estimates of recent employment penalties within England, Scotland and Wales, but without a time series.

#### *Interpreting employment penalties*

The term ‘ethnic penalty’ has been defined by Anthony Heath and his colleagues as:

*all the sources of disadvantage that might lead an ethnic group to fare less well in the labour market than do similarly qualified whites.*<sup>11</sup>

<sup>8</sup> The five disadvantaging characteristics are: over 50; disabled, a woman, has children (if a woman), any ethnic minority.

<sup>9</sup> See R. Berthoud, *Multiple Disadvantage in Employment*, Joseph Rowntree Foundation, 2003 for a more detailed analysis of what happens when individuals have combinations of disadvantaging characteristics

<sup>10</sup> The smoothing is over three ‘periods’ rather than strictly over three ‘years’, to take account of some gaps in the annual series of observations. Graphs referring to ethnic minority groups are smoothed over five periods.

<sup>11</sup> A. Heath and D. McMahon, ‘Education and occupational attainments: the impact of ethnic origins’, in V. Karn (ed) *Ethnicity in the 1991 Census*, TSO, 1997. A new report on *Ethnic Penalties in the Labour Market*, by A. Heath and S. Cheung, is due to be published by the DWP soon after this paper. An internal DWP intelligence brief, ‘Ethnic Penalties in Employment, a literature review’ (2003) usefully summarises six sources.

This paper applies the same concept to the disadvantages experienced by older people, by disabled people and by women, as well as by ethnic minorities, under the generic heading of ‘employment penalties’.

There are at least four ways of measuring how well individuals ‘fare in the labour market’:

1. whether they have a job, or not;
2. whether they have found a job, assuming that they have been looking for one;
3. what occupational level they have been able to achieve, if they are in work;
4. how much they earn, if they are in work.

Each of these is a legitimate measure which has been used to estimate ethnic penalties, and could in principle be applied to other disadvantaging characteristics. It is important to emphasise that the analysis of employment rates in this study (option 1) does not necessarily provide an indication of the quality or earnings of the jobs that members of a group might have.

The distinction between the first two options requires some discussion. Labour market analysts often distinguish between the unemployed (defined as out of work but looking for work) and economically inactive (defined as out of work but not looking for work). In some contexts, inactivity can be discounted – if people choose not to work, probably for some specific reason, their lack of a job is not a problem. In that perspective, only strictly-defined unemployment should be used as a measure of disadvantaged outcomes. Several analyses of ethnic penalties have been based on that approach.

The approach breaks down, though, if the disadvantages faced by women (especially mothers) and disabled people are in the analytical foreground. High proportions of both groups are economically inactive. We cannot discount that on the grounds of ‘choice’, because there is a strong possibility that the apparent choice of role may have been constrained by the very disadvantage that we are trying to measure. Women do not have a free choice whether they or their partners (or ex-partners) should be the main carer for their children; nor a free choice whether good child care services are available, or employment opportunities with flexible hours. Disabled people do not have a free choice whether they should be regarded as ‘incapable of work’, either by themselves or by employers. In each case, choice is exercised within restricted options structured by their social position. No doubt real choices are made, at the margin, but the analysis cannot assume that economic inactivity is not a signal of disadvantage. Hence the choice of in-work versus not-in-work (as defined on page 3) as the primary measure of outcomes. We have though, undertaken a parallel analysis using employed versus unemployed as the criterion. This is shown in Appendix C, with a discussion of the (fairly substantial) difference it makes to the conclusions. In broad terms, the approach adopted in this paper (in work versus out of work) highlights lack of jobs associated with age, disability and gender, while the alternative approach (employed versus unemployed) highlights unemployment rates among some ethnic minorities.

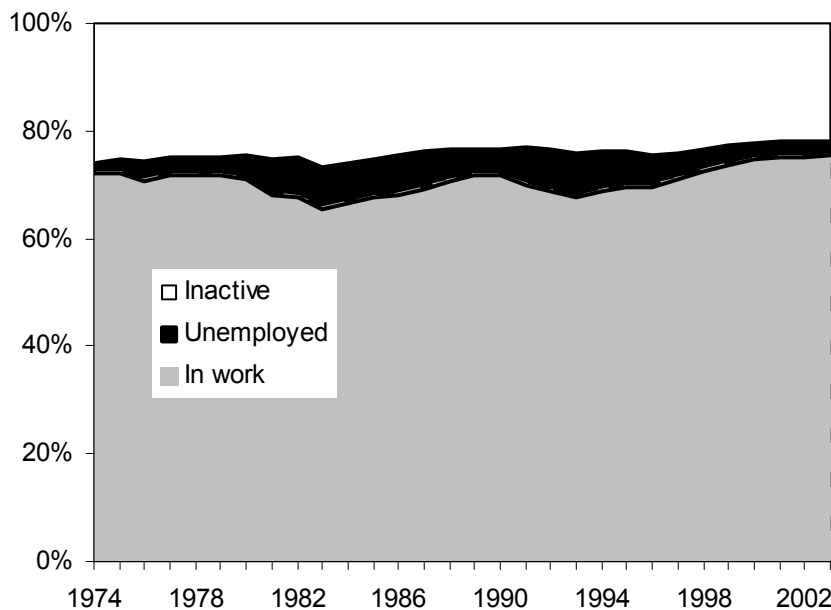
It is also crucial to recognise that the employment penalty should *not* be interpreted as an estimate of the extent of discrimination faced by members of the group under consideration. Discrimination (as defined in legislation) occurs when members of a group are passed over by employers in the competition for jobs, promotions or salary, in favour of other candidates who are less suitable for the positions on offer. Our analysis of disadvantage, as measured by employment penalties, covers *all* the possible reasons why one group of people should be less

likely to have a job than another. These reasons could include factors on the supply side (personal attitudes, job histories, family commitments, impairment) and on the demand side (discrimination, inflexible employment conditions, industrial/occupational structures, the health of local labour markets) and in the market place between them (social attitudes, transportation systems, child-care services, tax and benefit incentives). Some of these factors can certainly be interpreted as discriminatory, in a broad sense, without necessarily being discrimination in the narrow sense. It is the overall package of these factors that make up the disadvantage measured by this analysis. Discrimination may be an important component, but other research methods are required to establish the process in action.<sup>12</sup>

#### 4. Personal employment gaps and penalties

Just over 70 per cent of adults aged 20-59 were in work, on average over the period analysed (Figure B). The total ranged between a low of 68 per cent in the early 1980s and a high of 75 per cent in the most recent years.<sup>13</sup> Figure A shows that most of the variation in employment rates between years was accounted for by the ups and downs of the unemployment rate, and especially the recessions of 1982 and 1992. Aside from that effect, the proportion of people in work has been remarkably constant.

**Figure B: Proportion of all adults in work, and unemployed, 1974-2003**



This section of the analysis deals with personal employment – that is, whether each individual adult did or did not have a job, regardless of whether anyone else in the family (ie

<sup>12</sup> It can be argued that narrowly defined discrimination can be measured only in the rare circumstance when the researcher has all the information also available to the recruiter, for a large sample of candidates. See for example C. Brown and P. Gay. *Racial Discrimination: 17 years after the Act*, Policy Studies Institute, 1985, and M. Shiner and T. Modood, 'Help or hindrance? Higher education and the route to ethnic equality', *British Journal of Sociology of Education* 23,(2) 209-32, 2002

<sup>13</sup> Note that these figures are not exactly the same as official counts of employment rates, because the age range analysed is different, the definition of in-work is different and the data source is the GHS, not the Labour Force Survey.

their partner) was employed. A comparison between personal and family employment rates is presented in Chapter 5.

### Age

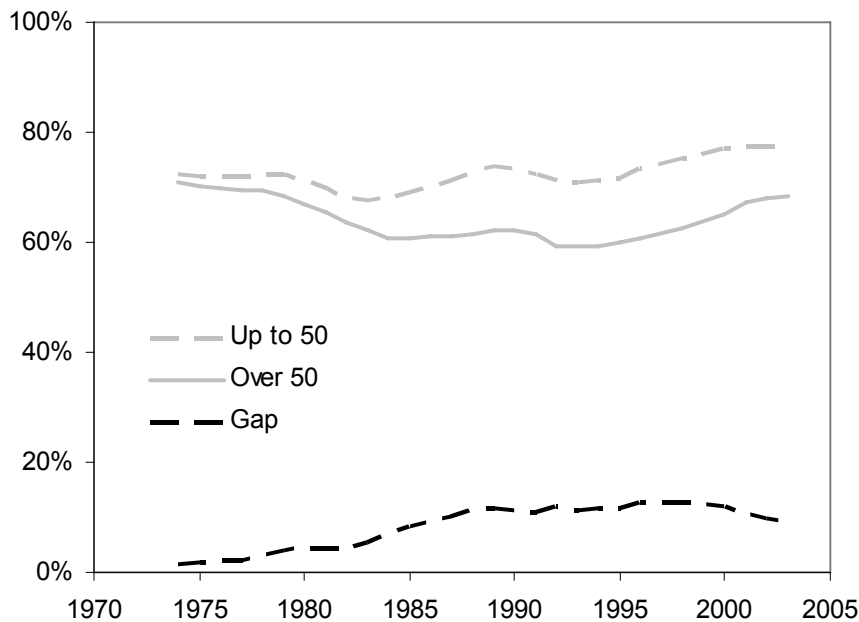
Age variations are presented first, not because they are especially important, but because they are very straightforward. This makes age a good example with which to explain the analytical process.

Employment rates are reasonably steady by age until 45, after which they drop year on year. The analysis does not look beyond the age of 60, and ‘older workers’ have been defined here as those between 50 and 59.

Figure C1 plots the employment rate of 50-59 year olds (solid grey line) across the 30 years of observations. As always, the trends are smoothed to make them easier to read. As many as 71 per cent of older workers were in work in 1974, but the proportion drifted down to 59 per cent in 1992 – there is a clear downwards trend, in addition to the cyclical effect associated with unemployment. Over the last ten years or so, the proportion of older workers with a job has steadily increased again, with the latest observation up to 68 per cent.

The broken grey line in Figure C1 shows the employment rates of adults aged less than 50 – ie everyone else. The trend is much flatter, and if anything the drift is slightly upwards once the cyclical pattern has been taken into account. The top two lines in Figure C1 clearly show that older workers were slightly less likely to have a job than younger ones, 30 years ago, but the difference widened substantially through the 1970s and 1980s. This trend is even more clearly visible in the broken black line towards the foot of the graph, which shows the age employment gap simply as the difference between the under 50s’ and over 50s’ rates.

**Figure C1: Employment gap by age**

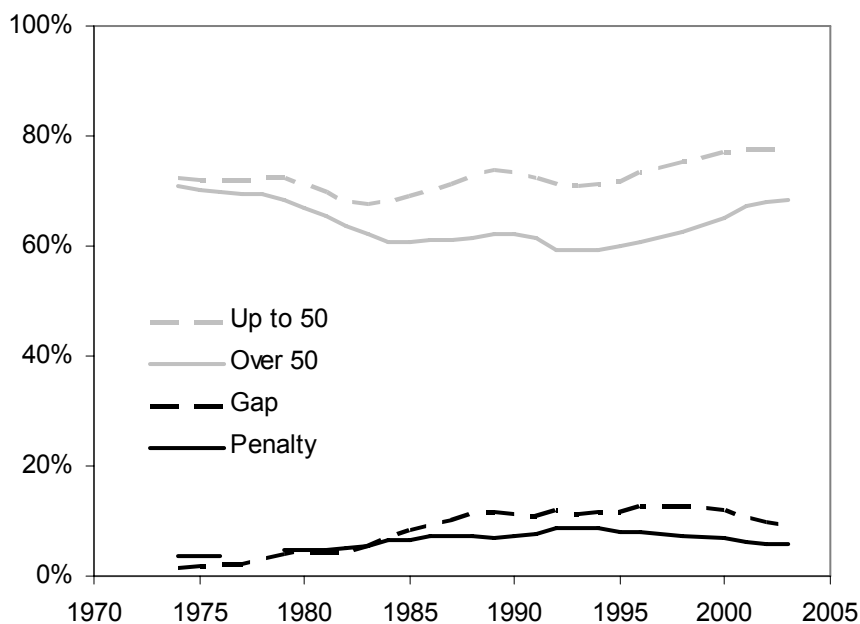


As explained, the age employment *gap* shows the gross difference between older and younger workers, without taking account of some of the other characteristics of older people



which might help to explain their employment rates. So the age employment *penalty* has been calculated from year by year equations similar to that in Table 2. The trend in age penalties is plotted as the solid black line in Figure C2, super-imposed on the age employment gap still shown as the broken black line. The new presentation suggests that older workers are indeed disadvantaged relative to younger ones. Part of the gap turns out to have been explained by other factors associated with age (eg poor qualifications or disability), but most of it remains. The age employment penalty represented only about 3½ percentage points in the mid 1970s, but had expanded to 8½ points by the mid 1990s. It has declined slightly since then, but has not returned to its previous low level.

**Figure C2: Employment gap and penalty by age**



In summary, people over 50 are disadvantaged, and the difference is only partly explained by some of their other characteristics. The disadvantage increased over the early period, but has been fairly stable recently.

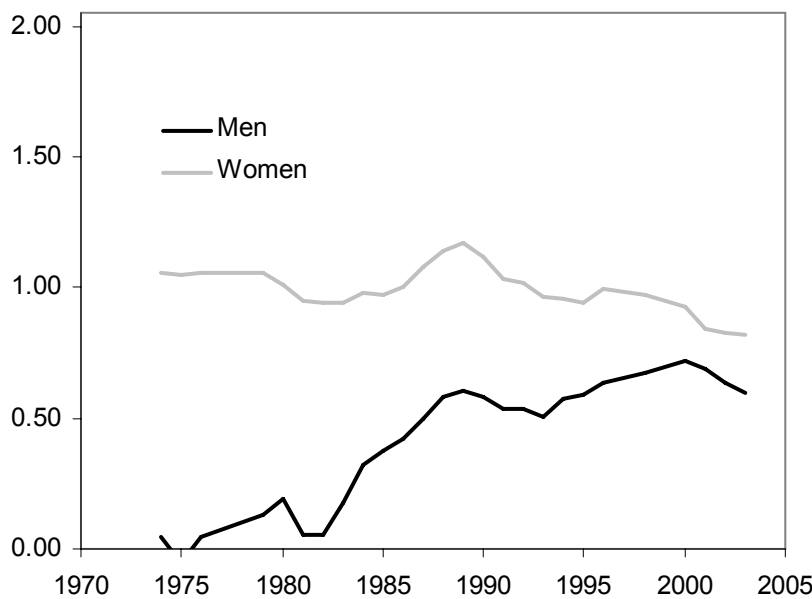
The analysis illustrated in Figure C2 assumes that the penalty associated with age is the same for men and for women. The overall differences between men and women are shown in a later section (page 14). But it is also interesting to see whether older men are more or less disadvantaged (compared with younger men) than older women are (compared with younger women), and how those relationships have changed over the years. Figure D shows the results if the calculations are undertaken separately for men and for women. ‘Penalties’ expressed as percentage points are not quite comparable when calculated for men and women separately,<sup>14</sup> so the figure plots the regression coefficients (equivalent to the left-hand column of Table 2, see the discussion at the foot of page 5). The graph clearly illustrates the relative scale of disadvantage, between men and women, and over time.

It shows, strikingly, that older women have been more disadvantaged by their age than older men have been, throughout the period. (This is in addition to any overall disadvantage of all

<sup>14</sup> This is because the marginal effects (penalties) have to be calculated at different employment levels, for the base cases of a married man and a single woman.

women compared with all men, to be discussed later.) The pattern may be associated with the fact that the age range defined as ‘older’ (50-59) reaches almost to the state pension age for women, but falls well short of the equivalent target for men – so perhaps women in their 50s see themselves, or are seen by employers, as approaching retirement. But this disadvantage for older women, having peaked in the late 1980s, has been falling since then. In contrast it is older men, hardly disadvantaged at all in the mid-1970s, who have become worse off with respect to other men over the years, to the point of almost catching up with older women by the turn of the century.

**Figure D: Employment disadvantage of over 50s (expressed as regression coefficients), by gender**



Note: Negative regression coefficients expressed as positive disadvantages for ease of presentation.

The case of age has been explained more fully than will be necessary for the remainder of the analysis, much of which follows the same logic. The following graphs are presented in exactly the same way as Figures C1 and C2 whenever possible.

### **Disability**

The huge rise in the number of people claiming incapacity and related benefits between the 1970s and the mid 1990s is well-known, and it remains an important subject of policy debate.<sup>15</sup> Unfortunately the GHS does not have a direct question on impairments. The standard question on ‘limiting long-standing illness’ has had to be used as a proxy. This represents a much broader definition than the normal idea of ‘disabled people’. As a result, the employment penalty as estimated here is likely to be smaller than would apply for more severely disabled people.

It is also known that disabled people’s job prospects vary widely according to their condition, and the type and severity of their impairments. But these factors are not covered by this non-specialist data source.

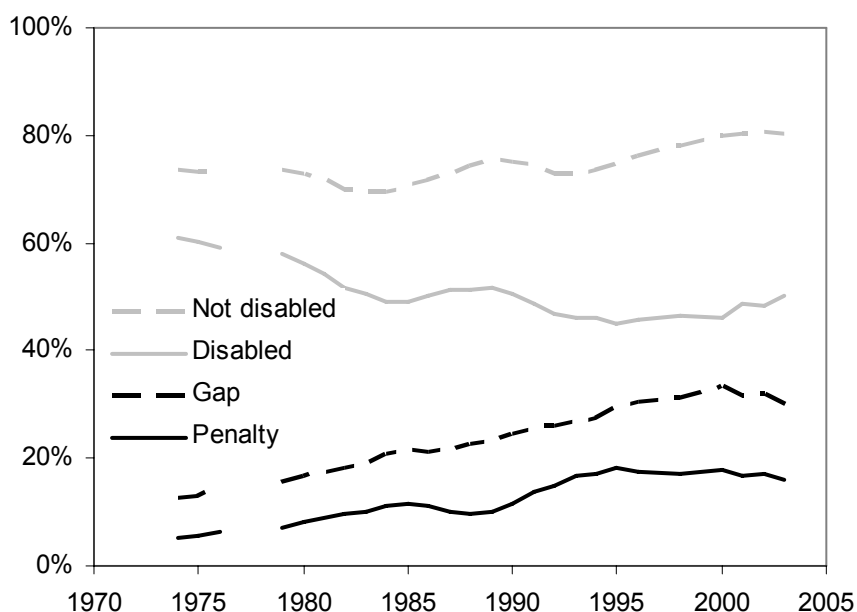
<sup>15</sup> See Chapter 2 of the DWP’s policy paper on *A New Deal for Welfare: empowering people to work* (2006)

The survey is nevertheless invaluable as the only source that can show trends over three decades in the employment rate of disabled people, as distinct from the number of benefit claims.<sup>16</sup>

Figure E illustrates the employment rates of disabled people (as defined by the GHS) in exactly the same format as Figure C did for older people. The proportion of disabled people who worked at least 16 hours per week declined from just over 60 per cent in 1974 to only 45 per cent in 1995, with only a brief intervening rise during the economic recovery of the late 1980s. The drop in the disability employment rate seems to have bottomed out, and there are some signs of a rise in recent years.

But the employment rate among non-disabled people, mainly flat in the first half of the period, has been rising too recently. The gap between disabled and non-disabled people rose very steadily from 12 percentage points to 33 percentage points.

**Figure E: Employment gap and penalty by disability**



A significant proportion of the raw disability employment gap could be explained by other characteristics of disabled people (their age and poor qualifications), so the disability employment penalty has consistently been less than the gap. The penalty nevertheless grew from just 5 percentage points to about 18 percentage points. It seems to have got no worse since the mid 1990s, though, and may even have improved slightly towards the very end of the period.

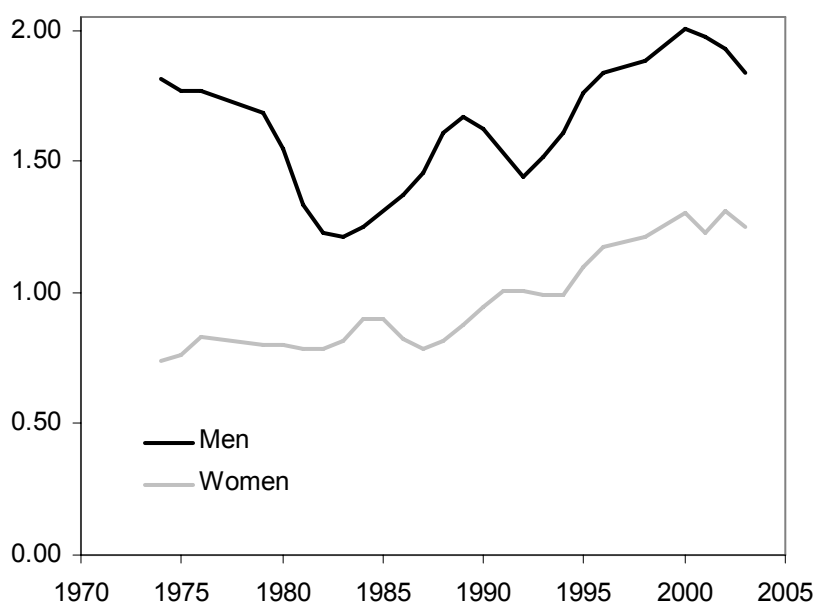
A much more detailed analysis of a specialised survey of disabled people, puts the overall disability employment gap at 47 percentage points, and worse still when severely disabled

<sup>16</sup> There was no question on limiting long-standing illness in 1977 or 1978. These years are therefore absent not only from the analysis of disability, but also from the multivariate analysis in which disability was one of the variables covered.

people are considered.<sup>17</sup> The current analysis has failed to capture the full extent of employment disadvantage experienced by this group, but provides useful context for the analysis of other disadvantages.

As with age, it is also possible to compare the extent of disability employment disadvantage among men and women, each measured with respect to their own non-disabled peers. Figure F is in exactly the same format as Figure D (above), expressing disadvantage as the regression coefficients from separate analyses of men and of women. This time it is impaired men who are more disadvantaged by their impairments than impaired women are. (Again, this is independent of the overall differences between men and women.) The impact of disability has been worsening for both groups since the early 1980s. But the striking feature of the time series is that impairment made less difference to men's employment between the early 1970s and early 1980s, and has followed a counter-cyclical pattern since then – disabled men appear less disadvantaged during periods when all men have poor job prospects.

**Figure F: Employment disadvantage of disabled people (expressed as regression coefficients), by gender**



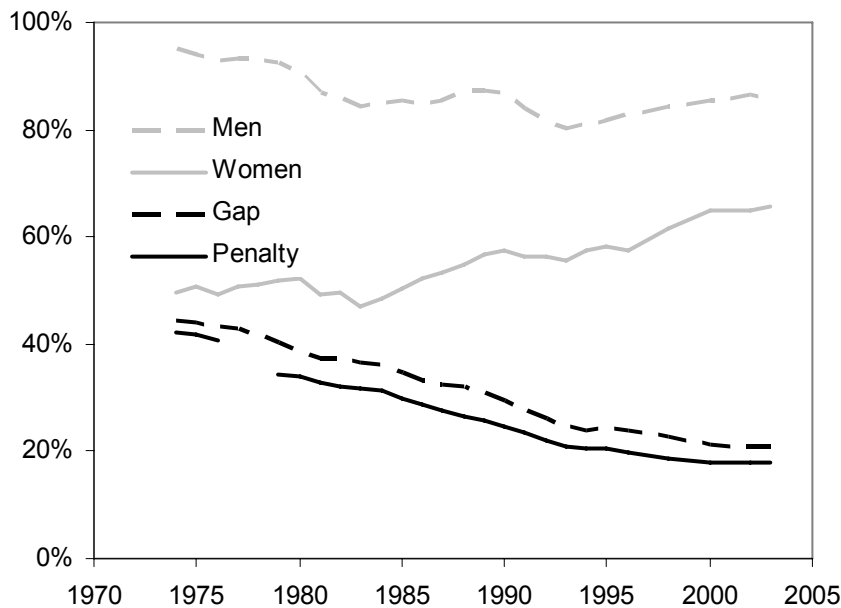
Note: Negative regression coefficients expressed as positive disadvantages for ease of presentation.

### Gender and family structure

Increased employment opportunities for women have been a major feature of social and economic life over the past generation. The plot in Figure G shows that only about half of all women in the age range had a job in the 1970s, but this figure held steady while men's employment rates were falling. From the mid 1980s onwards there has been an increase in female employment, while men's rates fell further and then steadied. The wide gap between men and women, 44 percentage points to start with, fell year on year, to 21 percentage points at the latest observation.

<sup>17</sup> R. Berthoud, *The Employment Rates of Disabled People*, DWP Research Report 298, 2006. The latter study did not calculate the disability penalty in exactly the same way as in this paper, but it is clear from equivalent comparisons that it would come out much higher if the specialist disability survey data had been used.

**Figure G: Employment gap and penalty analysed by gender (without taking account of family structure)**



The gender employment penalty in Figure G has been calculated by comparing all women with all men, without taking account of variations in employment rates by family structure. It suggests that most of the gap between women and men is confirmed as a penalty, only slightly reduced by other observed differences in characteristics. The gender penalty fell steadily from 41 percentage points to 18 points, though there is perhaps a suggestion in the graph that the rate of fall has declined over the last ten years.

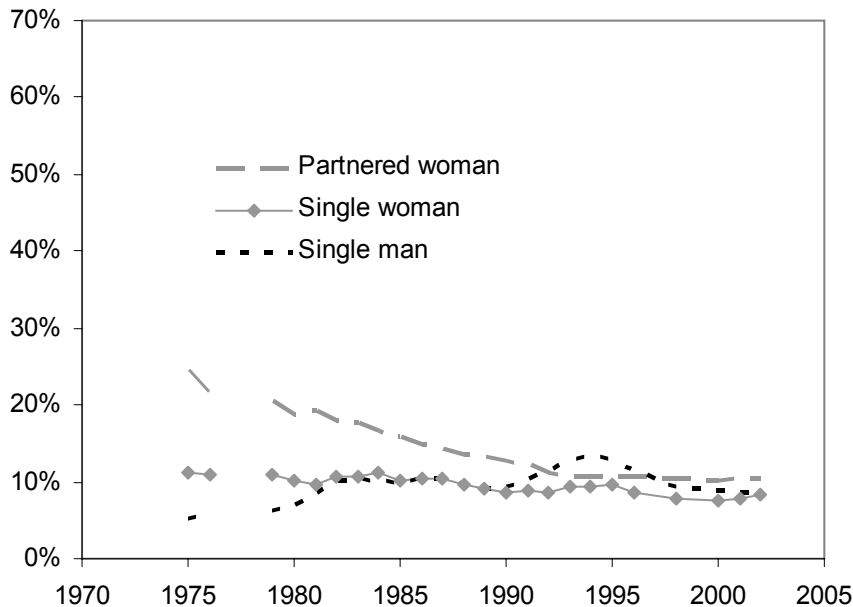
When family structures are introduced into the analysis, though, the picture is more complicated than the straight comparison between men and women revealed.<sup>18</sup> Figure H1 shows the employment penalties experienced by women without children, and single men, each compared with partnered men (who have the highest employment rate of all the gender/family combinations). Partnered and single men are defined without regard to whether they had children, because their employment rates were not much affected by fatherhood, whereas the partnered and single women in Figure H1 are confined to those who do not (currently) have dependent children. This comparison shows that:

- single men (dotted black line) are consistently worse off than partnered men, with an employment penalty rising from 4 percentage points to 13 points before falling back;
- single women without children (grey diamonds) are also consistently worse off than partnered men, with a steady penalty of about 10 percentage points;
- partnered women without children (broken grey line) were rather worse off than single women without children in the 1970s, but this extra penalty declined across the period, so that both groups of childless women were in a similar position at the end.

<sup>18</sup> Families were defined in accordance with the standard 'benefit unit'. Couples are men and women living together, whether married or not; single people are those not living with a partner, whether legally married or not; children are aged less than 16, or between 16 and 18 in full-time education. Special thanks to Howard Redway of the DWP for the identification of family groups in the early part of the period, which he supplied.

This comparison shows that although partnered women were, and remain, somewhat, disadvantaged with respect to partnered men, single women are not disadvantaged with respect to single men – as long as children are left out of the equation.

**Figure H1: Employment penalties of women without children, and of single men, compared with partnered men.**

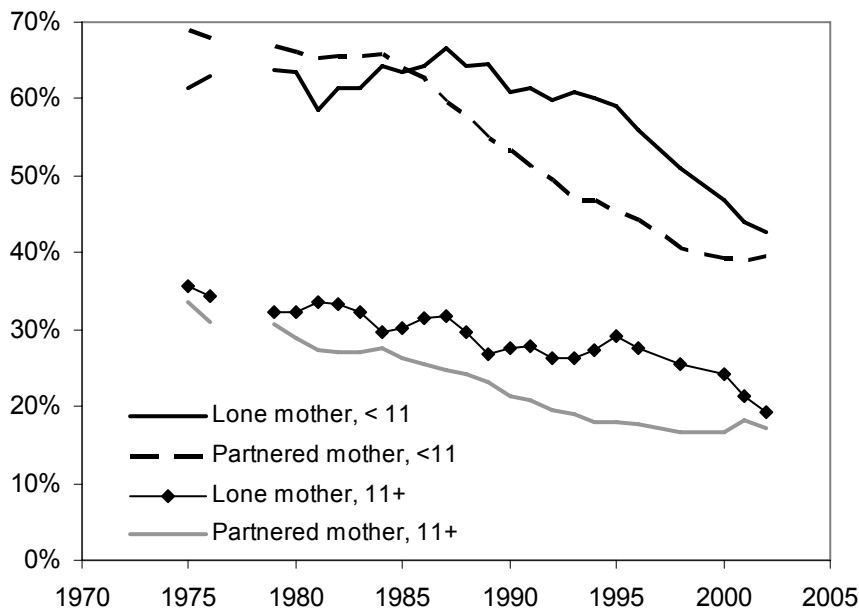


Note: men are defined as partnered or single without regard to whether they did or did not have children.

When women with children are introduced to the analysis, the picture changes. Men’s employment rates are not very sensitive to fatherhood, but women’s rates are very sensitive to motherhood. Figure H2 is constructed and drawn identically to Figure F1, but shows mothers’ employment penalties (still with reference to partnered men). Women whose youngest child is at least 11 are much less likely to have a job than partnered men. Women with a younger child are even less likely to have a job. The analysis shows that the penalty associated with being a mother is much greater than the penalty associated with being a woman (without children). But, whereas the woman penalty has remained fairly steady over the period, the motherhood penalties have declined very steeply. In the case of women with both a partner and young children, the penalty was 69 percentage points in 1974 and 40 points in 2003. This is the biggest change of any observed in this analysis; but the disadvantage associated with being a mother of young children remains greater than any of the other penalties recorded.

The wide gap between men and women, and the steady fall in the gender penalty, recorded in Figure G, need reinterpretation in the light of the family effects recorded in Figures H1 and H2. It is not women so much as mothers who are disadvantaged; it is not women so much as mothers whose position has improved so rapidly over three decades. It is not just a gender issue; nor is it just a family issue (because men’s employment rates are not affected by fatherhood). It is a gender-and-family issue.

**Figure H2: Employment penalties of women with children, compared with partnered men.**



Note that Figure H2 is to the same scale as Figure H1

In detail, it is interesting to note the differences in employment penalties between mothers with and without partners. Among mothers with older children, lone parents have always had a slightly higher penalty (with respect to partnered men) than partnered mothers – the difference widened through to about 1995, but has narrowed since then. Among mothers with younger children, lone parents were less disadvantaged (ie were more likely to have a job) in the 1970s and early ‘80s; became more disadvantaged by the early 1990s, but had nearly closed the gap again by the early 2000s.

### **Ethnic minority groups**

The concept of an employment ‘penalty’ has been discussed by researchers mainly in the context of an analysis of the job prospects of members of minority ethnic groups.<sup>19</sup>

The General Household Survey first asked a direct ethnicity question in 1983. There have been some changes in the coding frame since then, but it is possible to identify the three main groups considered here with reasonable consistency. Prior to 1983, our definition is based on a combination of information about the respondent’s own, and his/her parents’ country of birth,<sup>20</sup> and the survey interviewer’s opinion as to whether the respondent was ‘coloured’. There is a series of years in which both the directly-reported and the indirectly-inferred ethnic group were available for the same respondents. As discussed in Appendix D, comparison between the two suggests that the indirectly-inferred version was about 90 per cent accurate, except in the case of ‘African-Asians’ – who were classified as Indian ethnicity but African place of birth.

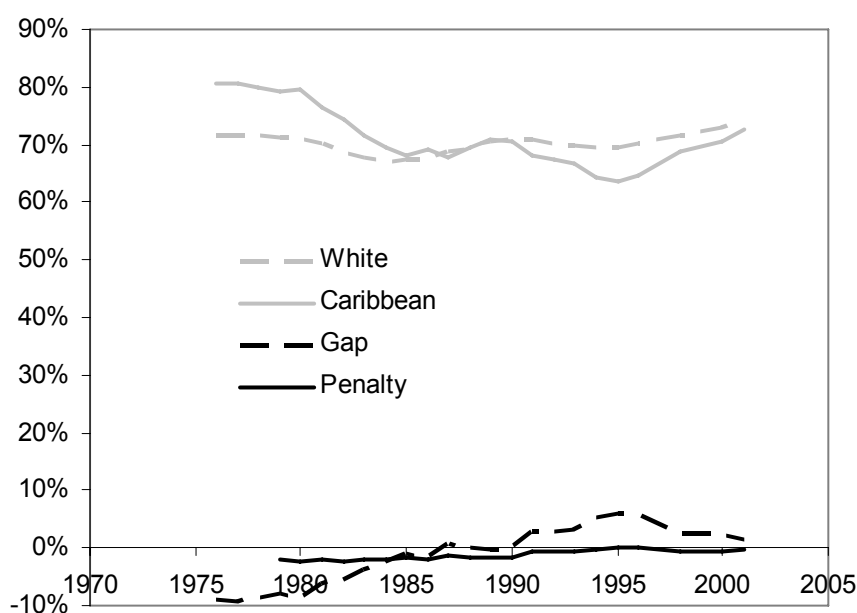
<sup>19</sup> See note 11.

<sup>20</sup> The country of birth question did not distinguish between India and Bangladesh in the 1981 and 1982 surveys. This means that only the white and Caribbean groups can be identified consistently for those two years, and there is a gap in the sequence for Indians and Pakistanis/Bangladeshis. Special thanks to Anthony Heath and Jane Roberts of Nuffield College, Oxford, for the classification by country of birth which they supplied.

The full sample across all years included about 5,000 Indians, 4,000 Caribbeans and getting on for 3,000 Pakistanis and Bangladeshis (combined). Nearly 6,000 people from ‘other’ ethnic minorities were included in the analysis, but are considered too disparate a group for the results to be worth presenting. These overall sample sizes sound large, but they are not very helpful when analysing each of 26 survey years separately – especially when, as discussed below, it was necessary to separate men from women. The analysis by ethnic group is presented by pooling successive rolling sequences of five observations (compared with three in other sections). This means that sample sizes are at least 100 for every cell for which results are shown; in many cases, the samples are in excess of 500.

Figure I presents the comparisons between Caribbeans and white people, in exactly the same format as the previous analyses of age and disability. The overall employment rate of Caribbeans was quite high in the 1970s – higher than that of the white population. The recession of the early 1980s reduced their prospects to no better than those of whites; the recession of the early 1990s reduced their rate to well below that of whites, though it has recovered since then. The plot of the employment gap (broken black line) shows this shift from apparent advantage to apparent disadvantage quite clearly. But the estimate of the Caribbean employment penalty suggests that Caribbeans’ employment patterns could largely be explained by the composition of the group – they are consistently shown to face no significant penalty at all.

**Figure I: Employment gaps and penalties: Caribbeans (men and women combined)**



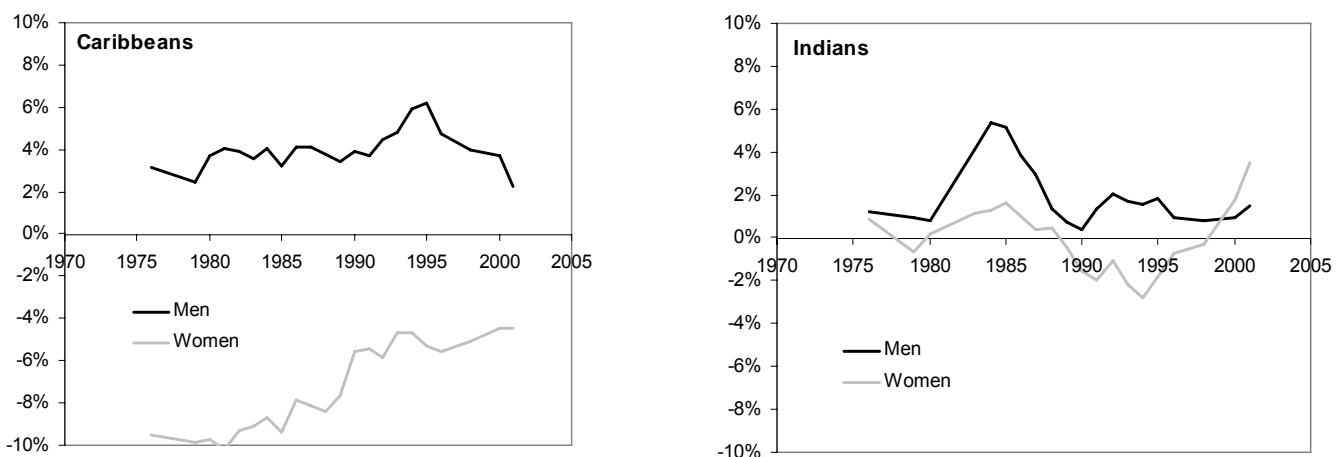
This may seem rather a surprising result, given how well-known it is that Caribbeans are disadvantaged in employment. Actually, previous research on the extent of the Caribbean penalty has mostly been based on an analysis of unemployment among men. If men and women are considered separately (left panel of Figure J1), then it turns out that Caribbean men do indeed have lower employment rates than equivalent white men. Over most of the period they faced an employment penalty of 4 or 5 percentage points, although this seems to have reduced since a high in the mid 1990s. The lack of an overall penalty for Caribbeans is



caused by the fact that women in that ethnic group have higher employment rates than similar white women. Caribbean women appear not to face any disadvantage associated with lack of employment – although their ‘bonus’ (ie reverse penalty) has been steadily declining over the years.

The alternative analysis based on a comparison of employed versus unemployed, in Appendix C, suggests that Caribbean women do face a penalty, and this is consistent with other research based on that approach (Heath and Cheung, see note 11 above). The different outcome reflects that fact that Caribbean women are more likely to have a job than white women; but, if not in work, are more likely to report that they are unemployed, rather than inactive.

**Figure J1: Employment penalties among men and women separately: Caribbeans and Indians**



Note: Graphs smoothed as five-year rolling averages

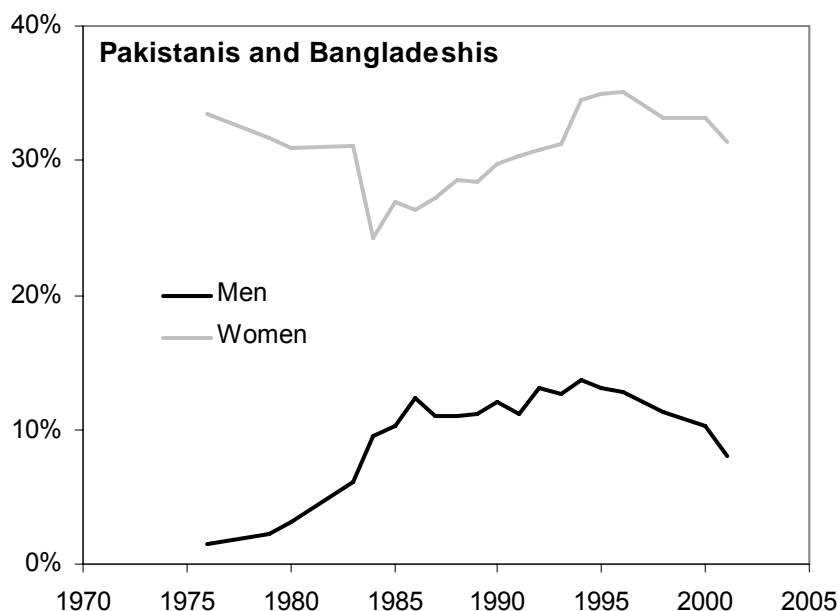
The contrast between men and women is not so strong among Indians (right panel of Figure J1). Indian men have tended to face a small but fluctuating employment penalty over the thirty years, with no clear trend in either direction. Indian women have fluctuated between a small positive and a small negative penalty, and back again. The recent trend seems to have been against Indian women.

The ethnic penalty for Caribbean men has been clear, but not large by comparison with the disability and gender/family penalties. When the focus turns to Pakistanis and Bangladeshis (as a combined group) the extent of disadvantage is much greater – the scale of Figure J2 has had to be changed, compared with Figure J1, to accommodate the wider range of differences.

- Pakistani and Bangladeshi men were not seriously disadvantaged, compared with white men with similar characteristics, in the 1970s, but their penalty widened through the 1980s and early '90s to 13 percentage points. There are indications of an improvement since then.
- Pakistani and Bangladeshi women are much less likely to have a job than white women. The Pakistani and Bangladeshi women’s penalty has ranged between 24 and 35 percentage points. Remember that these penalties are calculated after taking account of women’s family positions, and the Pakistani and Bangladeshi women’s disadvantage is not explained just by the fact that so many of them have young

children. It is not easy to explain the trends in the size of this penalty, though there are again signs of improvement in recent years.

**Figure J2: Employment penalties among men and women separately: Pakistanis and Bangladeshis**



## 5. Family employment penalties

The previous section analysed the personal employment position of each member of the GHS sample (aged 20 to 59) – that is, whether he or she had a job. That provides a full statement of employment inequality between individuals. But many non-employed individuals live with a partner who has a job. They may be perceived as disadvantaged within the partnership, but it can be argued that people with working partners are not as disadvantaged as single people without a job, or as couples, neither of whom has a job. It is jobless families, not individuals, who are likely to be entitled to income support and income-related JSA; it is jobless families, not individuals, who are at greatest risk of poverty. So an alternative way of looking at employment disadvantage is to use a family perspective: people are defined as gaining from earnings either if they themselves are in employment, or if they have a partner in employment.<sup>21</sup>

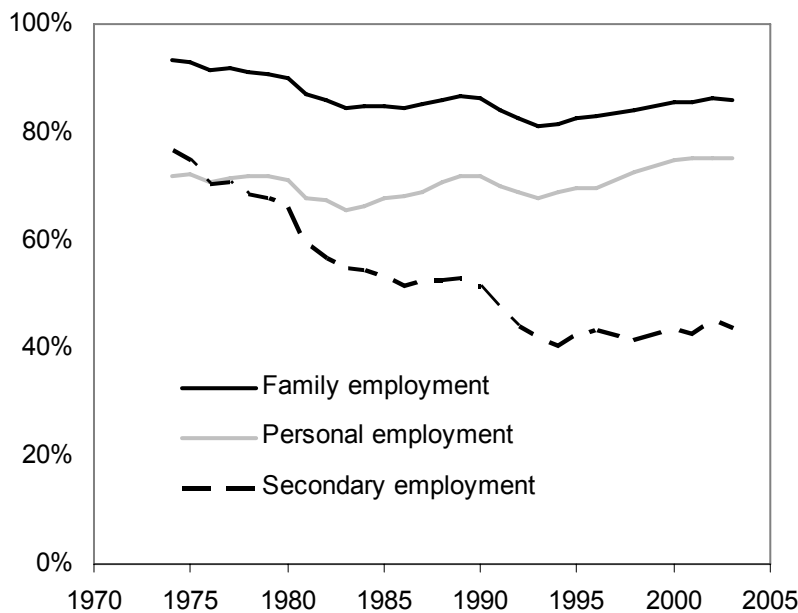
The grey line in Figure K plots the personal employment rate across the period 1974 to 2003, and is exactly equivalent to the employment total in Figure B. It is effectively flat, with no major change in employment rates other than the cyclical effects of the early 1980s and early 1990s. The black line shows the family employment rate, as just defined. The family rate has to be at or above the personal rate, by definition. In fact 93 per cent of all adults were connected with the workforce either personally or though a partner in 1974. But whereas the

<sup>21</sup> The ‘family’, defined as either a single person or a couple (with or without children), is a tighter definition than a ‘household’ (which may include other adults, such as non-dependent children). Family employment is similar in concept, but different in detail, from household employment. For an analysis of trends in the number of workless households, see (eg) P. Gregg and J. Wadsworth, *The State of Working Britain*, Manchester University Press, 2000

personal employment rate held steady over 30 years, the family rate drifted downwards, to only 81 per cent in 1993. At that stage, nearly one adult of working age in five had neither direct nor indirect access to earnings, and may have been entitled to out-of-work benefits.

This difference between the personal and family employment rates can be summarised by calculating the rate of ‘secondary employment’ (the broken line in Figure K): the proportion of non-employed individuals who have a partner in work. The rate of secondary employment fell continuously from 76 per cent in 1974 to 40 per cent in 1994, and has remained at about that low rate since then. This fall in secondary employment cannot be explained in terms of the overall employment rate (which held steady). It probably occurred as a result of two processes: a reduction in the number of non-working adults who had a partner at all; and an increased tendency for couples to polarise into dual-earner and no-earner families (“work rich” and “work poor”).

**Figure K: Personal and family employment rates, 1974-2003**



The analysis of family employment penalties in the current section follows the same logic as that of personal employment penalties in the previous chapter, except that the outcome variable is now defined jointly for the couple if an individual has a partner. The social groups used for the analysis are still defined for individuals, so that we are asking whether, for example, older people are less likely than younger ones to have some access to employment earnings. In general it can be expected that the measured penalties will be rather weaker, because many people who have a disadvantaging characteristic may have a partner who does not face the same disadvantage.

**Age and disability**

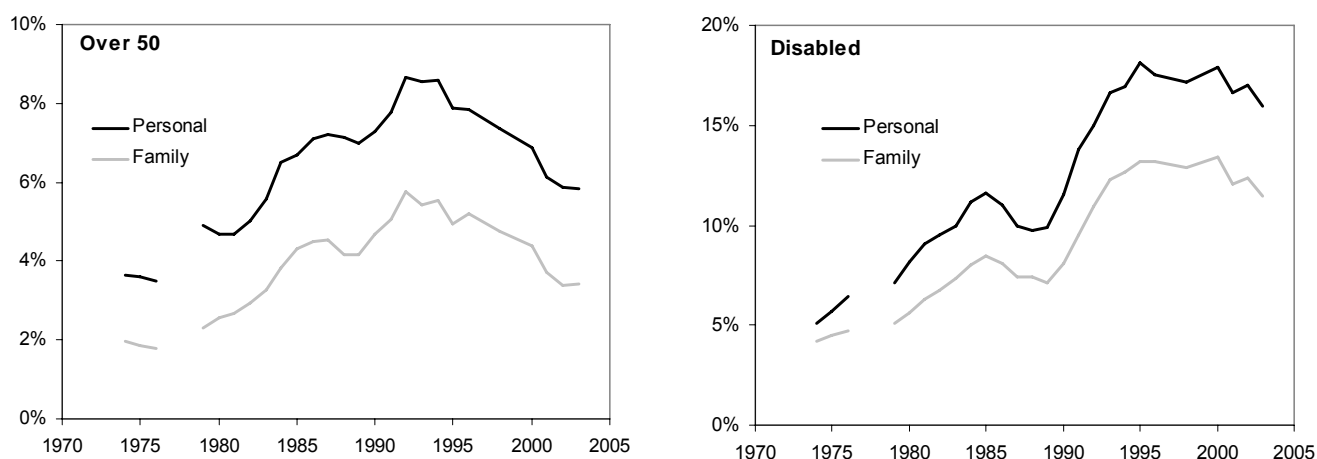
Figure L summarises the findings for the simple cases of age and disability. Both show a similar pattern, though it should be noted that the scales are different for the left and right hand panels of the figure.

- For older people (50 to 59) the personal employment penalty rose from about 4 percentage points to about 8 points in the mid-1990s, before falling back again. The

family employment penalty associated with older age was consistently lower throughout the period, ranging from about 2 percentage points to about 5. But the rising and then falling trend was almost exactly in parallel for both measures of disadvantage.

- For disabled people (proxied as before by people with a limiting long-standing illness), the personal employment penalty rose fairly steadily from about 5 to about 18 percentage points, and then levelled off. The family employment penalty was again lower than the personal one, although the difference between the two versions was narrower for disabled people than for over 50s. Again, the time trend was almost exactly the same for both measures.

**Figure L: Personal and family employment penalties, by age and by disability**

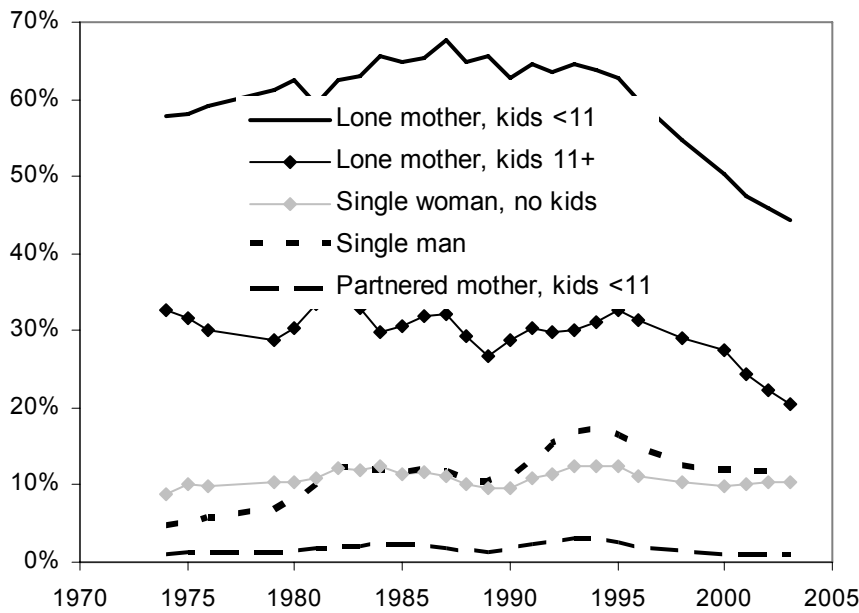


### Gender and family structure

When we turn to comparisons between men and women, the results of the new approach are entirely predictable, but nevertheless striking. Remember that the comparison case, against which gender and family disadvantage was measured, is men with partners. Not surprisingly, women with partners, living in couples with the same men, are not disadvantaged when family employment levels are calculated (not shown in Figure M, because the penalties are effectively zero). Meanwhile single men and women, and especially lone mothers, are just as disadvantaged as they had appeared when the measure of employment had not included other members of the same family.

This ‘family’ view of employment provides a very different perspective on the economic positions of men and women. Women with partners, obviously, no longer appear disadvantaged with respect to men with partners. – though if we counted the number of jobs in a family, it is clear that couples with children must be disadvantaged in comparison with childless couples. We have found that single women without children are not disadvantaged in comparison with single men. That leaves only lone mothers as disadvantaged on the family account. But the number of lone mothers, as a proportion of all women, is small enough to reduce the overall disadvantage of women to quite a modest margin. This is shown in Figure N. The line of diamonds is a reminder of the extent of the employment penalty faced by women as individuals, falling from about 40 to less than 20 percentage points over the 30

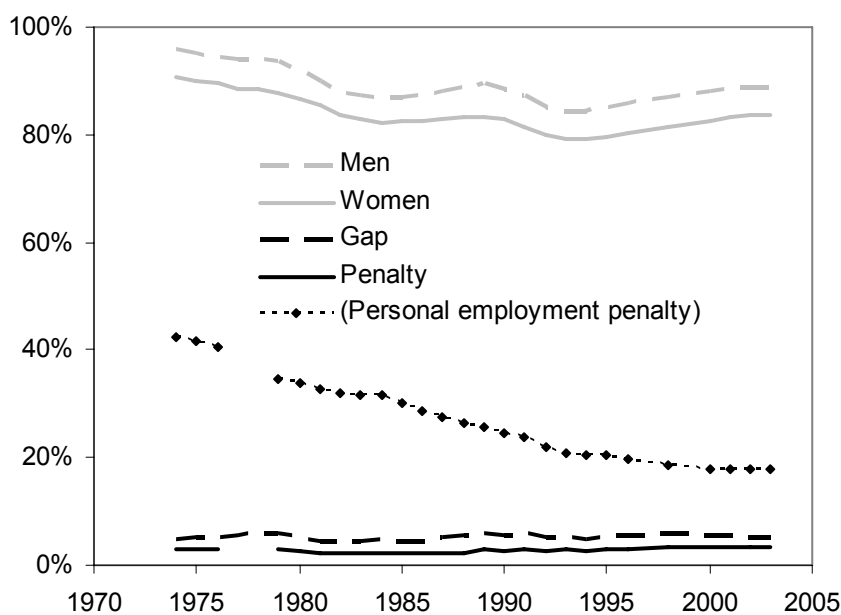
**Figure M: Family employment penalties, by gender and family structure**



Note: Partnered women without children, or with children over 11, recorded no family employment penalties, and are not shown in the graph.

year period. Women as members of families record a gross employment gap of only about 5 percentage points, and a net penalty of 3 percentage points. Although lone parents recorded a steep drop in their penalty over the decades, the number of lone parents increased, so this left women as a group in roughly the same position overall.

**Figure N: Family employment gap and penalty, by gender (without taking account of family structure)**



Comparing the two ways of measuring employment, it can be seen that a large part of the huge growth in women’s access to the labour market has countered inequality *within* families (ie partnered women are now less disadvantaged with respect to partnered men). Meanwhile, the overall reduction in the number of families with any job (Figure K) has increased inequality *between* families.

### **Ethnic minority groups**

The analysis of personal employment patterns showed that it was essential to distinguish men from women when analysing minority ethnic groups, especially Caribbeans. But in the analysis of family employment patterns it is meaningless to distinguish men from women. Rather than plot a complete sequence of ethnic penalties at the family level, Table 3 simply records the overall ethnic penalties calculated for men and women combined, in the first three, and the last three, years of the observation period.

- Caribbeans as a whole recorded a very small advantage over white people on both measures, because of the better prospects of Caribbean women.
- Indians recorded a very small disadvantage on both measures.
- Pakistanis and Bangladeshis recorded a significant disadvantage on both measures, which increased substantially between the beginning and end of the period. The disadvantage was rather smaller on the family account than on the personal account.

**Table 3: Personal and family employment penalties for ethnic minority groups (men and women combined)**

	Personal employment		Family employment	
	1974-76	2001-03	1974-76	2001-03
Caribbean	-1.7%	-1.1%	-0.3%	-0.5%
Indian	0.3%	2.3%	1.4%	1.4%
Pakistani and Bangladeshi	4.1%	10.1%	2.0%	6.9%

Note: figures in grey type are not significantly different from zero

## **6. Review and discussion**

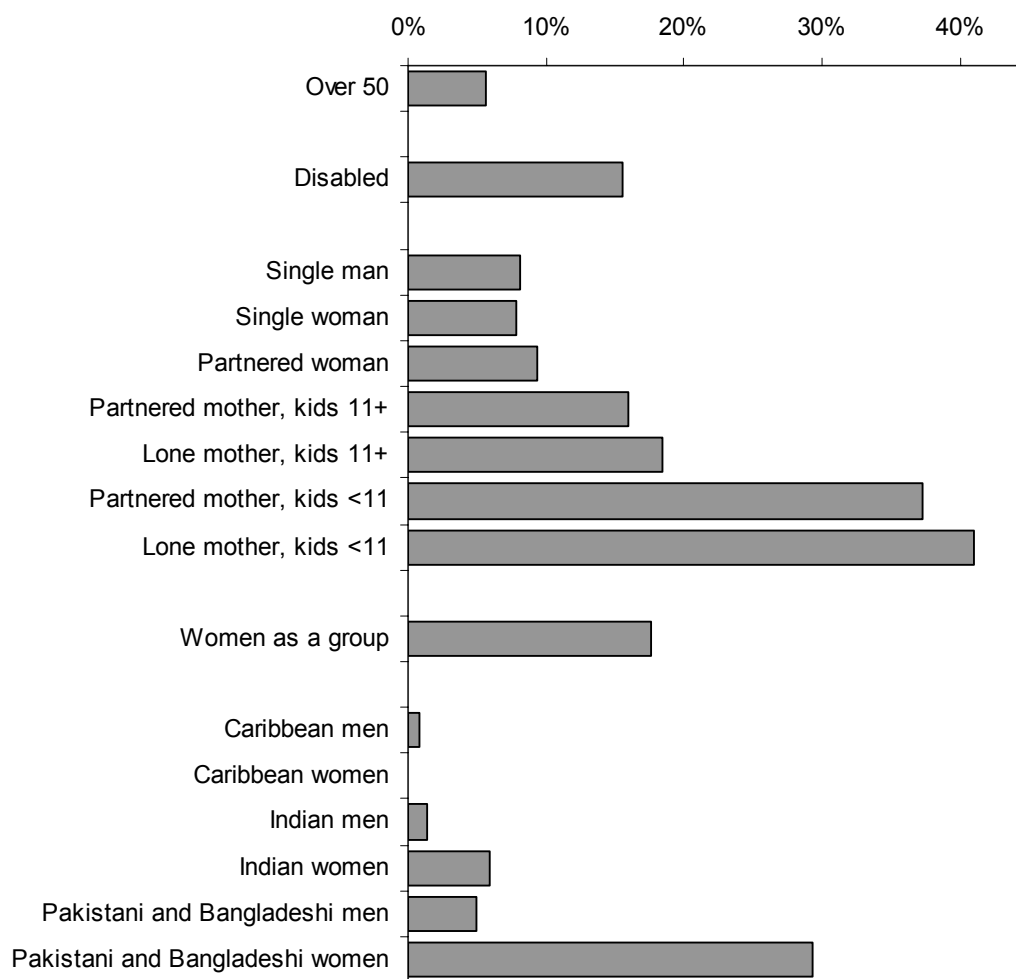
This has been the first systematic comparison of the employment disadvantages of different social groups over a thirty year period. It provides a direct comparison of the penalties faced by older people, disabled people, women and members of ethnic minority groups. And it shows the trends over the decades. The findings are of obvious relevance to the Equalities Review’s consideration of the impact of separate bodies of anti-discrimination and equal opportunities legislation over broadly the same period.

So the first stage of summarising the results involves a comparison of the relative size the personal employment penalties affecting each group over the most recent period – that is, the final four years analysed, 2000 to 2003. Figure O gives a clear picture of different orders of magnitude.

- The largest penalties (ie the lowest employment rates) are reported for mothers of young children, whether with or without a partner. They are 40 percentage points less likely to have a job than men with a partner, with otherwise similar characteristics.
- Pakistani and Bangladeshi women are about 30 percentage points behind white women.

- The next set of penalties includes disabled people, mothers of older children, and women seen as a single group, all with penalties of between 15 and 20 points.
- Single men, and women without children, are rather worse off than married men (8 to 10 points)
- Older workers, Indian women and Pakistani and Bangladeshi men all have small penalties of around 5 points.
- The least disadvantaged groups in the most recent period have been Indian men, Caribbean men and Caribbean women (the latter apparently slightly better off than white women).

**Figure O: Summary: personal employment penalties in the early 2000s (percentage points)**



Note: Caribbean women have a negative penalty ('bonus'), not shown in the graph for ease of presentation.

Some surprise has been expressed that women are shown to be so highly disadvantaged. The narrative has argued that it is not women as such who have a large employment penalty. For example single women without children are not worse off than single men. In fact it is mothers whose employment rates are so low, and who are disadvantaged with respect to fathers, often within the same family. And, as the analysis of 'family' employment penalties showed, it is only lone mothers, especially those of young children, who are especially unlikely to have any access to an earned income. But, in spite of the fact that the employment rates of all mothers have been increasing, and their penalties falling, they are still a long way from parity with partnered men.

Another group meriting individual attention is disabled people. Their penalty has grown over the years; and other sources suggest that the true extent of their disadvantage is much greater than can be revealed by the rather rough and ready health indicator in the GHS.

The penalties affecting Caribbean men and Pakistani/Bangladeshi men are probably smaller than might have been expected.

The second stage of summarising involves reviewing the evidence about the ‘persistence’ of disadvantage over the 30 year period.

- The employment penalties faced by women as a group have steadily reduced over time. This down-trend did not affect single women, nor did it much affect women with a partner but no children. But the most disadvantaged women – mothers, especially of young children – are much less disadvantaged now than they were three decades ago, even though they still have the lowest employment rates.
- No other group recorded a steady fall in the extent of their employment penalty. On the contrary, many penalties increased over a considerable part of the period – these include the over 50s, disabled people, Caribbean men and Pakistani and Bangladeshi men. The precise timing of these trends varied, though a common finding was that non-gender penalties in the 1990s were higher than in the 1970s.
- Several of the penalties that had been steady or rising up to the 1990s seem to have reduced over the past ten years or so. These include over 50s, possibly disabled people, Caribbean men, and Pakistanis and Bangladeshis, both men and women. Thus almost all forms of disadvantage seem on the decline in the most recent period. It is worth adding that the change in direction did not occur at the political fault line of 1997 – most of the trends reversed a little earlier than that, though we have not attempted to identify the turning point with any precision.
- Only two penalties seem to have been increasing in recent years: those of Caribbean women (a reducing negative penalty) and Indian women.

These findings should not be regarded as the last word on the scale of each of the individual penalties. Where the estimates are at odds with other studies, it may be because other researchers, specialising in the analysis of one particular group, have been able to use more detailed data (eg on disability), or because they have taken more account of the interactions between variables (eg with education), or because they have focussed on particular issues relevant to the population group under examination (eg the migration history of ethnic minorities). These specialist considerations have had to be glossed over in the interests of comparability across groups, but are still relevant to a detailed understanding of disadvantage.

It is important to note, again, our deliberate choice of the words ‘disadvantage’ and ‘penalty’, simply to mean that some people are less likely to have a job than others. Some analysts of employment (or wage) rates have used a broadly similar analytical approach to estimate the unexplained gap between groups (what we call a penalty) and labelled it ‘discrimination’.<sup>22</sup> Discrimination occurs when an employer selects one job candidate rather than another, not on grounds of ‘fair’ considerations such as qualifications and experience, but on ‘unfair’ considerations of age, impairment, gender or ethnicity. There is no doubt that this occurs

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<sup>22</sup> eg P. Carneiro, J. Heckman and D. Masterov, ‘Labor market discrimination and racial differences in pre-market factors’, *Journal of Law and Economics*, vol 48, no. 1, 2005



(though there has been very little recent research which directly establishes discriminatory practices). But measures of the employment gap and penalty establish the outcome, not the process. As discussed on page 8 and 9, there are all sorts of possible processes affecting employment rates. Nevertheless, it has been shown that there is a very wide range of employment rates between the social groups examined, which cannot be explained away by 'fair' considerations such as education or regional unemployment rates. Members of these groups are undoubtedly disadvantaged. Discrimination may be one of the processes which creates or reinforces this inequality.

**Appendix A: Details of the logistic regression equations predicting personal employment: 2000 to 2003**

	Men and women by family position		Comparing men and women		Men only		Women only	
	Coeff	SE	Coeff	SE	Coeff	SE	Coeff	SE
Over 50	<b>-0.778</b>	0.033	-0.257	0.030	-0.682	0.050	-0.836	0.042
Limiting long-standing illness	<b>-1.533</b>	0.032	-1.439	0.030	-1.913	0.047	-1.269	0.041
Partnered man	base				base			
Single man	<b>-1.004</b>	0.044			-0.985	0.046		
Single woman, no kids	<b>-0.987</b>	0.048					0.701	0.095
Partnered woman, no kids	<b>-1.109</b>	0.037					0.630	0.092
Partnered woman, kids >=11	<b>-1.557</b>	0.056					0.161	0.100
Lone parent, kids >=11	<b>-1.699</b>	0.093					Base	
Partnered woman, kids <11	<b>-2.565</b>	0.043					-0.841	0.092
Lone parent, kids <11	<b>-2.714</b>	0.060					-1.006	0.100
Woman (as a single category)			<b>-1.274</b>	0.025				
White	base		base		base		Base	
Caribbean	0.255	0.129	0.183	0.126	<b>-0.157</b>	0.203	<b>0.428</b>	0.148
Indian	-0.376	0.098	-0.309	0.090	<b>-0.262</b>	0.160	<b>-0.423</b>	0.123
Pakistani/Bangladeshi	-1.167	0.092	-1.162	0.081	<b>-0.749</b>	0.152	<b>-1.539</b>	0.132
Other ethnic group	-0.629	0.072	-0.650	0.068	-0.755	0.113	-0.544	0.085
Higher education	0.508	0.038	0.567	0.036	0.312	0.064	0.582	0.045
A level	0.287	0.045	0.331	0.043	0.266	0.074	0.294	0.056
O level/GCSE	base		base		base		Base	
Lower quals	-0.112	0.040	-0.103	0.039	-0.141	0.072	-0.092	0.048
No qualifications	-0.800	0.037	-0.748	0.036	-0.676	0.062	-0.883	0.046
Regional unemployment %	-0.063	.012	-0.067	.011	-.168	.020	-0.009	.014
Constant	3.089	0.057	2.512	0.051	3.578	0.090	1.133	0.105
Sample size	44,020		44,020		21,143		22,877	
Pseudo R <sup>2</sup>	20%		16%		18%		15%	

Bold figures are the coefficients supporting the marginal effects quoted in the report. Grey figures are standard errors. A short-hand test is that a coefficient is significantly different from zero if it is more than twice its standard error.

## Appendix B: Employment penalties, 1992 to 2003: comparing England, Scotland and Wales

Because the samples in Scotland and Wales are so much smaller than in England, this comparison uses years 1992 to 2003, the last ten years of GHS data, instead of the 2000-2003 period for other tables.

Even so, there were too few members of ethnic minority groups in Scotland and Wales for any analysis to be worthwhile – partly because such groups are even scarcer there than in England. There were only 140 members of the three main groups combined in Scotland, in the whole 28-survey period; and 100 in Wales.

	Great Britain	England	Scotland	Wales
Over 50	-6.9%	-6.7%	-8.2%	-7.5%
Limiting long-standing condition	-16.0%	-15.0%	-22.5%	-20.7%
Single man	-10.0%	-9.6%	-12.7%	-12.9%
Single woman, no kids	-8.6%	-8.5%	-8.6%	-10.3%
Partnered woman, no kids	-9.8%	-10.0%	-7.7%	-10.7%
Partnered woman, kids $\geq 11$	-16.8%	-17.4%	-12.3%	-12.5%
Lone parent, kids $\geq 11$	-22.6%	-22.8%	-23.5%	-16.8%
Partnered woman, kids $< 11$	-41.5%	-42.2%	-37.9%	-35.7%
Lone parent, kids $< 11$	-50.4%	-51.2%	-44.3%	-48.8%

## Appendix C: Employment disadvantage calculated by two methods

As discussed on page 8, the estimates of employment penalties in this paper compare people's probabilities of being in work, regardless of whether non-workers are unemployed or economically inactive. An alternative method, often used for estimating ethnic penalties, confines the analysis to economically active people, so that the only non-workers considered to have a disadvantaged outcome are the unemployed, ie those looking for work.

The left hand column of this table repeats the regression coefficients for 2000 to 2004 from the main analysis (see Appendix A). The right hand column shows equivalent coefficients from an analysis of employment versus unemployment. The arrows in the centre column point left or right in the direction of the version estimating greater disadvantage. Two arrows indicate a change from advantage (+) to disadvantage (-).

<i>Regression coefficients</i>	'In work' compared with out of work	Arrows point to greater disadvantage	Employed compared with unemployed
Over 50	-0.778	◀◀	0.199
Limiting long-standing condition	-1.533	◀	-0.724
Single man	-1.004	▶	-1.230
Single woman, no kids	-0.987	◀	-0.498
Partnered woman, no kids	-1.109	◀◀	0.403
Partnered woman, kids >=11	-1.557	◀◀	0.295
Lone parent, kids >=11	-1.699	◀	-0.869
Partnered woman, kids <11	-2.565	◀	-0.111
Lone parent, kids <11	-2.714	◀	-1.414
Caribbean man	-0.157	▶	-0.459
Caribbean woman	0.428	▶▶	-0.329
Indian man	-0.262	▶	-0.413
Indian woman	-0.423	▶	-0.947
Pakistani/Bangladeshi man	-0.749		-0.768
Pakistani/Bangladeshi woman	-1.539	◀	-1.014

The comparison shows that the two approaches can yield very different estimates. It is not helpful to ask which is right and which is wrong, because they are both correct measures of rather different things. The method chosen for this study ('in work' compared with out of work) highlights the lack of jobs among social groups with low economic activity rates – women, especially mothers, and disabled people. This table confirms that the disadvantages of these groups would be reduced or eliminated if the alternative (unemployment based) analysis had been used.

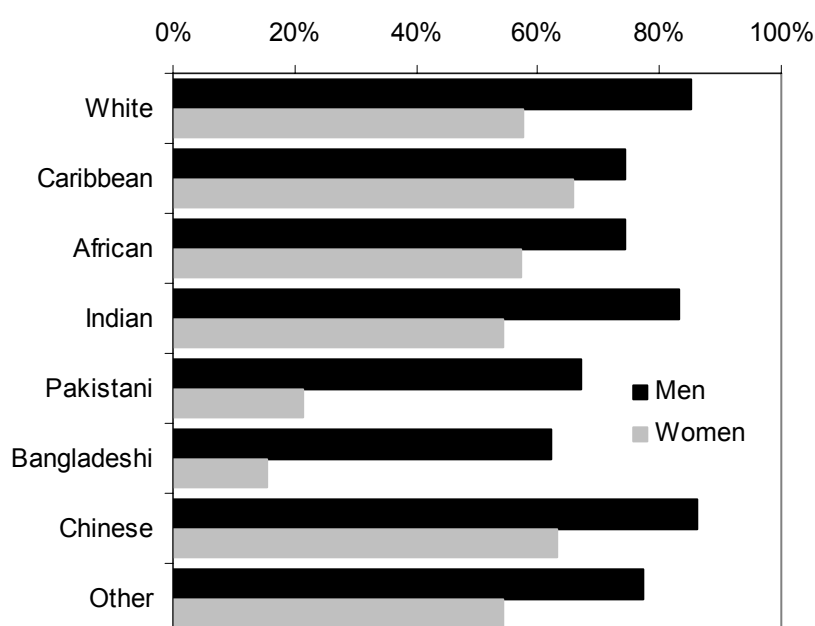
The decision has some important impacts on others measures though. In particular, the disadvantage recorded for over 50s would disappear if unemployment was the negative outcome being analysed. And all the disadvantages faced by Caribbean and Indian men and women would appear much larger if the unemployment-based calculation had been used. In the case of Caribbean women, the analysis shows that they have a high overall employment rate; though they also have a high unemployment rate (ie they are rarely economically inactive).

## Appendix D: Ethnic groups in the GHS

From 1983 onwards, the GHS asked respondents to specify their ethnic group, in terms broadly similar to the categorisation familiar to present day analysts. The three main categories analysed in this report – Caribbeans, Indians and Pakistanis/ Bangladeshis – can be identified with reasonable consistency through the changing coding frames.

As noted in the text, members of ethnic minorities other than Caribbean, Indian, Pakistani and Bangladeshi have not been analysed separately, because the samples of members of the two smallest named groups (Africans and Chinese) were too small, and because a catchall ‘other’ category would be too disparate to be interpreted as a meaningful social group. Figure P shows, for the record, the employment rates by detailed ethnic groups, for the entire period covered by the direct ethnicity question.

*Figure P: Average employment rates by detailed ethnic groups, 1983-2003*



Prior to 1983 there was no direct question about ethnicity. Information was, though, collected about the place of birth both of each respondent, and of their mother and father. A classification developed by Nuffield College, Oxford assigned respondents to ‘ethnic’ categories if one, two or three of these people (self, father, mother) was born in the Caribbean, India or Pakistan/Bangladesh. Some of the people with only one birth in the place under consideration may have been white; but the GHS interviewer was also asked to say whether each member of the sample was ‘coloured’ – a vocabulary that would not be accepted nowadays. The classification adopted for the current analysis assigned people to minority groups if they and/or a parent had been born in the relevant place, and the interviewer also observed them as ‘coloured’.

Fortunately, we have both classifications – the direct ethnic question, and the allocation based on country of birth and ‘colour’ – over the period 1983 to 1992. So we can compare the allocations based on each system. Table 4 shows that a high proportion of Caribbeans and Pakistanis/Bangladeshis were classified the same under both schemes. There were though, substantial numbers of Indians (according to the direct question) who were classified as ‘other’ by the country of birth sequence. These were almost certainly African Asians – people of Indian origin who had settled in Uganda or Kenya before coming to Britain

**Table 4: Allocation of ethnicity by two methods, 1983 to 1992**

	Direct ethnic question					
	White	Carib- bean	Indian	Pakistani Bangla- deshi	Other	Total
<b>Ethnicity assigned by countries of birth and 'colour</b>						
	<i>Row percentages</i>					
White	99.1	0.1	0.1	0.0	0.8	100
Caribbean	0.7	90.4	0.7	0.1	8.2	100
Indian	2.3	0.1	88.0	4.8	4.9	100
Pakistani/Bangladeshi	0.5	0.0	3.9	93.9	1.7	100
Other	1.6	1.2	45.7	2.0	49.6	100
	<i>Column percentages</i>					
White	100.0	4.8	4.9	2.4	53.6	
Caribbean	0.0	93.8	0.6	0.1	5.9	
Indian	0.0	0.1	57.6	6.7	3.1	
Pakistani/Bangladeshi	0.0	0.0	1.7	87.5	0.7	
Other	0.0	1.3	35.2	3.3	36.7	
Total	100	100	100	100	100	