

# Pay gaps across the equality strands: a review

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## EXECUTIVE SUMMARY

### Scope of the review

This review was commissioned by the Equality and Human Rights Commission to examine recent research evidence on pay gaps in the UK (from 2000 onwards), to outline the gaps in the research evidence and indicate the key areas for future research work, and to draw out the policy and practice implications of the research. The pay gap in this context is defined as the percentage difference between women's and men's average pay as a percentage of men's.

Concurrently with this review, the Commission funded a new statistical analysis of pay gaps across the equality strands (Longhi and Platt, 2008).

### Background on pay gaps

Pay gaps arise through simple pay discrimination (people from one group are paid less than people from another for doing the same work) and because groups have different characteristics and preferences (themselves possibly a consequence of discrimination and stereotyping). These different characteristics may result in lower productive potential and so the group is concentrated in lower paid work (e.g. those with less education have lower paid jobs). They may also result in work patterns which attract a pay penalty (whether related to productivity or not) and force concentration in low paid work (e.g. part-time working). The group's concentration itself may also lead to the pay rate offered being lower (i.e. undervalued), for example, constraints on mothers' commuting may result in an oversupply of labour in some localities.

Pay gaps are measured as the actual difference in pay between two groups (the unadjusted pay gap) and the difference once different characteristics and work patterns have been taken into account (the adjusted pay gap). The latter helps identify some of the causes of the pay gap.

Pay gaps are measured using both the mean and the median. The median is the measure preferred in the presentation of government statistics. However, the median does not capture the gap along the full wage distribution. For this reason, the Equality and Human Rights Commission prefers the mean.

### The gender pay gap

The gender pay gap has received substantial research attention, much more so than other equality strand pay gaps. It is clear that the household division of labour and occupational concentration have major impacts on the gender pay gap. Motherhood



results not only in women withdrawing from the labour market for a period, but also in them shifting to part-time work, which is highly concentrated in low paid occupations. Women are concentrated in industries and sectors with lower pay.

However, not all the pay gap can be explained by differences in human capital and work patterns, with gaps appearing early in careers. There is also a problem of pay discrimination and that women's work is undervalued.

The gender pay gap is intimately bound up with the part-time pay gap, with its restricted occupational availability, but, unlike in some countries, periods working part-time reduce subsequent pay.

From the research, it is clear that the focus of policies to address the gender pay gap should be to diminish gender differences in the household division of labour, to change gender differences in economic activity and part-time work (or to reduce the negative effects of these), to reduce concentration and segregation and to address the undervaluation of women's work generally.

Further research would be useful to identify:

- why part-time employment reduces future earnings; and
- the processes by which the gender pay gap develops over an individual's career.

### **The sexual orientation pay gap**

There is a dearth of evidence on the effects of sexual orientation on pay. The very limited evidence suggests that gay men and lesbians may earn more than heterosexual men and women, but, once differences in their characteristics are taken into account, gay men may be disadvantaged, but lesbians may be advantaged. However, data problems mean that these studies do not reflect the pay gap relating to all gay men and lesbians.

Further quantitative research (which would be dependent on the availability of data) is needed to:

- identify the sexual orientation pay gap;
- investigate the adjusted gap; and

- explore differences in employment patterns by sexual orientation to help understand how pay gaps may be formed.

Qualitative research would also assist in understanding how pay gaps may be formed and should include how:

- individuals' employment choices are influenced by their sexual orientation; and
- employers' treatment of employees and applicants is influenced by sexual orientation (and perceived sexual orientation).

Research needs to consider the implications of the sexual orientation of some, but not all, people in the workplace being identifiable.

### **The ethnic minority pay gap**

It is clear that pay gaps are substantial for most, but not necessarily all, major ethnic minority groups. The gaps cannot be explained by the age, education or foreign birth of ethnic minority groups.

The ethnic pay gap is greatest for men. Bangladeshi and Black African men, followed by Pakistani and Black Caribbean men, are most disadvantaged. Indian and Chinese men have higher unadjusted pay than whites, but their pay is below that of similar white men.

For women, the gender pay gap dominates and some ethnic minority groups receive similar earnings to white women. Black Africans and Bangladeshis are at greatest disadvantage. The extent to which Pakistani women are disadvantaged is unclear.

The evidence points to pay discrimination, rather than the gap being caused solely by the pattern of employment and skills. Occupational patterns do contribute significantly to the ethnic pay gap.

Much of the research into ethnic pay gaps is relatively dated and is more limited than that into the gender pay gap. Further research is required to:

- identify the pattern of pay gaps across ethnic groups;
- identify the way in which ethnic differences in employment patterns contribute to the ethnic pay gap; such research should identify both the pattern of disadvantage (e.g. via decomposition analysis), as well as the causes; and

- explore whether monopsony and concentration play a role in the ethnic pay gap.

Research should take into account gender and religion or belief and differences in economic participation and employment rates (i.e. selection effects).

### **The religion or belief pay gap**

There is clearly an adverse religious pay gap for Muslim men and a beneficial pay gap for Jews. However, whether there are gaps between other religions is unclear, as is the extent to which these gaps are indicative of a pay penalty (as opposed to differences in labour market characteristics). Earlier research identified large pay gaps for Sikhs. No recent research into the causes of the religion or belief pay gap was found.

There is an urgent need for further research in this area, given the degree of disadvantage previously identified, the lack of research into the area, the lack of recent evidence on gaps and because of the general evidence on Muslim disadvantage in Britain and the growth in Islamophobia. However, in such research, the possibilities of high religious pay gaps for other groups should not be overlooked.

The following would be useful:

- descriptive research into adjusted religious pay gaps is needed, to identify the maximum extent of any religion or belief pay penalty;
- research to identify the way in which religion or belief differences in employment patterns contribute to the religion or belief pay gap; such research should identify both the pattern of disadvantage (e.g. via decomposition analysis), as well as the causes; and
- qualitative research to explore further the effect of differences in labour market characteristics and treatment, such as patterns of participation and employment and experience of discrimination.

Given the correlation between religion and ethnicity, this research should examine the interaction between these.

### **The disability pay gap**

There is a disability pay gap, but its estimated size varies greatly between studies (owing to data differences). Disability appears to have a greater downward effect on

relative male than relative female pay. The gap widens as the severity of disability increases.

Research into causes of the disability pay gap has focused on traditional economic factors such as individual productivity (human capital) and discrimination. However, the pay gap research has not taken into account other differences in employment patterns by disability that are likely to affect earnings, such as concentration in part-time and temporary employment.

Important areas for further research include:

- the long-term effects of disability on pay rates and on lifetime earnings;
- the effects of fluctuation in impairment and disability, including how pay gaps alter with movements out of disability (and of repeat spells of disability);
- the effect (and causes) of higher concentration in part-time and temporary employment; and
- the interaction between disability and other equality strands.

### **The age pay gap**

Young and older workers are both paid less than prime age workers. The gap is largest for young workers.

Our understanding of the processes is limited. Possible contributors to the age pay gap include:

- differences in economic activity rates by qualifications and skills between age groups, i.e. very young workers are less qualified than average; both the least skilled and the highest skilled tend to leave the labour market early;
- productivity differences by age, due to experience increasing with age, to changes in education over time, employer provision of training declining with age and skills becoming redundant as industry and production changes;
- differences in the incidence of part-time working by age, combined with the part-time pay penalty;
- pay systems; and

- monopsony and power differentials: young people are highly concentrated by occupation and industry; this may lower pay in these sectors and jobs.

However, research does not identify the extent that different factors contribute to the age pay gap.

Substantially more research is required to understand the age pay gap. This includes:

- decomposition analysis to identify the extent to which age pay gaps relate to differences in human capital and employment patterns by age;
- research into the extent to which the age pay gap reflects positive employment choices and the extent to which it reflects constraints and discrimination and the consequent relevant policy response;
- analysis of how pay changes with age (as opposed to cross-sectional analysis of differences by age) to distinguish between cohort and ageing effects;
- assessment of how pay systems and their implementation lead to age pay gaps; and
- research on the impact of age on pay within sub-groups, including by equality strands, family circumstances, occupations and education.

It is important to examine the younger age pay gap, as well as the older age pay gap. There is very little evidence on the extent to which the younger age pay gap is justified.

### **Data needs**

The analysis of pay gaps across the equality strands is hampered through data deficiencies.

It would be useful if, where possible, existing major datasets:

- collected equality strand membership characteristics;
- collected data on each equality characteristics equally where possible;

- collected related data, e.g. better indicators of human capital in the major datasets and of workplace data (in the individual datasets), English language competence and whether the person was a migrant to the UK; and
- oversampled the smaller equality groups (disabled people, ethnic minorities, people from UK minority religions, gay men and lesbians).

For sexual orientation pay gap research to progress, an appropriate dataset is urgently required, which could be produced either through collecting sexual orientation data in the Labour Force Survey or through a dedicated survey.

To facilitate international comparative research, it would be useful if the European Labour Force Survey not only included the data and oversampling described above, but also included gross pay as a core variable.



## 1. INTRODUCTION

### 1.1 The review

Shortly after its establishment in October 2007, the Equality and Human Rights Commission commissioned a series of short research reviews on a range of topics in order to help inform its future research and policy agenda. This study examines the research evidence on pay gaps.

The aims of the review were to:

- examine recent research evidence on pay gaps in the UK (from 2000 onwards);
- outline the gaps in the research evidence and indicate the key areas for future research work; and
- draw out the policy and practice implications of the research evidence for a range of key stakeholders as appropriate.

It was recognised that there had been extensive research into gender pay gaps, but that research into pay gaps by ethnicity, disability, sexual orientation or religion was more limited and that, for some equality strands, there might be little or no evidence.

In respect of the gender pay gap, it was agreed that this study would have as its starting point, and seek to build on, two major reviews commissioned by the Women and Equality Unit and the Equal Opportunities Commission (EOC) respectively (Anderson *et al.*, 2001; Grimshaw and Rubery, 2001). This study also draws on a more recent EOC major study of the undervaluation of women's work (Grimshaw and Rubery, 2007).

Concurrently with this review, the Equality and Human Rights Commission had funded new statistical analysis of pay gaps across the equality strands (Longhi and Platt, 2008).

### 1.2 A few definitions

#### ***Pay gaps***

In any discussion of the pay gap, it is important to recognise the differences between the definition of the pay gap for an individual, which is the definition on which equal pay legislation is based, and workplace and statistical definitions. For ease of exposition, these are explained below in terms of the gender pay gap.



For an **individual employee**, the pay gap is the difference between her/his pay and the pay received by a person of the opposite sex doing equal work. The Equal Pay Act is constructed around this individual-to-individual comparison. Equal work arises where women and men are performing work which is:

- the **same**, or broadly similar (known as **like work**)
- **different**, but which is rated under the same job evaluation scheme as equivalent (known as **work rated as equivalent**), or
- **different**, but of equal value in terms of demands such as effort, skill and decision-making (known as **work of equal value**).

The **gender pay gap for an organisation** is derived from a comparison of the pay of men and women employees doing equal work. This means comparing averages for various groups **and** for individual employees. The extent of the gender pay gap will vary from one organisation to another and from one part of the organisation to another.

The **statistical gender pay gap** is determined by calculating women's overall average pay as a percentage of men's. So, for example, the pay gap is said to be 17 per cent where women's pay is 83 per cent of men's. The gap is said to 'narrow' as women's average pay moves closer to men's. It is the statistical pay gap with which this report is concerned.

### ***What is 'pay'?***

Pay is defined by Article 141 of the Treaty of Rome as:

... the ordinary basic or minimum wage or salary and any other consideration, whether in cash or kind, which the worker receives directly or indirectly, in respect of his employment, from his employer.

As well as basic pay, this includes pensions, discretionary bonuses, sick pay and all benefits such as mortgage allowances, cars, private medical insurance and so on. Pay gap analysis should take into account all pay, including premium rates and bonuses. However, most UK (but not EU) official statistics are based on the pay rates of full-time employees, excluding overtime and other benefits.<sup>1</sup> This abstracts from two sources of inequality, certainly for women: the low rates paid to part-timers and

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<sup>1</sup> <http://www.statistics.gov.uk/about/data/guides/LabourMarket/concepts/labour/paygap.asp>

the high rates paid for overtime (with overtime less often feasible or available to women). Much of the literature on statistical pay gaps does not make definitions of pay clear, whilst other benefits (e.g. pension contributions and health insurance) are excluded due to dataset limitations. This leads to an underestimation of the gender pay gap (Fawcett Society, 2005b) and seems likely to lead to an underestimation of some of the other pay gaps.

The statistical pay gap normally compares average hourly earnings. This abstracts from differences in hours worked and so may focus on differences in pay rates alone. Some analyses, including many official statistics, exclude overtime earnings. Where equality groups differ in their propensity to work overtime (or to receive enhanced payments for overtime) (e.g. women and men), this leads to an underestimate of the pay gap.

One might also consider gaps in weekly, annual or lifetime earnings. These **earnings gaps** take into account both differences in employment patterns and in pay rates between groups. Differences in hours worked, participation and unemployment, along with differences in hourly rates, are all products of inequality, whilst, for well-being, earned income and lifetime income, not just the rate per hour, are important. Therefore, in order fully to understand pay gaps and their causes, it is important to examine earnings, as well as hourly rates. In the report, pay gaps which derive from both gaps in the pay rate and differences in hours worked have been referred to as '**weekly earnings (or pay) gaps**'; pay gaps which also derive from differences in employment rates have been referred to as '**lifetime earnings (or pay) gaps**'.

### ***Adjusted and unadjusted pay gaps***

Statistical pay gaps may derive from equality groups being paid different rates for the same work or from equality groups doing different work and so, on average, being paid differently. In the absence of discrimination, people with similar employment characteristics (e.g. qualifications, experience, location) can be expected to do similar value work and so should earn similarly. Therefore, statistical pay gap analysis often looks at both the simple pay gap (the **unadjusted, or raw, pay gap**) (e.g. the difference in average pay rates of women and men) and the pay gap adjusted for differences in employment characteristics (**the adjusted pay gap**). The latter shows whether people, similar but for their gender, ethnicity etc, are paid the same (or, conversely, whether the pay gap is the result of differences in personal and employment characteristics, rather than differences in pay rates for similar work).

For example, the unadjusted pay gap between white and Indian men was, on average, eight per cent in Indian men's favour between 2001 and 2004 (i.e. Indian

men, on average, earned eight per cent more than white men) (Platt, 2006). However, Indian men are better qualified than white men and so might be expected to have higher pay. Once education (and a number of other employment characteristics) are adjusted for, the pay gap reverses: white men earn more than Indian. Thus, the adjusted pay gap shows that, for their characteristics, Indian men are paid less than white men.

The adjusted pay gap is useful, not least because it helps identify the factors which affect the pay gap. However, it needs to be carefully interpreted. Firstly, one needs to consider the characteristics for which adjustments have been made. Some studies adjust for pre-employment characteristics only (e.g. schooling) (see, for example, Blackaby *et al.*, 1998), whilst others adjust for job characteristics (e.g. industry, occupation) (see for example, Anderson *et al.*, 2001; Heath and Cheung, 2006). Both are relevant for judging whether a person with the same characteristics in a similar job would be paid the same, but for their equality group characteristics. However, the differences in characteristics will often be a product of inequality, so, for example, if the unadjusted pay gap showed disabled people earned less than able-bodied people, but the pay gap adjusted for education showed no difference, this should not be considered to show no discrimination, but possible discrimination in the education system.

This problem is particularly acute, certainly for the gender pay gap, when adjustments are made for the pattern of employment (e.g. by industry or occupation) as industry and occupational pay structures incorporate discriminatory values (e.g. gendered values, such as caring is rewarded less highly than plumbing; class values, such as 'academic' qualifications are rated more highly than 'vocational' ones).

Finally,<sup>2</sup> any remaining difference in pay once adjustments have been made (termed the 'unexplained pay gap') is sometimes attributed to discrimination. This is incorrect. The remaining difference in pay may in fact result from characteristics which have not been adjusted for (e.g. English language competence) and, as we have said, some of the characteristics which have been adjusted for, in any case, incorporate discrimination. However, the unexplained gap may be seen as indicating the maximum size of the pay gap attributable to direct pay discrimination.

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<sup>2</sup> Obviously, there are also problems of misspecification, including that the size of the remaining gap may be affected by the omission of variables.

Thus the adjusted pay gap should not be interpreted as, in any sense, more 'real' than the unadjusted pay gap. Both are important and both contribute to an understanding of pay gaps.

### ***'Averages' and distributions***

The focus of pay gap research has been on the difference in 'average' pay, meaning either the mean or the median.<sup>3</sup> The choice of mean or median has some effect on the size of the gap. The mean is affected by the small number of people with very high earnings, whereas the median is not.

Since October 2004, the Office for National Statistics has recommended measuring the gender pay gap using median, rather than mean, hourly earnings. This is stated to be because 'the median is not affected by extreme values, such as the changes to earnings of small numbers of very high earners'.<sup>4</sup> However, the Equality and Human Rights Commission prefers to use the mean on the grounds that this measure captures the full pay gap and does not exclude those on very high earnings, particularly because these tend to be the most privileged group (i.e. white, able-bodied men).

An example illustrates how the median and mean may differ. The median gender pay gap fell from 17.4 per cent in 1997 to 12.6 per cent in 2007, whilst the mean figure fell from 20.7 per cent to 17.2 per cent.<sup>5</sup> This not only illustrates that the pay gap as measured by the mean is greater (reflecting the dominance of men at the highest pay levels), but that the fall in the gender pay gap has been dominated by improvements at lower, rather than higher, levels of pay.

Averages provide a neat summary statistic of the pay gap. However, the same average may disguise substantial differences across the distribution of earnings. Thus a fuller picture and understanding of pay gaps is provided by comparing differences in the distribution of earnings between equality groups. This is rarely done.

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<sup>3</sup> The mean (the measure which is most commonly meant by 'average') is calculated by adding each person's pay and dividing by the number of people; the median is the pay rate received by the person in the middle of the pay distribution, i.e. half of people earn above the median person and half earn below.

<sup>4</sup> <http://www.statistics.gov.uk/about/data/guides/LabourMarket/concepts/labour/paygap.asp>

<sup>5</sup> [http://www.equalities.gov.uk/pay/pay\\_facts.htm](http://www.equalities.gov.uk/pay/pay_facts.htm)

### 1.3 Data sources

The main dataset used for UK official statistics on pay is the Annual Survey of Hours and Earnings (ASHE) (which superseded the New Earnings Survey, NES). For research into UK pay gaps, the other main data source has been the Labour Force Survey (LFS). The pay data vary somewhat between datasets and it is useful to understand the differences.

The sample size of ASHE is large, covering almost one per cent of employees, with employers supplying pay data from their records. Some low paid workers and employees in very small organisations are excluded. Despite adjustments, these groups are not fully covered, which means that pay gaps are likely to be underestimated where one group disproportionately earns below the PAYE threshold or is concentrated in very small organisations.<sup>6</sup> This is likely to apply to women and to some ethnic minorities and to apply disproportionately to those working part-time.

The LFS is a household survey and respondents are questioned about their earnings. Around 30 per cent of earnings data is supplied by proxy respondents and earnings tend to be underestimated. People who live in certain communal accommodation and those who have not been in the UK for more than one year are excluded.

Whilst these two datasets are useful, each has major limitations for pay gap research across the equality strands. The variables collected by ASHE are few and relate largely to pay, hours, occupation and industry. Personal data are limited to gender and age (and so ASHE cannot be used in relation to other equality strands) and no human capital data are held. The LFS holds very extensive data on individuals, their human capital and employment, enabling each equality strand to be examined (although it is inadequate in relation to sexual orientation, see Chapter 4). Its two main limitations are that its longitudinal data are limited to five quarters, preventing longitudinal analysis over working lives (and the inclusion of work experience as human capital proxy), and that the sample size means that analyses of some equality strands require merging of datasets, with consequent loss of accuracy or immediacy.

For issues requiring longitudinal analysis (and to take into account better the effects of work history), researchers use either the British Household Panel Survey (BHPS) or the various Cohort Surveys (the National Survey of Health and Development, for people born in 1946; the National Child Development Survey (NCDS), for people

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<sup>6</sup> However, the LFS has tended to give slightly lower estimates of the gender pay gap than has ASHE (Longhi and Platt, 2008).

born in 1958; and the British Cohort Study, for people born in 1970). The main limitation of these surveys is their sample size, restricting their usefulness for pay gap analysis largely to gender and age.

#### **1.4 Structure of the report**

Chapter 2 outlines theoretical explanations of the pay gap. Chapters 3 to 8 review UK evidence on the pay gap for each of the six equality strands in turn. We start with the gender pay gap, as this is the group for which most evidence is available and it enables the rest of the report to refer back to issues addressed in respect of the gender pay gap, but not for other equality strands. Some research addressed interaction between equality strands. Most of this related to the interaction between ethnicity and gender and this has been presented in the chapter on ethnicity. The final chapter summarises our findings and draws out conclusions across the equality strands.

Each of the six chapters dealing with individual equality strands has a similar structure. Firstly, evidence on the unadjusted hourly pay gap and then the adjusted hourly pay gap is presented. Secondly, evidence on weekly and lifetime pay gaps, if available, is then presented. This is indirect evidence (for example, on differences in hours and in employment rates) where data on earnings gaps are not available. Thirdly, factors affecting the pay gap are considered, followed by evidence on approaches to address the pay gap. Again, for many equality strands, evidence on policy approaches is lacking.

## 2. THEORETICAL EXPLANATIONS OF THE PAY GAP

### 2.1 Introduction

This chapter provides a brief overview of theoretical explanations of the pay gap. It is a summary of Grimshaw and Rubery (2007) (and follows their structure), which should be referred to for a fuller discussion.

Theories of pay setting have been developed in a number of academic disciplines, including economics, sociology and industrial relations. Theoretical differences reflect different concerns and frameworks. As Grimshaw and Rubery (2007: vii) state:

Pay serves multiple roles and functions. It reflects compromises between competing pressures, with different outcomes in different institutional, social and economic contexts.

Considering pay gaps in the light of each theoretical framework, rather than treating one as 'correct' is more likely to assist understanding. A brief overview of the main economic, sociological, industrial relations and management approaches is provided below.

### 2.2 Economic approaches

Economic approaches to wage setting start by assuming that pay broadly reflects an individual's productive potential. Productive potential is affected by human capital (broadly reflecting innate ability, education, training and work experience) (Becker, 1964) and by individual or household preferences (affecting both the development of human capital and the type of work done) (Becker, 1981; Clark, 1997). Pay gaps only appear due to differences between equality groups in their human capital or due to differences in choices. For example, women earn less than men because they choose to focus energy on the family rather than paid work: they trade higher pay against paid work demands more suited to bringing up children and they develop less human capital because they take career breaks and work part-time. Older people earn less than prime age workers because, on average they are less well-educated and because skills have become redundant. On average, disabled people earn less because, for some, their disability means they are less productive.

However, within this approach, labour market distortions may reduce the link between productive potential and pay. For example:

- Some groups of workers might exert **monopoly power** and be able to drive up their own pay and drive down others. Typically, monopoly power was exerted by

unions and professional bodies. Whilst this previously appeared to increase the gender pay gap, the extent to which this occurs now for each equality gap is less clear.

- Employers may have **monopsony** power, i.e. they can artificially set pay at lower levels to drive down the pay because labour is not able to find employment elsewhere (Manning, 2003; Dickens *et al.*, 1994). Evidence of monopsonistic labour markets has been found for women, due to restricted employment opportunities, particularly in relation to geographic mobility (A. Manning, 1996; 2003). They may also occur for other groups, for example, for ethnic minorities due to geographic concentration and discrimination.
- Employers may **crowd** certain jobs in order to reduce wage costs by increasing the supply of labour (Bergmann, 1971; 1986). Over time, productivity diverges between the crowded and uncrowded sectors, as labour-saving devices are implemented in the latter, thus further increasing the wage difference between the crowded and uncrowded sectors. Crowding can only occur where access to alternative employment is restricted, for example, through discrimination. The customary labelling of male and female jobs may make this possible by discouraging cheap female labour from applying for better paid jobs because they are seen as men's jobs.
- Employers (and employees) may have a **taste for discrimination** (Arrow, 1973; Becker, 1957). Prejudiced employers need to be compensated for employing those groups against which they are prejudiced, i.e. they pay them less. Alternatively, prejudice may result in occupational segregation (and crowding) as employers restrict who they recruit to certain types of jobs. Clearly, this may affect the pay gaps for all equality groups.
- **Statistical discrimination** may occur for jobs where commitment and tenure are important. Lack of information on an individual's commitment and tenure means that recruitment may be based on group behaviour. Women and older workers, for example, are seen as less committed and to offer shorter tenure, due to these groups being more prone to leave employment for childcare and retirement. Therefore their employment choices are restricted and the sectors in which they are employed become crowded, reducing wages. Statistical discrimination may also occur against some ethnic and religious groups, disabled people and, perhaps, gay men.



- Employers may be able to set wages above the going rate (because they are dominant in their sector) and may do so to extract greater productivity and commitment from their employees (who are keen to retain their jobs).

Thus, the economic approaches allow pay gaps to appear either due to labour market distortions or due to some groups making different labour market choices.

### **2.3 Sociological, psychological, industrial relations and management perspectives**

Five non-economic and economic approaches based on power relations explain the lower valuation of the employment of some equality groups and so lead to pay gaps.<sup>7</sup>

#### ***The valuation of the productive activity***

Differences in power between sectors, organisations and workplaces are assumed to affect the level of pay. This is the basis of segmentation theory, with employment divided into core and peripheral workers, based on the need to maintain supply and skills of the core workforce (Doeringer and Piore, 1971; Kerr, 1950). Core workers are paid at higher rates. Later work suggested that which groups were regarded as core and periphery was affected by the groups bargaining power, not just the demands of the job (Craig *et al.*, 1985; Grimshaw and Rubery, 1998). Thus women, young people, ethnic minorities, disabled people and older workers may be more likely to be corralled in jobs which are then treated as peripheral and paid less.

#### ***The valuation of skills and status***

The value placed on a job may be determined by the social status placed on the person who does the job or the type of people who normally do the job. Similarly, the reward paid for skills may be affected by the association of these skills with certain groups of people and their position within society (Crompton and Sanderson, 1990). As such, the inferior status of some groups may have led to the undervaluing of skills (and jobs) associated with them.

For example, for gender, skills related to the domestic role may be undervalued and so jobs which primarily employ such skills are lower paid. Occupations have declined in esteem and relative pay as employment has become increasingly composed of discriminated against groups (Kessler-Harris, 1990). Job evaluation processes, intelligence and personality tests have been found to rate masculine attributes above feminine ones consistently (Burton, 1991; Evans and Nelson, 1989). Whilst the pay

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<sup>7</sup> This is a précis of Grimshaw and Rubery (2007) who describe undervaluation of women's work.

penalty will apply to all employed in jobs where skills are undervalued, as long as disadvantaged groups are disproportionately represented among occupations requiring undervalued skills, this will result in pay gaps.

The research into this form of undervaluation has focused on women. It is less clear whether it provides an explanation for other wage gaps, where equality groups are less segregated and jobs and skills are not defined as being those of undervalued groups (i.e. not 'black work', as opposed to 'women's work' or 'black skills' as opposed to 'women's skills').

### ***Job satisfaction***

Some groups exhibit higher levels of work satisfaction. For these groups, there is less pressure to raise pay. This has been identified as a factor leading to lower levels of pay for women, although this may be on the decline as women's work satisfaction has been falling (Rose, 2005).

### ***Second income earners***

Women were traditionally paid less, as men were seen as the breadwinners. This idea may continue to exert an influence on women's pay, particularly in respect of part-time work. It is possible that the same attitude affects the lower pay of young and older workers (who are no longer seen as supporting children) and the jobs in which these groups are concentrated.

### ***The design and implementation of payment systems***

Payment systems embody and affect hierarchies, grade structures and differentials, valuation processes (e.g. bonuses, performance-related pay), collective bargaining, the minimum wage and human resource practices. As part of a contested system, the actual outcomes can be unexpected. They may inadvertently or deliberately produce and reinforce differentials between equality groups. For example, overtime bonus payments may widen the gender pay gap and the gap between older and prime age workers. Performance-related pay may be used to retain workers and so produce higher pay for prime age males. Similarly, it may reward those who seek pay rises, also rewarding more highly prime age males.

## **2.4 Conclusions**

In the words of Grimshaw and Rubery (2007: 24):

Wages are the outcome of complex and often competing logics. Competing influences are always present. For example, there are pressures to adjust to external labour market trends; to respect internal

hierarchies or external wider social norms; and to use pay to control or motivate an internal labour force. Moreover, these conflicting influences are played out within a contested social relationship, namely the employment relationship.

There are a number of implications of the adoption of this framework for understanding undervaluation.

- Different logics may have more or less influence in different countries, sectors, organisations and in different time periods.
- Pay is influenced by a whole range of institutions and is not simply responsive to market allocation mechanisms.

Differences in labour market behaviour, power and status within equality groups will lead to different pay gaps by gender, age, ethnicity, sexual orientation, disability, religion and belief.

### 3. GENDER

#### 3.1 Introduction

There is a substantial body of evidence on the gender pay gap and its causes. This chapter summarises the main findings of the body of research. As noted in Chapter 1, it seeks to build on the two research reviews published in 2001 (Anderson *et al.*, 2001; Grimshaw and Rubery, 2001) and also takes into account the later analysis by Grimshaw and Rubery (2007).

The chapter first describes the gender pay gap. The following section describes factors that have been identified as affecting the gender pay gap, largely from decomposition studies (see section 1.2). Sections 3.3 and 3.4 discuss explanations and causes of the gender pay gap. Section 3.5 presents evidence of the effectiveness of policies on the gender pay gap. Section 3.6 concludes by summarising the findings and discusses research gaps.

#### 3.2 The gender pay gap

This section provides basic information about the gender pay gap: its size, change over time and international comparisons.

##### ***The size of the gender pay gap***

###### *The hourly gender pay gap*

Latest official figures from ASHE, for 2008, show the mean unadjusted hourly gender pay gap (excluding overtime) to be 17 per cent for full-time employees and 37 per cent for part-time employees, with the equivalent median figures being 13 per cent and 40 per cent.<sup>8</sup>

The hourly gender pay gap varies across the pay distribution. It is wider at the top of the pay distribution and narrower at the bottom (Connolly and Gregory, 2007), although, for part-timers, it is smaller at each end of the wage distribution (Harkness, 2002). However, adjusted for human capital, the differential across the wage distribution is small (Manning and Petrongolo, 2004). Indeed, Arulampalam *et al.* (2007) found little difference once human capital variables were taken into account, suggesting a lack of a glass ceiling or sticky floor (where it is difficult to rise away from the lowest pay levels).

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<sup>8</sup> Author's calculations based on Table 1.6a of ASHE, 2008. Data are available at: [http://www.statistics.gov.uk/downloads/theme\\_labour/ASHE\\_2008/2008\\_all\\_employees.pdf](http://www.statistics.gov.uk/downloads/theme_labour/ASHE_2008/2008_all_employees.pdf)

The hourly gender pay gap varies with characteristics. For example it varies by age, education and career stage.

- *Age.* For full-timers, cross-sectional data show the gap to be very small until the age of 30 and then widening, particularly as women's wages peak at around 35 and men's around 45 (Harkness, 2005). There is a little difference in the gender pay gap by age for part-timers. Longitudinal data suggest that this is an ageing (and not just a cohort) effect. For example, Makepeace *et al.* (2004) found an increase in the gender pay gap as full-time workers aged from 33 to 42 (in 2000).
- *Education.* Until recently, the gender pay gap was smaller at higher levels of education. However, the gender pay gap has shrunk substantially for those with little education (Harkness, 2005) and there is no longer evidence of a consistent decline in the gender pay gap with education (Joshi *et al.*, 2007).
- *Career stage.* Longitudinal data show the gender pay gap for new entrants to the labour market to be very small, rising to about 25 per cent ten years after entry (Manning and Swaffield, 2005). For graduates, the annual earnings gap rises has been found to rise; for example, those graduating in 1995 had a gender pay gap of 10 per cent in their first job, reaching 19 per cent after seven years (Purcell and Elias, 2004b).

Other hourly pay gaps are apparent, for example, by motherhood. These are discussed in the relevant sections below.

#### *Weekly and lifetime pay gaps*

The weekly earnings gap is larger than the hourly pay gap, reflecting the longer hours worked by men on average. For example, in 2004, the gender earnings gap for hourly earnings was 18 per cent, for weekly earnings it was 24 per cent and for annual earnings it was 28 per cent (Harkness, 2005).

The lifetime earnings gap is larger, due to lower economic activity rates amongst women than men. The main additional influence on the gender pay gap in lifetime earnings is motherhood, with motherhood affecting labour market participation, hours of work and work patterns. Evidence on this gap comes from studies simulating lifetime employment and earnings. The gaps vary substantially by education level. For example, comparing women with no educational qualifications, those with two

children suffer an earnings loss of 58 per cent<sup>9</sup> compared with childless women; those with mid-level qualifications suffer a loss of about 25 per cent (Joshi, 2002). For graduate women, the loss falls to four per cent (and is estimated to be zero for graduates with one child) (Davies *et al.*, 2000). The loss rises with number of children. Losses are due to periods outside the labour market, working part-time, the part-time pay penalty and lower earnings due to lost experience.

#### *Other benefits: pensions*

Research into gender differences in remuneration focuses on pay. However, there is also evidence of a gender pension gap: men are more likely to be contributing to a private pension than women, although there is little gender difference in membership of occupational pension schemes (EOC, 2007).

The gender gaps in pension membership and entitlement are larger for mothers, and part-timers and vary with education:

- Women with a degree working full-time are as likely as men to contribute to a private pension, but their likelihood of pension membership drops to the same level as unqualified women if they work part-time (Ginn and Arber, 2002).
- Ginn and Arber (2002) found a substantial effect on pension entitlement for mothers with medium and high levels of education, due to motherhood reducing lifetime earnings (particularly through part-time working). The pension gap was highest for women with medium-level skills. However, Davies *et al.* (2000) using simulations, found the pensions loss decreased with the level of education and graduate women with two children suffered no pension loss at all.

#### ***Change over time***

The gender pay gap has been declining continuously over the last 30 years (Joshi *et al.*, 2007; Harkness, 2005). For full-time employment, the gap at the lower end of the pay distribution has declined more rapidly than at other parts of the distribution. However, these positive changes are accompanied by some which are less positive.

It should be noted that the decline has been confined to the full-time gender pay gap. The part-time gender pay gap (part-time women v full-time men) has been fairly constant. (A corollary of this is that the pay gap between women working full-time and women working part-time has widened over the past 30 years (Manning and Petrongolo, 2004; 2007).

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<sup>9</sup> From first birth to age 62.

### ***International comparisons***

The UK appears to be almost bottom of the league compared with other European countries in terms of the gender pay gap (Table 3.1). Moreover, not only was the part-time pay gap the highest in the European Union (in 2002) (Manning and Petrongolo, 2004), but it does not exist in many developed countries (Connolly and Gregory, 2007).

These international comparisons should be treated with caution. Female employment rates vary substantially across Europe. It is probable that women's employment rates are related to wages: women are more likely to be employed, the higher their wages. Therefore, disproportionately more women are higher-earners in countries where participation rates are low (i.e. there is a selection effect). For selected Western European countries and the US, Olivetti and Petrongolo (2008) adjusted the gender pay gap for this selection effect. They found the gender pay gap rose in all countries, but only slightly in those with high female participation rates and substantially in those with low participation rates (e.g. in southern European countries) and the resulting gender pay gaps were similar between countries. Thus, without adjusting for selection effects, cross-country comparisons are misleading.

The size of the gender pay gap across the wage distribution varies across Europe, with some countries exhibiting gaps at either or both ends.

However, the UK is similar to other countries in seeing a decline in the gender pay gap for full-time workers. Substantial falls in the gender pay gap have occurred worldwide since the 1960s. These have been almost wholly due to relative improvements in women's education, training and work experience (Weichselbaumer and Winter-Ebmer, 2005).

**Table 3.1 Gender pay gap: selected European countries, 2006**

	<b>Per cent:</b>
Malta	3
Belgium	7
Slovenia	8
Ireland	9
Italy	9*
Portugal	9*
Greece	10
Romania	10
France	11
Hungary	11
Croatia	11*
Poland	12
Spain	13
Bulgaria	14
Luxembourg	14
Lithuania	15*
Latvia	16
Sweden	16
Norway	16
Denmark	17
Czech Republic	18
Netherlands	18*
Switzerland	19
Austria	20
Finland	20
<b>UK</b>	<b>20*</b>
Germany	22
Slovakia	22
Cyprus	24
Estonia	25
<b>EU27</b>	<b>15*</b>
<b>EU15</b>	<b>15*</b>

Notes: \* 2005.

\*\* Gross hourly earnings for those working at least 15 hours per week.

Source: Eurostat (from European Community Household Panel, EU Survey on Income and Living Conditions and national sources).



### 3.3 Factors associated with the gender pay gap

Previous research has consistently identified a number of contributors to the gender pay gap: gender differences in human capital, gender segregation (in occupation, work group and workplace and employer), part-time employment and the undervaluation of women's work (Anderson *et al.*, 2001; Rubery and Grimshaw, 2001). Major themes underlying these factors affecting the gender pay gap are: women's role as carers (affecting participation in the labour market and hours of work and so the development of human capital); occupational concentration and segregation; educational and career 'choice', stereotyping or discrimination, affecting human capital development and occupational segregation; and discrimination leading to an undervaluation of women's work.

The extent to which each is identified as contributing to the gender pay gap varies across quantitative studies and depends on the model (the variables included and the method) and on the data. Three main types of data have been used which result in important differences in the variables analysed: individual cross-sectional datasets (e.g. the LFS and ASHE), longitudinal datasets (e.g. NCDS and the BHPS) and matched employer–employee datasets (e.g. the Workplace Employee Relations Survey (WERS)). Human capital is proxied differently in the models using cross-sectional and longitudinal datasets, as the latter can take into account work histories, a major consideration for the analysis of the gender pay gap (given the major gender differences in economic activity). Analyses based on matched employer–employee datasets can analyse segregation in greater detail. Systematic comparisons between studies have not been conducted and it is not possible from published results to identify the extent to which differences between studies are due to modelling and data differences or due to change over time. However, irrespective of the data and method used, the studies consistently identify two main factors affecting the gender pay gap: concentration and segregation (particularly occupational) and working patterns (notably periods outside the labour market and part-time working). The relative importance of each is likely to reflect the data used.

In the following paragraphs, we first describe the size of the adjusted pay gap, from decomposition studies. The factors which have been identified as affecting the gender pay gap from decomposition studies are then discussed in turn. Many studies discuss the effects of proxies for human capital (education, training and period in the labour market) together. We have not followed this practice. This is because gender differences in education (which are very small) and in periods in the labour market (which are large) have different underlying causes. They are therefore discussed separately, with period in the labour market discussed under motherhood.

### ***The adjusted gender pay gap***

Many of the studies referred to below decompose the gender pay gap into explained and unexplained parts (see section 1.2). The unexplained part constitutes the maximum gap which could be attributed to direct pay discrimination. Although the 'unexplained' gender pay gap varies from study to study (depending on the analysis and the data used), it is of interest to see how much of the gender pay gap remains, once some compositional elements have been removed.

Table 3.2 shows the adjusted gender pay gap from selected studies. Given the differences in models, there is remarkable consistency over the percentage of the gender pay gap explained and the size of the unexplained gap. Models tend to be able to explain far more of the part-time than the full-time pay gap. Thus, for part-time working, much of the gender pay gap can be attributed to gender differences in employment characteristics. However, the remaining, unexplained gender pay gap is similar for both full-timers and part-timers, setting a maximum pay gap which could result from direct pay discrimination at around 10 per cent.

**Table 3.2 Adjusted gender pay gap**

<b>Employees</b>	<b>Dataset</b>	<b>Unadjusted</b>	<b>Adjusted</b>	<b>% explained</b>
All	WERS 1998 <sup>a</sup>	25	12	52
	BHPS <sup>c</sup>	22	9	62
	LFS Spring1998 <sup>b</sup>	21	11	48
Full-time	WERS 2004 <sup>d</sup>	14	10	29
Male full-time to female part-time	WERS 1998 <sup>a</sup>	42	10	76
	WERS 2004 <sup>d</sup>	32	12	63
Male part-time to female part-time	WERS 2004 <sup>d</sup>	20	11	45
Female full-time to female part-time	LFS 2001-03 <sup>e</sup>	25	2.5	90

*Sources:* <sup>a</sup> Anderson *et al.* (2001) Table 5.3 <sup>b</sup> Anderson *et al.* (2001) Table 6.9 <sup>c</sup> Olsen and Walby (2004), my calculation from Tables 3.1 and A1.2 <sup>d</sup>Mumford and Smith (2007) Table 6 <sup>e</sup>Manning and Petrongolo (2007).

Key differences between the estimations were: the BHPS estimate is based on simulation analysis and includes adjustments for those not working. The BHPS analysis also includes work history variables, which are particularly important to

assess work experience for mothers. WERS included a larger number of variables on workplace characteristics.

The role of ‘unexplained’ factors (and, possibly, discrimination) has not changed over time. Although the full-time gender pay gap itself has declined, this was almost wholly due to improvements in women’s education and work experience (i.e. shorter career breaks) and not due to a reduction in the unexplained gap (Joshi *et al.*, 2007). Indeed Joshi *et al.* (2007) found the unexplained influence to have increased for some women.

### ***Education and training***

Increasing similarity in educational attainment between women and men means that the importance of gender difference in education as a cause of the gender pay gap has declined. Education now explains little of the difference in the full-time gender pay gap (Harkness, 2005). However, it continues to explain a substantial proportion of the part-time pay gap, with part-time working concentrated amongst less educated women (Manning and Petrongolo, 2004).

For graduates in their early career, men’s concentration in quantitative degrees has been found to have some impact on the gender pay gap (Purcell and Elias, 2004b; Machin and Puhani, 2003; Chevalier, 2007). Whilst these studies indicate the importance of changes in educational choice, they also raise issues around the valuation of degree subjects.

Gender differences in receipt of on-the-job training have been identified as an important contributor to the gender pay gap (Manning and Swaffield, 2005).

### ***Concentration and segregation***

Studies have examined the role of the gender concentration by occupation and industry (of women being more concentrated into lower paying occupations, industries and sectors) and of the impact of workplace segregation explicitly.

Women, especially those working part-time are highly concentrated in low paying occupations. Most research has found occupational concentration to be one<sup>10</sup> of the most powerful explanators of the gender pay gap (Dex *et al.*, 2007; Harkness, 1996; Olsen and Walby, 2004; Lissenburgh, 2000; Anderson *et al.*, 2001; Joshi and Paci, 1998; Swaffield, 2000). This occupational concentration also influenced the gender

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<sup>10</sup> The other being difference in working patterns, notably time outside the workforce and part-time working.

pay gap for graduates early in their careers (Purcell and Elias, 2004b; Chevalier, 2007). Mumford and Smith (2007) did not identify an occupational segregation effect for full-time workers. However, they did find industry and workplace segregation (with jobs predominantly done by females paying less) was an important explanator of the gender pay gap.

The process by which occupational concentration affects the gender pay gap was investigated by Dex *et al.* (2007) for 33 to 42-year-olds.<sup>11</sup> Women were concentrated in occupations which had lower wage growth. In addition, women in top jobs experienced lower wage growth than men in similar jobs. They found little difference in occupational mobility to explain these differences.

Men's concentration in higher paying industries and women's in the public sector contributes strongly to the gender pay gap for graduates in their early careers (Purcell and Elias, 2004b; Chevalier, 2007). Chevalier (2007) also found an effect due to concentration in smaller firms and on temporary contracts. This raises questions about why women graduates are more likely than men graduates to work in small companies and on temporary contracts.

### ***Labour market experience***

The other main factor explaining the gender pay gap has been labour market experience. There are major gender differences in labour market experience due to women taking the main responsibility for caring, leading to less economic activity (particularly around motherhood), higher rates of part-time working and less flexibility at work. Using the BHPS, Olsen and Walby<sup>12</sup> (2004) concluded that 36 per cent of the gender pay gap was accounted for by differences in working patterns, particularly time outside the labour force caring for children and working part-time.

This section concentrates on caring (as the main determinant of differences in economic activity). The following section discusses part-time working.

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<sup>11</sup> They examined the gender gap in wage growth between the age of 33 and 42 for full-timers (using the NCDS). They found the main explanatory factor was occupational concentration and gender segregation. (However, the lesser importance of economic activity history and part-time working may have been due to the sample studied, who were less affected by these factors than women on average.)

<sup>12</sup> An important aspect of this study was the inclusion in the model of those outside the labour force, i.e. the model took into account the fact that participation was affected by the wage rate.

*Motherhood*

The evidence on the ‘motherhood pay gap’ is somewhat dated. However, it is useful, particularly for identifying its causes.

In 2001–02, women aged 25–44 with one child earned 4 per cent less than those without a child, those with two children 14 per cent less and those with three or more children 20 per cent less (Harkness, 2005). The penalty for those working full-time was smaller (zero, 10 per cent and 15 per cent, respectively). This motherhood pay gap (for women aged 25–44) had been declining, mainly since 1998, and, by 2001–02, had disappeared for those working full-time with one child (Harkness, 2005). This decline may stem from women in more recent cohorts having greater commitment to paid work, higher labour market participation following motherhood and decreased gender education differences (Harkness, 2005).

Comparison across countries (the United Kingdom, Australia, Canada, the United States, Germany, Finland and Sweden) found that, once adjustments had been made for education and similar characteristics, the motherhood pay gap was largest in the UK, followed by the other Anglophone countries and least in the Scandinavian countries (Harkness and Waldfogel, 1999). It seems likely that this is due to much greater provision of childcare support in the Scandinavian countries.

The motherhood pay gap (for women in their early 30s) could be almost wholly explained by differences in education, reduced work experience (due to career breaks) and, most importantly, part-time working (i.e. the part-time pay gap) (Joshi, 2002).<sup>13</sup> Over time (1978–91), differences in human capital have become less important and low pay in part-time work has become more important (Joshi *et al.*, 1999). Full-time employees who did not break their employment at childbirth had the same earnings as childless women (Joshi *et al.*, 1999). The lifetime earnings loss declined for graduate women between 1980 and 1994, but not for other women. This was largely due to the increase in economic activity after birth for graduate women (Davies *et al.*, 2000).

Thus, the ‘motherhood penalty’ can be traced to changes in work patterns (including periods of economic inactivity), rather than to an unexplained motherhood penalty. However, this research (relating to the late 1970s and early 1990s) also identified an unexplained gap, of 17 per cent, for women who worked full-time and had taken a break of more than a year around the birth of their first child.

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<sup>13</sup> Based on an analysis of women born in 1958 and in 1946.

The influence of motherhood on the gender pay gap is apparent well before women become mothers. In a study of graduates three years post graduation, Chevalier (2007) found that gender differences in career expectations explained 18 per cent of the gender pay gap, with women much more likely to expect to take a break for family reasons (and men expecting their partners to do this). This highlights how childcare issues may impinge on pay even prior to motherhood, given the expected household division of caring responsibilities and childcare support available.

### *Housework*

Despite research into the household distribution of housework, little attention has been paid to the effect of housework on pay. Bryan and Sevilla Sanz (2008) found that time spent on housework reduces pay for married women, although by a small percentage (0.16 per cent per hour of housework). It has no effect for single people. They also found that married women's housework tasks were less time flexible than were men's (i.e. they had to be done at set times, e.g. preparing meals), which may have long-term effects on career and earnings progression.

### ***Part-time working***

The issue of part-time working in relation to pay gaps can be seen in two ways. Firstly, the pay gap is much greater for women who work part-time than for those who work full-time and so the part-time pay gap itself requires explanation and, secondly, there is the influence of part-time working on later earnings. The latter has traditionally been considered in terms of part-time work providing less experience and so less human capital development than full-time work. However, as we shall see below, it appears to have other effects which contribute to the gender pay gap.

### *The part-time pay gap*

Almost all the part-time pay gap (between full-time and part-time women) can be explained by differences in personal and job characteristics between full-timers and part-timers. For example, using the LFS for 2001–03, Manning and Petrongolo (2007) explained around 90 per cent of the 25 per cent part-time pay gap. Most important was occupational concentration, explaining 70 per cent of the explained pay gap between full-time women employees and part-time women employees. Next most important were differences in industry (13 per cent) and education (12 per cent). Mumford and Smith (2007), using WERS 2004, had similar results (whether comparing full-time and part-time of the same gender or across genders), even when adding a large number of workplace variables. Part-time work is highly concentrated by occupation and women who work part-time are less educated than those who work full-time. However, these studies were unable to include work histories. Other research using longitudinal datasets has shown that lower levels of experience of

part-timers, reflecting labour market withdrawal around motherhood, is also an important contributor to the part-time pay gap for women (Harkness, 1996; Lissenburgh, 2000; Joshi and Paci, 1998; Swaffield, 2000). Other contributors include less training and the concentration by (smaller) firm size (Anderson *et al.*, 2001).

Manning and Petrongolo (2007) discuss the reasons for the occupational concentration of part-time work. Although they conclude that too little is currently known about the reasons for concentration, they discuss possible causes:

- a) *part-time workers' choice*: part-time workers choose to do lower level jobs; job search is geographically more limited
- b) *employer discrimination in the provision of part-time jobs*; and
- c) *higher costs (to the employer) of part-time jobs*: higher production set up costs; lower capital utilisation cost; higher recruitment, training and administration costs; higher management costs; higher co-ordination costs (e.g. instructions need to be given to a greater number of people, jobsharers need to liaise).

Given the limited range of occupations in which part-time work is concentrated, it is not surprising that a move to part-time work often entails occupational downgrading. These are greatest for those changing employer or re-entering the labour market (averaging a pay penalty of eight to nine per cent) and very small for those changing jobs, but remaining with the same employer (Manning and Petrongolo, 2007).

Interestingly, longitudinal evidence links the part-time pay gap to the concentration of entrants to the labour market in part-time employment. Using the BHPS, Manning and Robinson (2004) examined the role of wage growth for those in continuous employment and the wage for those entering employment from unemployment or inactivity. They found no significant part-time/full-time difference in wage growth or entry wages, but that part-timers form a higher percentage of entrants, thus creating the full-time/part-time pay gap.

Manning and Petrongolo (2007) found that the increase in the part-time pay gap (between full-time women and part-time women rising from 14 per cent in 1975 to 28 per cent in 1995) was about equally due to increased occupational concentration and to a relative reduction in pay in the occupations in which part-time women were concentrated (reflecting the general rise in pay inequality). This reflected the increase in wage dispersion generally (rather than increased concentration), resulting in

relatively lower pay in the occupations in which part-time workers are concentrated (Manning and Petrongolo, 2004).

The part-time pay gap is similar for men, with about one-third explained by differences in human capital (O'Dorchai *et al.*, 2007a, b). A further 40 per cent of the gap is explained by differences in the pattern of employment (including occupation, industry, firm size, paid overtime and bonus payments).

#### *The contribution of part-time working to the gender pay gap*

The role of part-time working on future earnings is interesting. Length of time employed (to which, of course, part-time working contributes) is commonly taken as a proxy for human capital. Thus part-time working should add to human capital, although, perhaps, at a slower rate than full-time working, and hence to wages. However, studies have found periods spent working part-time either have no effect on subsequent earnings (Joshi *et al.*, 2007) or diminish them (Olsen and Walby, 2004), both adding to the gender pay gap.

#### **Personality differences**

Gender differences in personality may affect the gender pay gap. From qualitative research, Babcock and Laschever (2003) suggest that women are less assertive than men at work and perhaps value their work less: on taking a new job, they are more likely to accept the initial pay offer and they are less likely to ask for pay rises. Manning and Swaffield (2005), using the BHPS, examined whether self-esteem and locus of control affected the gender pay gap 10 years after career start. They found it only explained a small percentage of the gap. (However, the effect may have been reduced by the inclusion of occupation in the model, as these factors may also affect promotion.)

Chevalier (2007) studied graduates three years into their careers, using a longitudinal survey of 1995 graduates. Unlike most datasets, this included attitudinal and aspirational data. Differences in values 'explained' 26 per cent of the gap, with women more likely than men to wish to do a socially useful job, to be less ambitious and less motivated by financial rewards and international experience. Whilst this study indicates the importance of attitudes and career choice, it also raises issues around the valuation of socially useful work.

#### **Mobility**

Moving jobs is one of the routes to higher pay. Manning and Swaffield (2005) examined how differences in job mobility might contribute to the gender pay gap in the first 10 years of careers. They found that there was little gender difference in the



extent of job mobility, but that men were more likely than women to move to higher paid jobs (and women more likely to make horizontal or downward moves). This does have some affect on the gender pay gap. However, it would be useful to understand more about why this pattern occurs.

### **3.4 Causes of the gender pay gap**

The decomposition analysis points to some factors affecting the gender pay gap, notably motherhood (affecting labour market participation and hence human capital in the form of experience) and patterns of employment, the part-time pay gap and occupational concentration. However, much of the pay gap is left unexplained, along with why occupational concentration and part-time working should result in lower hourly earnings.

The explanations of the gender pay gap are numerous. This is due to the analysis having been carried out from a range of disciplines and theoretical frameworks and also extensive research into sub-groups (for example, mothers, returners, new graduates). Whilst some researchers might claim the validity of one approach over the other, many are eclectic and draw from a range of approaches to explain the causes of the gender pay gap. The following briefly describes the range of direct causes of the gender pay gap. However, underlying the ostensible causes are other gender differences: in education, career choice and in the division of labour within the family. These both condition, and are conditioned by, the gender pay gap.

#### ***'Rational' economic behaviour***

Standard economic theory contributes to our understanding of the gender pay gap. The decomposition analyses referred to above show that gender differences in human capital do contribute to explaining the gender pay gap. However, their contribution is small.

Direct discrimination may also account for some of the unexplained gap. Certainly, women have been found to receive less in discretionary payments and to receive smaller wage increases on promotion (Booth *et al.*, 2003). Indirect discrimination may also occur. For example, employers believe men are more likely to leave their job and so pay them more (Blackaby *et al.*, 2005).

#### ***The undervaluation of 'women's jobs'***

Jobs that are predominantly done by women (whether in terms of occupation, work group within the workplace or firm) tend to pay less than other jobs (European Commission, 2006). Both women and men in these jobs earn less (for example, Kidd and Goninon, 2000; Grimshaw and Rubery, 2007). As women are highly

concentrated into a small number of occupations and workplaces and firms often segregated, this substantially contributes to the gender pay gap. Grimshaw and Rubery (2007) suggest that the reasons for this include that:

- women are concentrated in jobs where employers have lower ability to pay; this suggests that women place a lower premium on pay than do men;
- women are concentrated in jobs with lower labour power (i.e. trade unions); this fits with lower trade union membership and activism amongst women;
- employers are able to exert greater monopsonistic power over predominantly female workplaces; and
- skills which are predominantly associated with women (e.g. caring skills) are undervalued.

### ***Motherhood, part-time working and maternity leave***

Motherhood often leads to part-time employment and to reduced travel to work times. Part-time employment is highly concentrated in a small number of occupations and these occupations predominantly employ women. These are relatively low skilled and may also suffer from the undervaluation of women's work. Moreover, reduced travel to work times may contribute to the monopsonistic power of employers.

Consequently, movement into part-time employment is often accompanied by a change of employer and by occupational downgrading (Manning and Petrongolo, 2004). Moreover, work experience in part-time work reduces future earnings (as opposed to full-time work experience which adds to it) (Francesconi and Gosling, 2005). Comparative international research has shown that part-time employment does not need to incur a wage penalty. Indeed, adjusting for age and education, women in Sweden working part-time earn more than those working full-time (Bardasi and Gornick, 2008).

Based on a cross-European country study, Mandel and Semyonov (2005) found that extended parental leave (whilst increasing women's labour market participation) exacerbates occupational segregation and hence the gender pay gap. Subsidised childcare does not have these effects.

### ***Pay structures and systems***

Higher levels of pay dispersion in the economy are associated with higher gender pay gaps (Blau and Khan, 1992). This helps explain the comparatively high gender pay gap of the UK internationally and its slow decrease (against a background of

increasing pay dispersion). Contributing to this has been the decentralisation of wage setting structures (to the local or company level) (European Commission, 2006). This may also explain the smaller gender pay gap in the public than the private sector (Grimshaw, 2000). Bruegel and Perrons (1998) found that, whilst the decline in the gender pay gap in the 1980s and early 1990s for full-timers was, in part, due to an increase in women entering higher paid occupations, it was also due to a deterioration in the pay of low paid men, as pay was increasingly deregulated and pay dispersion increased.

Performance-based pay (both individual and group) may increase the gender pay gap (European Commission, 2006). This may occur because of a lack of effective use of objective criteria. In turn, this results in gender-biased awards (e.g. men are rated more highly than women or there are differences in bargaining) and because of greater competition between employees resulting in performance approaches that are more difficult for women than men to meet (e.g. working longer hours). Where performance pay is limited to some groups only, this may also have a gendered result. Performance-based pay is relatively common in the UK.

### **3.5 Policies**

Research into policies and the gender pay gap is scarce, with most research focusing on employment participation. Exceptions have been in respect of the effectiveness of Equal Pay legislation and of the National Minimum Wage (NMW). However, research has tended to discuss policies and propose appropriate responses given the identified causes of the gender pay gap, rather than evaluate policies.

Equal Pay legislation has had some effect on the gender pay gap (A. Manning, 2006). Similarly, the NMW initially reduced the gender pay gap, albeit by only 0.3–0.4 percentage points (Manning and Dickens, 2002). However, there is no evidence of the longer-term impact of the NMW. Harkness (2005) found that, across the pay distribution, the gender pay gap had declined more rapidly at the lowest pay levels than the highest and also for less educated women. She concluded that this might have been due to the NMW (with more women than men previously falling below the NMW level), but was also due to an increase in demand for their labour (Goos and Manning, 2003).

A. Manning (2006) suggests that a major reason for this stalling is that, whilst for earlier cohorts, participation substantially increased for mothers, there has been little change in participation rates for those born between 1955–64 and the following decade and that it was the earlier changes in participation which were driving the

decline in the gender pay gap. He also suggests that more blatant discrimination was reduced due to the Equal Pay and Sex Discrimination Acts and that this effect has fully worked through.

### **3.6 Conclusions and research gaps**

The gender pay gap has received substantial research attention, much more so than other equality strand pay gaps. It is clear that the household division of labour and occupational concentration have major impacts on the gender pay gap and that women's work is undervalued.

Further labour market research is not required to identify the main factors which need to be changed to address the gender pay gap (diminishing gender differences in the household division of labour; changing gender differences in economic activity and part-time work or reducing the negative effects of these; reducing concentration and segregation; and addressing undervaluation). Nevertheless, this does not mean that no further research would be useful.

It seems important to explore further the processes by which certain factors reduce pay. These include:

- why part-time employment reduces future earnings; and
- the processes by which the gender pay gap develops over an individual's career: this might include differential pay increases within a job, links with mobility (and non-mobility) and moves between full-time and part-time work and economic activity.

Research in this field is limited (for examples, see Manning and Petrongolo, 2007; Manning and Swaffield, 2005; Manning and Robinson, 2004).

A wide range of types of research in these areas would be useful, both quantitative and qualitative research on individuals and employers. International comparative research may be particularly useful, given differences in the effects of part-time working on pay. The ability to conduct international comparative research would be greatly enhanced by the improvements in datasets, in particular, the inclusion of gross pay in the core set of data collected by the European Labour Force Survey. In addition, there may be value in updating some of the decomposition (and similar) analyses (for example, in respect of the motherhood pay gap). Decomposition (and similar) analyses would be greatly enhanced by an improvement in data. Currently, none of the main datasets provide both adequate data on labour market experience

(i.e. career breaks and periods of part-time employment) and adequate data on workplace factors, such as segregation. It would be most valuable if at least one of the major datasets took this on board and enabled these factors to be modelled jointly.

Where relevant, the research should take into consideration employment selection effects. Economic activity rates vary substantially by gender. Withdrawal from the labour market for childcare is inversely related to pay. Therefore the average pay of those who remain in the workforce is higher. Withdrawal is also related to other factors not captured in decomposition analyses (e.g. attitudes and preferences). Studies that do not adequately adjust for this will both underestimate the gender pay gap and are likely to overestimate the explained portion (because the women who remain in the workforce are, on average, more committed to work). Future analyses should adjust for these selection effects as far as possible. Few studies adjust for these selection effects (an exception is Olsen and Walby, 2004).

## 4. SEXUAL ORIENTATION

### 4.1 Introduction

There is very little evidence on how sexual orientation affects pay. Longhi and Platt (2008) provide the most recent estimates for the UK. Otherwise, three papers were identified for the UK (Arabsheibani *et al.*, 2004; 2005; Frank, 2006). The position is little better in the rest of the world, where six studies were identified: for the Netherlands (Plug and Berkhout, 2004) and the USA (Badgett, 1995; Black *et al.*, 2001; Clain and Leppel, 2001; Allegretto and Arthur, 2001; Blandford, 2003).

Quantitative measurement has been hampered by lack of data. None of the UK national datasets used for pay gap analysis identify sexual orientation, although the LFS identifies same-sex cohabittees (but only where respondents have stated, unasked, that their cohabitee is the same sex) and, since 2006, civil partnerships. UK sexual orientation pay gap analysis has either used the LFS data (and so relates to cohabiting gay men and lesbians who spontaneously declare their partner is same sex) or has collected its own data.

Due to the dearth of UK evidence, this chapter presents international, as well as UK, evidence on the sexual orientation pay gap, although homophobia and its effects on pay may differ between countries.

The next section discusses the processes by which homophobia may affect pay, before presenting the evidence in section 4.3.

### 4.2 Sexual orientation and pay: processes

In the US, Badgett (1995) discusses important aspects of the process by which sexual orientation may affect pay. She emphasises the issue of disclosure: that sexual orientation is not an intrinsically observable characteristic at work and, generally, that gay men, lesbians and bisexuals have the choice whether their sexuality is identified or whether to 'pass' as heterosexual. To some degree, this also applies to transsexuals. The results of this are:

- Discrimination can only occur for a subset of gay men, lesbians, bisexuals and transsexuals (those that are identified as such by employers and colleagues). This will reduce the size of the actual pay gap due to sexual orientation; the effect is likely to be further reduced, as a) disclosure is more likely to occur the less the expected degree of homophobia and b) because job choice may be affected by expected homophobia.

- Performance and hence pay levels may be affected both for those who reveal their sexuality and for those who do not; the former may have lower performance due to discrimination, whilst the performance of the latter may be reduced, due to the stress and difficulties of hiding one's sexuality. At the same time, stigma may drive people to better performance.<sup>14</sup>
- Whilst homophobia may limit job choice and career progression (and hence earnings) for those who reveal their sexuality, expectations of homophobia may lead to a concentration of gay men, lesbians, bisexuals and transsexuals by occupation, industry and sector, as they choose jobs with less hostile cultures.

These processes have a number of implications for the sexual orientation pay gap. Firstly, the actual pay gap may poorly identify the degree of discrimination, as it mainly captures discrimination against those who reveal they are gay, lesbian, bisexual or transsexual. The direction of the effect is unclear. The pay gap may be over-estimated, as those who are out may suffer more discrimination (and were all gay men, lesbians, bisexuals and transsexuals out, the pattern could be different). It may underestimate the pay gap if, those who are out differ in other ways from those who are not, for example, the former may have more confidence. Secondly, pay gaps may appear due to horizontal occupational segregation, as well as due to vertical occupational segregation and pay discrimination. Thirdly, the possible positive effect of stigma on performance will reduce the measured pay gap (unless work-effort can be measured).

### **4.3 Evidence on sexual orientation and pays gaps**

UK evidence on the sexual orientation pay gap is scant and relates solely to the hourly pay gap. The unadjusted pay gap (i.e. not adjusted for differences in age, qualifications etc) shows that same-sex cohabitantes have higher hourly earnings than other cohabitantes, eight per cent higher for men and 17 per cent higher for women, (although the difference was not statistically significant) (Longhi and Platt, 2008). This study is based on LFS data and so has the limitations discussed in section 4.1. The adjusted pay gap in the UK is examined in three other papers.

Frank (2006) examined the sexual orientation pay gap for academic staff in six universities in 2000/01.<sup>15</sup> They found no evidence of a pay gap between gay, lesbian

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<sup>14</sup> Mohr (1988) suggests that this applies to those who try to pass as heterosexual, but this may also apply to those who reveal their sexuality.

<sup>15</sup> Frank's study was based on a survey of 813 people in six universities, of whom 110 identified themselves as gay men, lesbians or bisexuals.

or bisexual employees and heterosexual employees. However, for gay and bisexual men, they did find evidence of disadvantage in achieving senior positions.

Arabsheibani *et al.*'s (2004 and 2005) studies, using the LFS, found that the unadjusted pay gap for gay men and lesbians was in their favour. However, once differences in characteristics were taken into account, cohabiting gay men were paid less than cohabiting heterosexual men.<sup>16</sup> For lesbians, the positive pay gap remained. They also found that the advantage lesbians secured rose with age, whilst the pay gap for gay men was lower in London (which could suggest either lower levels of discrimination in London or greater anonymity over lifestyle).

Evidence from the US showed homosexual men in partnerships earned 16 per cent less than similarly qualified married heterosexual men and two per cent less than similarly qualified unmarried partnered heterosexual men (Allegretto and Arthur, 2001). Earlier research found that homosexual/bisexual men earned 11 to 27 per cent less than behaviourally heterosexual men (Badgett, 1995). (Classification between homosexual/bisexual and heterosexual was based on whether one had had a same-sex sexual partner.)

In the USA, Badgett (1995) found important differences in the way in which the pay gap might operate for women and men. It appeared that some of the pay gap for lesbian and bisexual women was due to greater concentration (than heterosexual women) in lower paying occupations. However, homosexual and bisexual men were more concentrated (than heterosexual men) in higher paying occupations, but they earned less than heterosexual men in these occupations. It is unknown whether there is similar concentration in the UK.

#### **4.4 Conclusions and research gaps**

There is a lack of evidence on the effects of sexual orientation on pay, but the very limited evidence suggests that sexual orientation may affect pay, with gay men disadvantaged (compared with heterosexual men) once differences in characteristics have been taken into account. Heterosexual women appeared disadvantaged compared with lesbians. It seems likely that the measured gap is due to inability to adjust adequately for differences in characteristics. It would be most useful to explore this more fully.

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<sup>16</sup> No pay gap was found for gay men compared with all other men. However, partnered heterosexual men is a better comparator for partnered gay men.



There is a need for both more quantitative and more qualitative research. Most helpful for quantitative research would be the collection of data on sexual orientation in national datasets (and not just data on cohabiting gay men and lesbians). It would be useful for datasets to be developed which included a range of measures of sexual orientation (see Badgett, 1995). It would also be useful to include information on disclosure to employers, although this might require a dedicated survey.

With appropriate datasets, further research into the adjusted sexual orientation pay gap would be very useful, as would research into the employment patterns of gay men, lesbians, bisexuals and transsexuals, to help understand how pay gaps may be formed.

Qualitative research would also assist in understanding how pay gaps may be formed and should include:

- how individuals' employment choices are influenced by their sexual orientation; and
- how employers' treatment of employees and applicants is influenced by sexual orientation (and perceived sexual orientation).

As far as possible, research needs to consider the implications of the sexual orientation of some, but not all, people being known in the workplace. It may be useful to incorporate a locality element into research, given differences in acceptance of non-mainstream sexuality across the country.

## 5. ETHNICITY

### 5.1 Introduction

After gender, ethnic pay gaps have received the most research attention in the UK, resulting in a small body of evidence on their size and causes.

Pay gaps vary substantially by ethnic group and gender. For men, most, but not all, major UK ethnic minority groups have lower average pay than whites. However, once personal characteristics have been taken into account, all major ethnic minority groups have lower pay. For women the picture is more mixed, with some ethnic minorities earning more than whites, whether or not personal characteristics are taken into account.

Ethnic pay gaps are influenced by differences in employment patterns and education. There are major ethnic differences in participation rates, in unemployment, in qualifications and occupation, with most of the larger ethnic minority groups substantially disadvantaged. It is important to take into account the heterogeneity by ethnicity, with variations in culture and class (and education and age) liable to impinge on labour market performance.

Further diversity is introduced by differences between migrants and British born,<sup>17</sup> introducing variations in English language competence, qualifications (and their recognition), labour market knowledge and migration status.

These patterns are described in more detail in this chapter.

### 5.2 Ethnic pay gaps

There is substantial variation in pay by ethnicity and gender. This section describes the unadjusted pay gaps for various ethnic groups, first for men and then for women. It then presents data on ethnic gaps in other benefits (which is limited to pension scheme membership). Finally, weekly and lifetime pay gaps are discussed, using information on patterns of employment and participation.

#### ***Ethnic pay gaps: men***

Longhi and Platt (2008) provide the most recent data (2004–07) on unadjusted hourly pay gaps for the major UK ethnic groups. This shows substantial variation by ethnic

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<sup>17</sup> Also analysed (and referred to) in terms of migrants and subsequent generations and ‘intergenerational’ pay gaps.

group. Compared with White British men, Indians have a slightly positive pay gap (i.e. on average, Indian's pay is higher) and Black Caribbeans have a slightly negative gap, although it should be noted that neither finding is statistically significant (Table 5.1). Gaps are much larger for Black Africans, Bangladeshis and Pakistanis, with the latter earning almost one-quarter less than White British men.

**Table 5.1 Ethnic pay gap, men, 2004–07**

	Percentage pay gap					
	Indian	Pakistani	Bangladeshi	Black Caribbean	Black African	Chinese
All employees	- 4*	23	21	5*	18	0*

*Notes:* The comparator is White British men. A negative value means the group has higher average pay than the white comparator.

\* Difference not statistically significant.

*Source:* Longhi and Platt (2008), using the LFS.

The pay gap varies with hours of work (Table 5.2). Although across all ethnic groups the pay gap of part-timers to full-time white men is much greater than that of full-timers to white men, the ethnic gap between those working part-time is smaller (i.e. the ethnicity pay gap is smaller, but the part-time pay gap is large). However, Indians working part-time have a positive pay gap.

**Table 5.2 Ethnic pay gap, men working part-time, 2001–05**

	Percentage pay gap						
	White British	Indian	Pakistani	Bangladeshi	Black Caribbean	Black African	All ethnic minorities <sup>a</sup>
Full-time		-8	20	39	11	12	5
Part-time	33	47	54	52	n.a	44	45

*Notes:* The comparator is white men working full-time. A negative value means the group has higher average pay than the white comparator.

<sup>a</sup> Includes minorities not separately identified.

*Source:* Platt (2006), using the LFS.

#### *Male ethnic pay gaps by qualifications*

The ethnic pay gap varies with educational qualifications (Table 5.3). For Pakistanis and Bangladeshis, the pay gap is very high for those with Level 2 qualifications but

much lower for those with Level 3 qualifications. For Indians, the negative pay gap is greater for the better qualified. However, Black Africans show the opposite pattern with a higher (positive) pay gap for the better qualified.

**Table 5.3 Ethnic pay gap by qualifications, men working full-time, 2001–05**

	Percentage pay gap					
	Indian	Pakistani	Bangladeshi	Black Caribbean	Black African	All ethnic minorities <sup>a</sup>
Full-time	-8	20	39	11	12	5
Full-time, qualified to level 2	-5	22	43	5	6	6
Full-time, qualified to level 3+	-13	9	13	8	15	-2

*Notes:* The comparator is white men with the relevant characteristics. A negative value means the group has higher average pay than the white comparator.

<sup>a</sup> Includes minorities not separately identified.

*Source:* Platt (2006), using the LFS.

### ***Ethnic pay gaps: women***

Ethnic pay gaps exhibit a rather different pattern for women. Pay gaps between women from different ethnic groups are smaller than the gaps between men from different ethnic groups (Table 5.4). (In the table, the reference group is the average earnings of White British males. Thus comparison across the columns shows the relative pay between women from different ethnic groups.) Chinese, Indian and Black Caribbean women have slightly higher average hourly pay than White British women and Bangladeshi women have slightly lower average hourly pay. However, Black Africans and, even more so, Pakistanis suffer substantial pay gaps.

**Table 5.4 Ethnic pay gap, women, 2004–07**

	Percentage pay gap						
	White British	Indian	Pakistani	Bangladeshi	Black Caribbean	Black African	Chinese
All employees	16	14	26	18	14	21	9

*Notes:* The comparator is White British men.

*Source:* Longhi and Platt (2008), using the LFS.

The ethnic pay gap largely disappears for women employed part-time, only remaining for Bangladeshi women (Table 5.5).

**Table 5.5 Ethnic pay gap, women working part-time, 2001–05**

	Percentage pay gap						
	White British	Indian	Pakistani	Bangladeshi	Black Caribbean	Black African	All ethnic minorities <sup>a</sup>
Full-time	17	11	28	23	9	9	13
Part-time	35	36	35	43	34	34	34

*Notes:* The comparator is white men working full-time.

<sup>a</sup> Includes minorities not separately identified.

*Source:* Platt (2006), using the LFS.

The extent to which the pay gap increases along the earnings distribution differs by ethnic group. For White British, Indian, Black Caribbean and Black African women it varies over the distribution, but it changes little for Pakistani and Bangladeshi women (Platt, 2006).

#### *Female ethnic pay gaps by qualifications*

The ethnic pay gap varies with educational qualifications (Table 5.6). For Bangladeshis, in particular, and Pakistanis, the gap is smaller for the better qualified. For Indians, the (negative) gap grows. However, both the relative advantage of Black Caribbeans and Black Africans (in 2001–05) is lower for the better qualified and is reversed for Black Africans.

**Table 5.6 Ethnic pay gap by qualifications, women working full-time, 2001–05**

	Percentage pay gap						
	White British	Indian	Pakistani	Bangladeshi	Black Caribbean	Black African	All ethnic minorities <sup>a</sup>
Full-time	17	11	20	39	11	12	5
Full-time, qualified to level 2	14	12	22	43	5	6	6
Full-time, qualified to level 3+	15	7	9	13	8	15	-2

*Notes:* The comparator is white men with the relevant characteristics.

<sup>a</sup> Includes minorities not separately identified.

*Source:* Platt (2006), using the LFS.

### ***Change over time***

There is little evidence of how the ethnic pay gap has changed over time. For women, previous studies neither compare change over time nor provide the data to allow us to do so (indicating the previous emphasis on male ethnic pay gaps).

For men, it is possible to compare studies of the ethnic pay gap at different periods. These suggest that the pay gap for Pakistani men has changed little since 1993–96 (Blackaby, *et al.*, 2002, compared with Table 5.1). The gap for Indian men seems to have improved, from a gap of nine per cent to a negative gap (i.e. higher pay) of four per cent. The position for Black Caribbeans and Africans is less clear, as Blackaby *et al.* group these and others) together in a ‘black’ group, which had a pay gap of 13 per cent. Assuming that Black Caribbeans formed a high percentage of this group, it would appear that, for Black Caribbeans at least, the pay gap has narrowed.

However, there is evidence that, since the introduction of the National Minimum Wage, the ethnic pay gap has improved at the lower end of the earnings distribution (Low Pay Commission, 2008).

### ***Other benefits: pensions***

Other benefits may ameliorate or exacerbate pay gaps. Data were not found on other benefits by ethnicity, with the exception of pension scheme membership. This exacerbates the ethnic pay gap, with both white men and white women more likely to be members of pension schemes than Black Caribbeans and, particularly, Bangladeshis and Pakistanis (Table 5.7).

**Table 5.7 Pension scheme membership**

		Per cent members		
		White	Black Caribbean	Pakistani
Men	Occupational pension	35	25	9
	Private pension	17	5	5
Women	Occupational pension	33	28	8
	Private pension	9	4	1

Source: EOC (2007).

### ***Weekly and lifetime pay gaps***

There is little direct evidence on weekly and lifetime ethnic pay gaps and we need to rely on inferring the pattern of lifetime pay gaps from ethnic differences in employment patterns. Data on ethnic differences in employment patterns (in

unemployment, part-time working and labour market participation rates) suggest that lifetime pay gaps may differ substantially from hourly pay gaps. Aggregate evidence on participation and employment rates is presented below. It would be useful to have a further breakdown, showing differences in initial labour market entry and retirement, as well as, for women, exit for family reasons.

#### *Weekly earnings gaps*

The only evidence identified on weekly earnings gaps comes from Platt (2006). For men working full-time, this shows a similar pattern to the hourly pay gap, other than a slightly higher gap for Bangladeshi men. For women working full-time, the pattern is also similar (to the hourly pay gap), except that Black Caribbeans and Black Africans suffer a slightly higher pay gap. However, the focus on full-time workers has removed one of the main causes of the higher earnings gap: working part-time.

#### *Patterns of lifetime employment by ethnicity: men*

For men, whites have the highest employment rate. Otherwise, the pattern across ethnic minority groups is similar (in order) as the pay gap (Table 5.8).

**Table 5.8 Economic activity, employment and unemployment rates by ethnicity, men, 2001–04**

	Economically active	Employment			Unemployed	% Employed part-time	Unemployment rate
		All	F/T	P/T			
Bangladeshi	62	<b>51</b>	39	12	11	24	17
Pakistani	69	<b>60</b>	49	11	9	18	13
Black African	76	<b>65</b>	54	11	11	17	14
Black Caribbean	78	<b>67</b>	59	9	12	13	15
Black mixed	82	<b>68</b>	59	9	14	13	17
Chinese	74	<b>71</b>	61	10	3	14	4
Indian	79	<b>74</b>	66	8	5	11	6
White	85	<b>82</b>	74	8	4	9	5

Source: Calculated from Heath and Cheung (2006); LFS data.

Bangladeshis are the least likely to be employed (and suffer the greatest pay gap), followed by Pakistanis. The three black groups are next. Thus, for these groups, employment rates and hourly pay rates combine to produce a wider lifetime earnings gap compared with the hourly pay gap.

The lower employment rate of Chinese and Indians (compared with whites) means that their relative advantage over whites in hourly pay will be diminished.

Whilst these differences in employment rates in part reflect differences in economic activity rates, the difference in unemployment rates between whites, Indians and Chinese, on the one hand, and all other groups, on the other hand, is also important.

The lifetime pay gaps are amplified by the pattern of part-time working which almost exactly follows the order of economic activity and hourly pay rates. Bangladeshi men have particularly high rates of part-time employment, further exacerbating the pay gap for this group.

*Patterns of lifetime employment by ethnicity: women*

Employment rates vary substantially by ethnicity for women, reflecting differences in participation rates (Table 5.9). There are also substantial differences in the percentage of those employed who work part-time. For some groups, employment rates and part-time working rates pull in different directions for lifetime earnings.

**Table 5.9 Economic activity, employment and unemployment rates by ethnicity, women, 2001–04**

	Per cent of working age population					% Unemployment rate	
	Economically active	Employed:			Unemployed	Employed part-time	Unemployment rate
		All	F/T	P/T			
Bangladeshi	18	<b>16</b>	9	7	2	43	13
Pakistani	29	<b>25</b>	14	11	4	45	15
Black African	58	<b>52</b>	36	16	7	30	12
Black Caribbean	58	<b>55</b>	34	21	3	38	6
Black mixed	63	<b>59</b>	38	21	4	36	7
Chinese	68	<b>61</b>	35	25	7	42	11
Indian	73	<b>66</b>	47	19	8	29	11
White	75	<b>71</b>	41	31	3	43	4

Source: Calculated from Heath and Cheung (2006); LFS data.

Whites have the highest employment rate, with Pakistanis and Bangladeshis the lowest (around one-third or less that of whites). Black Africans have the next lowest at about two-thirds the employment rate of whites. These patterns will result in a



much higher lifetime earnings gap for Pakistanis and Bangladeshis, in particular, and for Black Africans and Black Caribbeans. It seems likely to reduce the lifetime earnings of Indians below that of whites.

The lower employment rates largely reflect lower economic activity rates. However, the pattern of unemployment is similar between ethnic groups as for men (i.e. low rates for whites, Indians and Chinese and much higher rates for all other groups). For factors affecting these employment rates, see Botcherby (2006); Bhavnani (2006).

The rate of working part-time may, to some degree, confound the employment rate effects on expected lifetime earnings gaps. White women have relatively high rates of part-time working. These are similar for Pakistanis, Bangladeshis and Black mixed. Thus for these groups, part-time working will have little effect on the lifetime earnings gaps compared with white women. However, other groups, particularly Black Caribbeans and Black Africans, have lower rates of part-time employment. This should reduce the lifetime earnings gaps for these groups.

Thus, whilst the interplay of employment rates and rates of part-time working make it difficult to assess the impact on the lifetime earnings gap for all major UK ethnic groups, it is apparent that the lifetime gap is greatest for Pakistani and Bangladeshi women, the two groups with the lowest hourly rates, and that this gap will be greater than the, already considerable, hourly earnings gap.

### **5.3 Causes of the ethnic pay gap**

Studies have sought to explain the ethnic hourly pay gap in terms of personal and educational characteristics and also in terms of ethnic differences in the pattern of jobs (e.g. sector, firm size).<sup>18</sup> These are discussed after describing the ethnic pay gap that remains, once personal characteristics have been adjusted for.

#### ***Adjusted ethnic pay gaps***

There are substantial differences in human capital and other characteristics between ethnic groups that should affect relative pay. A number of studies tried to take these into account by decomposing the ethnic pay gap into explained (i.e. human capital-related elements) and unexplained parts (see section 1.2). The unexplained part constitutes the maximum gap that could be attributed to direct pay discrimination. Although the 'unexplained' ethnic pay gap varies from study to study (depending on

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<sup>18</sup> Differences in employment patterns may, of course, result from discrimination.

the analysis and the data used), it is of interest to see how much of the ethnic pay gap remains, once some compositional effects have been removed.

Studies vary in their modelling, in the use of standardising variables (controls or adjustments) and in their methods. For standardising, Heath and Cheung (2006) draw the distinction between ‘confounding’ variables (e.g. age) that may affect pay but are not connected with ethnicity, and ‘mediating’ or explanatory variables (e.g. language fluency), which might explain why ethnic minorities experience penalties. Adjusting for confounding variables alone allows identification of the ethnic penalty. However, for many variables, it is not clear cut whether they should be treated as confounding or mediating. For example, where the intention is to examine discrimination, it might be argued that adjustment should be made for language fluency. Certainly, some studies use as controls a range of variables which may incorporate labour market discrimination (or career choice) (e.g. sector, industry, firm size), therefore affecting the size of the adjusted pay gap (e.g. Clark and Drinkwater, 2007).

An important omission in the method used by many studies is not to adjust for selection effects. The argument is that those who can command higher pay are more likely to be in the labour market and to be employed. If employment rates differ by ethnic group, ignoring the selection effect is liable to raise the pay of groups with lower employment rates and diminish it for those with higher rates. This issue is greatest for women, but employment rates also differ for men (see section 5.2).

Nevertheless, the patterns of ethnic pay gaps identified across studies are similar and the policy implications fairly consistent. We therefore describe the key facets of the adjusted gap from Heath and Cheung (2006) who adjust for few employment (as opposed to pre-employment) characteristics. We also identify differences from the findings of Clark and Drinkwater (2007), who used slightly more recent LFS data (2002–05), but adjusted for more employment factors.<sup>19</sup>

Table 5.10 shows the ranking of ethnic pay gaps once adjustments for skills and personal characteristics have been made.<sup>20</sup>

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<sup>19</sup> Adjustments were made for education, experience, industry, region, sector, part-time status, firm size, immigrant cohort, job tenure and year of interview.

<sup>20</sup> Heath and Cheung (2006) adjust for age, qualifications, marital status, year, region, whether migrant or British born, whether full-time or part-time and size of employing establishment.

**Table 5.10 Ranking of adjusted ethnic pay gaps by gender, 2001–04**

	<b>Black African</b>	<b>Black Caribbean</b>	<b>Black mixed</b>	<b>Indian</b>	<b>Pakistani</b>	<b>Bangladeshi</b>	<b>Chinese</b>	<b>White British</b>
Men	--	-	++	+	-	--	+	++
Women	--	+	++	+	++	-	++	++

*Notes:* Relative hourly earnings: highest ++ to lowest. My rankings using Heath and Cheung (2006).

*Source:* Based on Heath and Cheung (2006).

**Table 5.11 Adjusted ethnic pay gaps by gender, 2002–05**

	<b>Percentage pay gap</b>							
	<b>Black African</b>	<b>Black Caribbean</b>	<b>Black mixed</b>	<b>Indian</b>	<b>Pakistani</b>	<b>Bangladeshi</b>	<b>Chinese</b>	<b>Other</b>
Men	27	14	n.a	15	21	27	10	16
Women	18	5	n.a	11	11	14	1	5

*Notes:* Comparator is whites of the same gender.

*Source:* Clark and Drinkwater (2007) using the LFS.

For men, the highest earners are whites and Black mixed, with Indians and Chinese having slightly lower hourly earnings, followed by Black Caribbean and Pakistani men, then, substantially disadvantaged are Black African and, finally, Bangladeshi men. The pattern found by Clark and Drinkwater (2007) was similar, except that they found Indians and Black Caribbeans were similarly disadvantaged (rather more than Chinese and rather less than Pakistanis).

For women, the pattern is substantially different from the unadjusted pay gap: white, Black mixed, Pakistani and Chinese women are the highest paid, followed by Black Caribbeans and Indians. Bangladeshis are next, with Black Africans experiencing the greatest gap. However, as Heath and Cheung (2006) themselves point out, the lack of an ethnic penalty for Pakistani women (and a reduced penalty for Bangladeshi women) may be due to selection bias having a greater effect for these ethnic groups. Pakistanis and Bangladeshi women have particularly low participation rates, so the selection effect may be much greater than for other women, thus raising their apparent average pay rates. Further research taking into account selection bias would be useful to establish the pattern of the adjusted ethnic pay gap. Clark and

Drinkwater (2007) identify a rather different pattern of disadvantage: Chinese and whites are similar, with Black Caribbeans slightly disadvantaged. Indians, Pakistanis and Bangladeshis are all quite substantially disadvantaged followed by Black Africans. An important point to note is the much higher ethnic pay gaps for men than for women.

Examples of the predicted wages for people with similar characteristics are given in Table 5.12.

**Table 5.12 Examples of predicted hourly wages by ethnicity, 2004**

		£ per hour		
		White	African	Pakistani
Men	No qualifications: Midlands	7.24	5.70	5.26
	No qualifications: London	9.49	7.46	6.89
	With degree: London	19.49	15.33	14.15
Women	No qualifications: Midlands			
	No qualifications: London	6.96	5.87	
	With degree: London			

*Notes:* Pay rates and pay gap for a single person of average age, working in a large firm with the above other characteristics.

*Source:* Heath and Cheung (2006).

### ***Adjusted employment rates***

Assessments of employment rates taking into account differences in characteristics, continue to show an ethnic penalty (Blackaby *et al.*, 2002; Blackaby *et al.*, 2005; Heath and Cheung, 2006; Berthoud, 2006). These identify substantial unexplained differences, including differences in returns to characteristics. The findings suggest discrimination (Heath and Cheung, 2006) or are consistent with discrimination (Blackaby *et al.*, 2005). Blackaby *et al.* (2005), also suggest that the employment disadvantage suffered by Pakistani men,<sup>21</sup> which continued to be the most disadvantaged after adjusting for characteristics, may be due to 'this group choosing to distance itself from the domestic culture'.

<sup>21</sup> The study was of men only and did not analyse Bangladeshi men as a separate group.

### **Qualifications and education**

Differences in human capital, often proxied by qualifications and work experience, are the standard economic explanation for differences in pay. Previous research has focused on qualifications.<sup>22</sup>

Differences in the level of qualifications between ethnic groups do not explain ethnic pay gaps. Instead, for some groups, they exacerbate the size of the pay gap, as ethnic minorities tend to be better qualified than White British (Blackaby *et al.*, 2002; Battu and Sloane, 2004). Indians and Black Africans are particularly relatively well qualified. Indeed, the beneficial pay gap for Indians should be higher once the difference in qualifications is taken into account. Moreover, as described above, ethnic pay gaps remain once education has been adjusted for.

Thus, ethnic minorities reap lower returns to education and to qualifications (Blackaby *et al.*, 2002; Heath and Cheung, 2006). Their lower returns may be partly explained by lower occupational attainment, given their level of qualifications, and by a greater incidence of overqualification in employment (i.e. they do not gain the occupational level which might be expected for their qualifications) (Heath and Cheung, 2006; Battu and Sloane, 2004; Lindley, 2007; Dex and Lindley, 2007a). Certainly, Heath and Cheung (2006) find that ‘the pattern of earnings differentials largely reflects the pattern of occupational differentials’. Both Battu and Sloane (2004) and Lindley (2007) find penalties for over-education, including greater penalties for some ethnic minority groups.

These findings suggest that one aspect of addressing the ethnic wage gap is to improve access to jobs appropriate to each individual’s qualification level. Improving the qualification levels of ethnic minorities may raise unadjusted earnings, but does not address the problem of lower returns to education.

### **Migrants**

The higher percentage of migrants amongst ethnic minorities may contribute to the pay gap. Migrants differ from non-migrants in a number of characteristics, such as English language fluency (Leslie and Lindley, 2001; O’Leary *et al.*, 2001), labour market knowledge (Frijters *et al.*, 2003), drive, qualification recognition (lack of recognition of foreign qualifications) (Blackaby *et al.*, 2002). Many of these factors should lead to lower pay rates.

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<sup>22</sup> The lack of analysis of the role of work experience may be due to national datasets that provide these data lacking adequate sample sizes for ethnic minority groups.

Certainly, for both women and men, migrants suffer a wider pay gap. However, the migration effect appears to be small, i.e. it provides little explanation of ethnic minority pay gaps overall (Blackaby *et al.*, 2002; Heath and Cheung, 2006).

Using the 1994 Fourth Survey of Ethnic Minorities, Lindley (2002b) examined the effect of English language fluency on pay. She found that fluency accounted for some of the ethnic pay gap, with a much greater effect for women. Indeed, once English language fluency was taken into account, the ethnic pay gap for women disappeared and only remained for male ethnic minority immigrants. However, this study adjusts not only for personal characteristics, but also for a range of employment variables and finds that a number of these account for the ethnic pay gap.

### ***Employer and job characteristics***

Pay rates vary across types of employment (e.g. industry, sector and employer size). Differences in the ethnic patterns of employment may contribute to the pay gap. In addition, pay penalties (i.e. the return to a given characteristic) may vary across types of employment.

Ethnic minorities are more concentrated than whites in low paying occupations and sectors (Low Pay Commission, 2008). In some low paying industries (e.g. textiles and security), ethnic minorities form around a quarter of the workforce. The Low Pay Unit Research Trust found that occupation and qualifications were more important than ethnicity in explaining differences in earnings between ethnic groups (cited in Low Pay Commission, 1998).

Lindley (2002b), using the 1994 Fourth Survey of Ethnic Minorities, found that (once language fluency was taken into account) the main determinants of non-white earnings for men were industry, employment in a small firm and high local unemployment and, for women, were employment in a small firm.

In respect of differential pay penalties, Heath and Cheung (2006), using the LFS for 2001–04, found higher ethnic minority<sup>23</sup> and migrant penalties in the private than the public sector. The migrant penalty was very small in the public sector. They found no ethnic minority penalty in small establishments (under 25 employees). It was largest in medium-sized establishments (25 to 499 employees). However, there was a migrant penalty, which was largest in the smaller establishments. For women, the

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<sup>23</sup> All ethnic minority groups together.

ethnic minority penalty did not differ between sectors, although the migrant penalty was larger in the private sector. Again, there was no ethnic minority penalty in smaller establishments and the penalty grew with size. A migrant penalty was found in the smaller and medium establishments, but not in the largest establishments. Obviously these differences may be affected by selection effects. However, it may indicate greater discrimination in the private sector and migrant or ethnicity discrimination occurring, variously, across all establishment sizes.

### ***Cultural differences***

Culture affects attitudes towards work and employment commitment. The effects may be positive or negative on pay rates. Culture also affects the pattern of employment, including occupational choice and labour market participation (and the acquisition of skills through experience) (see, for example, the EOC Formal Investigation into ethnic minority women and work, '*Moving on up*'). As we have seen above, participation rates can vary substantially, particularly for women.

Clark and Drinkwater (2007) examined the effect of occupational patterns on the earnings gap. Their results suggest a substantial effect of occupational patterns on pay gaps for most ethnic minorities, but that pay gaps remained within occupations. These were greatest within professional and managerial occupations. Thus changing the ethnic occupational pattern would reduce the pay gap.

In general, the contribution of cultural differences to the pay gap has not been assessed. However, based on the remaining unexplained differences in pay between Indians and Pakistanis, once a range of characteristics had been taken into account, Blackaby *et al.* (2002) suggested that part of the Pakistani pay gap resulted from a reluctance to integrate with the dominant culture. An alternative reading of this finding is that differences between Pakistani and White British culture cause greater degrees of problems in the labour market than differences between the cultures of other ethnic minority groups and White British culture.

### ***Employer discrimination***

The unexplained differences in hourly earnings between whites and other ethnic groups (including British-born ethnic minorities) are likely to be due, in part, to employer discrimination, with discrimination affecting wages, employment and occupational level (Heath and Cheung, 2006). Discrimination may be greater in the private sector (Heath and Cheung, 2006). There is also some evidence suggesting greater problems in medium and large establishments (Heath and Cheung, 2006).

#### 5.4 Conclusions and research gaps

Ethnic minorities experience serious disadvantage in the labour market and this extends to pay. Whilst it is clear that pay gaps are substantial for most major ethnic minority groups, evidence is contradictory on whether all major minorities are affected. The gaps cannot be explained by the age, education or foreign birth of ethnic minority groups.

The ethnic pay gap is greatest for men. For women, the gender pay gap dominates and some ethnic minority groups receive similar earnings to white women. Overall, Bangladeshi and Black African men, followed by Pakistani and Black Caribbean men are most disadvantaged. For women, Black Africans and Bangladeshis are at greatest disadvantage. The extent to which Pakistani women are disadvantaged is unclear. It is important to recognise that Indian and Chinese men, who have higher unadjusted earnings than other groups, may not be paid at the level that might be expected given their qualifications. The extent of disadvantage suffered by Indians is unclear from the research.

The evidence points to pay discrimination, rather than the gap being caused solely by the pattern of employment and skills. Occupational patterns do contribute significantly to the ethnic pay gap. However, further research is required to identify the contribution of other facets of employment patterns.

The research evidence on ethnic pay gaps lags substantially behind that on the gender pay gap. A major barrier to ethnic pay gap research is the lack of adequate datasets, with national datasets suffering, variously, from small ethnic minority samples, lack of data on ethnicity and lack of key related data (e.g. culture, religion, migration, English language proficiency and adequately classified foreign qualifications). The proposed longitudinal survey of ethnic minorities could address some of the data shortages.

The result is that quantitative ethnic pay gap analysis has been limited to the LFS and so has lacked the understanding brought through longitudinal analysis and through analysis of the workplace. Moreover, much of the quantitative analysis is fairly dated and many of the more recent analyses are less sophisticated. It is important to take into account selection bias (particularly for women). An important concern with the body of ethnic pay gap research is the extent to which the findings are affected by data variation (because of the sample sizes) and by variations in modelling. (The latter is more important than for gender pay gap research, where the amount of research allows consistent patterns to be identified.)



It would be useful to conduct analysis that examines changes in ethnic pay gaps over time, not only to assess how these have changed, but also to inform reliability of previous findings.

For gender pay gaps, the data have been substantially mined, to examine all the factors that may contribute to the pay gap (e.g. occupational concentration, segregation, work history). Although the LFS does not cover all these issues, more could be done to identify factors linked with the ethnic pay gap by conducting new exploratory decomposition analyses, which examine the contribution of a wide range of factors and also take into account selection bias.

The explanations of ethnic earnings gaps have been identified within a traditional economic theory framework. Whilst discrimination appears to be an important factor, it would be useful to explore more fully the possible roles of monopsony and concentration.

## 6. RELIGION OR BELIEF

### 6.1 Introduction

There is very little research into pay gaps related to religion or belief, although, owing to the high correlation between ethnicity and religion for some ethnic groups (notably between Pakistanis and Bangladeshis and Muslims),<sup>24</sup> some of the research into ethnic pay gaps casts light on religion or belief pay gaps. At the same time, this high correlation makes it difficult to distinguish between ethnic and religious factors.

Only four studies were identified in the review. One, Model and Lin (2002) compared white, British-born Christians with non-British-born Hindus, Sikhs and Muslims, thus conflating religion and immigration. This has therefore not been used. A second provided selective descriptive statistics from other sources, which added little to our understanding of the religious pay gap (Open Society Institute, 2005). Consequently, the only studies used were Lindley (2002a) and Longhi and Platt (2008).

A limitation on analysis of religion or belief pay gaps has been data. The Annual Survey of Earnings and Hours does not collect information on religion or belief (and, as the data are collected from the employer, adding this information would be difficult), whilst the national longitudinal surveys have too small sample sizes for analysis of religion or belief. Analysis has relied on the Labour Force Survey (LFS) and the Fourth National Survey of Ethnic Minorities, which was conducted in 1994.

### 6.2 The religion or belief pay gaps

Longhi and Platt (2008) provide data on unadjusted religious pay gaps by gender. Although they identify pay gaps between most religions (Table 6.1), few are statistically significant.<sup>25</sup> Christians, people with no religion, Buddhists, Hindus and Sikhs and female Muslims had similar pay to each other. Jews earned more than all other groups, whilst Muslim men earned less. However, it is possible that, with larger sample sizes, further differences would be identified. (This highlights the problem of sample sizes, even where LFS data have been aggregated over three years.)

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<sup>24</sup> Note, though, that, whilst nearly all Pakistanis and Bangladeshis in the UK are Muslim, many Muslims in the UK are not Pakistanis and Bangladeshis.

<sup>25</sup> At the five per cent level.

**Table 6.1 Religious pay gap by gender, 2004–07**

	Percentage pay gap						
	Christian	Buddhist	Hindu	Jewish	Muslim	Sikh	No religion
Men		6*	-2*	-37	17	6*	1*
Women	16	9*	12	-8*	22	22	14

*Notes:* The comparator is Christian men. A negative value means the group has higher average pay than the Christian men comparator.

*Source:* Longhi and Platt (2008), using the LFS.

Given the degree of correlation between religion and ethnicity, it is useful to examine the religious pay gaps by ethnicity. Lindley (2002a) provides weekly earnings data by religion by ethnic groups for 1994 (from the Fourth National Survey of Ethnic Minorities). Men could largely be grouped by religion into three pay groupings, with Muslims in the lowest group, Christians, Hindus and those with no religion in the middle group and those with another religion the highest paid (Table 6.2). Sikhs differed by ethnic background (with Indian Sikhs the lowest paid and non-Indian Sikhs in the middle group). For women, there was greater variation by ethnicity within religions.

**Table 6.2 Hourly earnings ranking by religion, 1994**

Unadjusted earnings rankings <sup>a</sup>	Men	Women
<b>Highest paid</b>	Other religion	No religion (non-white) Other religion
<b>Middle paid</b>	Christian (white) Christian (non-white) Hindu (Indian) Hindu (non-Indian) No religion (white) No religion (non-white) Sikh (African)	Christian (non-white) Hindu (non-Indian) Muslim (other) No religion (white)
<b>Lowest paid</b>	Muslim (Pakistani) Muslim (Bangladeshi) Muslim (Indian) Muslim (other) Sikh (Indian)	Christian (white) Hindu (Indian) Muslim (Pakistani) Muslim (Bangladeshi) Muslim (Indian) Sikh (African) Sikh (Indian)

*Notes:* <sup>a</sup> My classification into pay levels.

*Source:* Lindley (2002a).

Lindley (2002a) modelled the earnings effects of religion and ethnicity. She reported two models: one with religion disaggregated by ethnicity and one where it was not. (The latter included foreign-born, non-white and British-born, non-white dummies). Both models identified differences in pay by religion (Table 6.3). Without disaggregating for ethnicity, for men, Muslims and Sikhs were worst paid and members of 'other religions' best paid. For women, Christians were worse paid than any other women. Disaggregating by ethnicity, there were no significant differences in earnings between women, but, for men, Muslims (whether Pakistani, Bangladeshi or other), African-Asian Hindus and Sikhs were lower paid than other men, with Bangladeshi Muslims and Sikhs having the lowest earnings.

**Table 6.3 Religious and ethnic influences on earnings, 1994**

	<b>Model 1</b>		<b>Model 2</b>
	<b>With religion dummies</b>		<b>With religion by ethnicity interactions</b>
	<b>Men<sup>c</sup></b>	<b>Women<sup>d</sup></b>	<b>Men<sup>a</sup></b>
<b>Raises pay</b>	Other religion	Hindu Muslim No religion Other religion Sikh	Christian (white) Christian (non-white) Hindu (Indian) No religion (white) No religion (non-white) Other religion
<b>Reference groups</b>	Christian Hindu No religion		
<b>Reduces pay</b>	Muslim Sikh	Christian	Hindu (African-Asian) Muslim (Pakistani) Muslim (Bangladeshi) Muslim (other) <sup>b</sup> Sikh <sup>b</sup>

*Notes:* <sup>a</sup> For women, there was no significant difference in earnings by religion when religious groups were disaggregated by ethnicity.

<sup>b</sup> Owing to sample sizes, Muslims (Indian) and Muslim (other) were combined and Sikhs were not disaggregated into Indian and other.

<sup>c</sup> In addition, being foreign-born, non-white reduced pay. Being British-born, non-white had no effect.

<sup>d</sup> In addition, being British-born, non-white raised earnings. Being foreign-born, non-white had no effect.

*Source:* Lindley (2002a).

In terms of lifetime earnings gaps, indirect evidence is provided by employment rates. These show much greater interaction between religion and ethnicity for men and a stronger link with religion for women. In terms of unadjusted employment differences, for men, whites, whether Christian or with no religion, were more likely to be employed and Pakistani and Bangladeshi Muslims less likely to be employed than other groups (Table 6.4). Adjusting for characteristics and disaggregated by ethnicity, the pattern somewhat shifts, with white Christians most likely to be employed and Pakistani Muslims, Sikhs and those with other religions least likely to be employed (Table 6.5). For women, religion is more dominant (over ethnicity) than for men: Christians (whether white or not), those with no religion (whether white or not) and Indian Hindus are more likely to be employed, whereas Muslims from the Indian sub-continent are least likely to be employed. Once adjusted for characteristics, the only difference is the lower employment rates of Muslims (Pakistani and Bangladeshi) and women of other religions.

**Table 6.4 Employment rate ranking by religion, 1994**

Unadjusted employment rate rankings <sup>a</sup>	Men	Women
<b>Highest employment rates</b>	Christian (white) No religion (white)	Christian (white) Christian (non-white) No religion (white) No religion (non-white) Hindu (non-Indian)
<b>Middle employment rates</b>	Christian (non-white) Hindu (Indian) Hindu (non-Indian) Muslim (Indian) Muslim (other) No religion (non-white) Sikh (African) Sikh (Indian) Other religion	Hindu (Indian) Muslim (other) Other religion Sikh (African) Sikh (Indian)
<b>Lowest employment rates</b>	Muslim (Pakistani) Muslim (Bangladeshi) Muslim (Indian) Muslim (other) Sikh (Indian)	Christian (white) Hindu (Indian) Muslim (Pakistani) Muslim (Bangladeshi) Muslim (Indian) Sikh (African) Sikh (Indian)

Notes: <sup>a</sup> My classification into pay levels.

Source: Lindley (2002a).

**Table 6.5 Religious and ethnic influences on employment rates, 1994**

	<b>Model 1 with religion dummies</b>		<b>Model 2 with religion by ethnicity interactions</b>	
	<b>Men<sup>b</sup></b>	<b>Women<sup>c</sup></b>	<b>Men</b>	<b>Women</b>
<b>Raises employment rates</b>	Christian	Christian Hindu No religion Sikh	Christian (white)	Christian (white) Christian (non-white) Hindu (Indian) Hindu (African-Asian) Muslim (other) <sup>a</sup> No religion (white) No religion (non-white) Sikh <sup>b</sup>
<b>Reference groups</b>	Hindu No religion Other religion		Christian (non-white) Hindu (Indian) Hindu (African-Asian) Muslim (Bangladeshi) Muslim (other) <sup>a</sup> No religion (white) No religion (non-white)	
<b>Reduces employment rates</b>	Muslim Sikh	Muslim Other religion	Muslim (Pakistani) Other religion Sikh <sup>b</sup>	Muslim (Pakistani) Muslim (Bangladeshi) Other religion

*Notes:* <sup>a</sup> Owing to sample sizes, Muslims (Indian) and Muslim (other) were combined and Sikhs were not disaggregated into Indian and other.

<sup>b</sup> In addition, being foreign-born, non-white raised the likelihood of being employed, whilst being British-born, non-white reduced the likelihood of employment rates.

<sup>c</sup> Being British-born, non-white or foreign-born, non-white, had no effect on employment rates.

*Source:* Lindley (2002a).

### **6.3 Causes of the religion or belief pay gap**

There is little evidence of the causes of the religion or belief pay gap and much of this relates only indirectly to the pay gap, through employment participation issues.

One small pointer comes from Lindley (2002a) who investigated the differential in employment rates between non-white Muslims and other groups. She found that there were substantial differences in characteristics which contributed to this differential (e.g. poor English language and undervalued overseas qualifications), but that there was also a substantial unexplained component which could be comprised of cultural and attitudinal differences, along with discrimination.

Other explanations, such as crowding (a feasible explanation for some groups, given population concentrations), have not been explored.

#### **6.4 Conclusions and research gaps**

There is clearly a religious pay gap for Muslim men and a beneficial pay gap for Jews. However, whether there are gaps between other religions is unclear, as is the extent to which these gaps are indicative of a pay penalty. Earlier research identified large pay gaps for Sikhs.

The research into causes of religion or belief pay gaps uses data from 1994 and it is unclear whether these causes still hold.

There is an urgent need for further research in this area, given the degree of disadvantage previously identified, the lack of research into the area, the lack of recent evidence on gaps and because of the general evidence on Muslim disadvantage in Britain and the growth in Islamophobia. However, in such research, the possibilities of high religious pay gaps for other groups should not be overlooked. Given the correlation between religion and ethnicity, this research should examine the interaction between these.

Descriptive research into adjusted religious pay gaps is needed, to identify the maximum extent of any religion or belief pay penalty.

Further research is required into the causes of a religious pay gap. Both quantitative and qualitative research would be useful. The former would have to rely on the LFS. This may require the aggregation of data over more than three years to gain adequate sample sizes. As a start, decomposition analyses would be useful to identify the relative contribution of personal and labour market factors to the religious pay gap.

Qualitative research is more appropriate for focusing on general disadvantage in the labour market, such as patterns of participation and employment and experience of discrimination.

Given the correlation between religion and ethnicity, this research should examine the interaction between these.

## 7. DISABILITY

### 7.1 Introduction

The incidence of disability has been growing amongst the working age population (Rigg, 2005), with approximately one in six people now classified as disabled. Disabled people are half as likely to be employed as non-disabled people, are more likely to work part-time and are more concentrated in lower level jobs (Burchardt, 2005). It is not surprising, therefore, that there is a substantial disabled pay gap.

This chapter discusses the nature of disabled pay gaps in terms of unadjusted, adjusted, wage rates, weekly earnings and lifetime earnings and evidence on their size (section 7.3). It also examines a related pay gap, that for informal carers and other household members (section 7.4). Section 7.5 discusses factors affecting disabled pay gaps and section 7.6 reviews evidence on policies which address pay gaps.

The findings of the research differ to some degree. In part this is due to the evidence relating to different time periods and models. However, it is also due to differences in definitions of disability. It is important to understand these differences and this is discussed in the next section.

### 7.2 Definitions of disability and data

Definitions of disability differ across the main UK datasets which have implications for quantifying the disabled pay gap.<sup>26</sup> The main distinction is between definitions based on limitations to daily activity and limitations to employment. The activities of daily living (ADL) definition is based on whether a person is limited in their daily activities. The work limited (WL) definition is based on whether a person is limited in the work they can do. For assessment of labour market issues, the WL definition will tend to produce higher estimates of labour market disadvantage (as, by definition, it requires the respondent to have identified a work-related restriction, whereas those defined as disabled in terms of daily living may not be restricted in terms of employment).

Whichever definition is used, surveys differ in how this is operationalised. For example, Office of Population Censuses and Surveys and the Family Resources Survey Disability Follow Up Survey (the Health and Disability Survey) included 108 questions on daily activities to assess disability under the ADL definition, whereas the

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<sup>26</sup> We do not consider here the philosophical and political issues in the definition of disability.



General Household Survey asked respondents whether they were limited in any daily activities (Rigg, 2005). Some surveys identify long-term disability.

Datasets vary in the extent to which they can be used to identify the severity and nature of impairment. In the literature reviewed, some research used datasets which directly identified conditions and measured severity. However, other research studies relied on constructing their own measures of severity (e.g. number of impairments) from datasets which did not directly measure this (Rigg, 2005).

European datasets (e.g. the Labour Force Survey, the European Social Survey (ESS) and the European Household Panel Survey (EHPS)) vary in how disability is measured. Correlation between the different measures is not high and they give different pictures of the relative extent of disability across countries (Blekesaune, 2007).

### 7.3 The disability pay gap

The unadjusted disabled hourly pay gap has been estimated to be between six and 26 per cent for men and between six and 17 per cent for women (Blackaby *et al.*, 1999; Berthoud *et al.*, 1993; Burchardt, 2000a; Burchardt, 2005; Rigg, 2005; Longhi and Platt, 2008) (Table 7.1). The differences in estimates can be explained to some extent by different data sources (with differing definitions of disability), differences in other definitions (e.g. of employment),<sup>27</sup> the age group under consideration and analysis over different time periods. However, the reasons for variation are not always clear and do suggest some data problems.

The gap varies with severity of impairment. Burchardt (2000a), examining severity of impairment specifically found that, whilst disabled men earned on average 24 per cent less than non-disabled men, those with an impairment category of one or two<sup>28</sup> earned 14 per cent less and those with a higher degree of impairment earned 40 per cent less. Rigg (2005), using a number of health problems as a proxy for severity of disablement, also found an increase in the earnings gap for both women and for men with severity. He also found that the earnings gap was higher for those who were disabled throughout a 15 month period, compared with those who were not.

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<sup>27</sup> The effect of differences in definition alone are demonstrated by Rigg (2005), who assessed the pay gap for two definitions of disability, using the same data and method.

<sup>28</sup> A scale of impairment severity was constructed from responses to a maximum of 108 questions on ability to perform various activities. Categories 1 to 10 indicated disabled, with one as the least severely impaired.

The hourly earnings gap appears early in life for those who were disabled as children. Burchardt (2005) found that those who were disabled at the ages of 16 and 26 had hourly earnings 17 per cent lower than non-disabled people.

Disabled people are more likely to be at the lower end of the earnings distribution (Rigg, 2005). The earnings gap<sup>29</sup> is apparent across the earnings distribution for both men and women (Rigg, 2005). It is greatest at lower levels of earnings and is greater for men than women at all levels. However, the strongest influence is being disabled rather than place in the earnings distribution or gender.

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<sup>29</sup> Adjusted for differences in characteristics.

**Table 7.1 The disabled pay gap: gross hourly pay**

Study	Data source	Study period	Definition of disability	Sex	Severity	Percentage difference in gross hourly earnings	
						Unadjusted	Adjusted <sup>8</sup>
Blackaby <i>et al.</i> (1999)	Labour Force Survey	1992/3-1995/6 (Winter)	Work limited <sup>2</sup>	M		-21	-13
				F		-17	
		1993/4-1995/6 (Winter)	Long-standing work limited <sup>3</sup>	M		-11	
				F		-10	
	General Household Survey	1981-1991	ADL <sup>4</sup>	M		-3	-6
F				-2	-2		
Berthoud <i>et al.</i> (1993)	Office of Population Census	1985	ADL <sup>1</sup>	M		-26	-19 to -25
				F		-13	Not significantly
Burchardt (2000a)	Family Resources Survey disability follow-up	1996-1997	ADL <sup>1</sup>	M	All	-24	-36
					Category 1-2	-14	-32
					Category 3-10	-40	-43
				F	All	-13	-18
Burchardt (2005)	Youth Cohort Survey	1996	ADL (DDA) <sup>5</sup>	All <sup>7</sup>		-17	-11
Rigg (2005)	Labour Force Survey	Autumn 1997-Spring 2005	ADL (DDA) <sup>5,6</sup>	M		-9	-9
				F		-6	-4
				Work limited <sup>3</sup>	M		-17
			F			-11	-6
			ADL (DDA) <sup>5,6,9</sup>	M	All	-13	-11
					Less <sup>10</sup>		-9
				More <sup>10</sup>		-15	
				F	All	-9	-7
			Less <sup>10</sup>			-5	
More <sup>10</sup>		-10					
Longhi and Platt (2008)	Labour Force Survey	2004-2007	Work limited	M		10	
				F		22 <sup>11</sup>	

**(Table 7.1 continued)**

- Notes: <sup>1</sup> Based on up to 108 questions on ability to perform various activities.
- <sup>2</sup> Health problems or disabilities that limit the kind of work that respondents can do.
- <sup>3</sup> Health problems or disabilities expected to last more than one year that limit the kind of work that respondents can do.
- <sup>4</sup> Long-standing illness, disability or infirmity that limits the respondent's activities.
- <sup>5</sup> Health problems or disabilities expected to last more than one year that substantially limit the respondent's ability to carry out normal day-to-day activities.
- <sup>6</sup> Figures refer to non-sensory disabled.
- <sup>7</sup> Those with physical or sensory impairments at age 16 and 26 and born in 1970. People with learning difficulties were excluded from the analysis.
- <sup>8</sup> Controls vary between studies.
- <sup>9</sup> Disabled people who were disabled at both the beginning and the end of the data period (15 months).
- <sup>10</sup> Severity proxied by number of health problems.
- <sup>11</sup> Comparator is male, non-disabled.

Source: Rigg (2005) and referenced studies.

***Weekly and lifetime earnings gaps***

No research into disabled pay gaps for weekly earnings was identified. However, the weekly and lifetime earnings gaps will be substantially larger than the hourly earnings gap, as disabled people compared with non-disabled people work fewer hours per week and are less likely to be employed.

In terms of weekly hours, the figures vary, depending on definitions (of part-time, as well as disabled). For example, Burchardt (2005) found that 68 per cent of disabled workers and 77 per cent of non-disabled workers were employed full-time. Rigg (2005) states that 87 per cent of disabled male and 51 per cent of disabled female workers were working full-time, compared with 93 per cent of non-disabled male workers and 57 per cent of non-disabled female workers. Those more severely disabled (as proxied by number of health problems) were less likely to work full-time (Rigg, 2005). Despite the difference in part-time working, mean hours are fairly similar (Rigg, 2005). The difference due to part-time working may be decreasing, as there has been an increase in the percentage of disabled women working full-time, from 47 per cent to 49 per cent between 1984 and 1996 (compared with 57 per cent of non-disabled women) (Burchardt, 2005).

Employment rates for disabled people are substantially lower than for non-disabled people (Table 7.2). Disabled men are almost half as unlikely to be employed as non-disabled, whilst disabled women are less than two-thirds as likely as non-disabled

women to be employed. This means that, over a lifetime, disabled people's earnings will be substantially less than non-disabled people's. Not surprisingly, the employment gap rose with severity of disability (as proxied by number of health problems) (Rigg, 2005).

The effect on lifetime earnings of a disabled employment gap (and earnings gap) is complicated by individual change in disability. Disability may not be a permanent state. Only a small percentage of those who experience disability are long-term disabled, with more than half who become disabled as an adult having life limiting disability for more than two years (Burchardt, 2000b). Over 15 months, almost one-fifth of disabled people of working age ceased to be disabled (DDA definition) (Rigg, 2005).

**Table 7.2 Employment rates of disabled people**

Study	Data source	Study period	Definition of disability	Sex	Severity	Percentage point difference in employment	
						Unadjusted	Adjusted <sup>4</sup>
Berthoud <i>et al.</i> (2006) <sup>5</sup>	Family Resources Survey disability follow-up	1996-1997	ADL <sup>1</sup>	All		-47	-40
Berthoud and Blekesaune (2007) <sup>5</sup>	General Household Survey	1995		All		-33	-17
Burchardt (2000a)	Family Resources Survey disability follow-up	1996-1997	ADL <sup>1</sup>	M		-46	
				F		-39	
Sefton <i>et al.</i> (2004)	Labour Force Survey	Autumn 1997-Winter 2002	ADL (DDA) <sup>2,3</sup>	M		-42	-35
				F		-33	-35
Rigg (2005)	Labour Force Survey	Autumn 1997-Spring 2005	ADL (DDA) <sup>2,3</sup>	M		-42	-39
				F		-33	-34
				M		-44	-41
				F		-38	-38
			Work limited <sup>4</sup>	M	All	-54	-50
					Less <sup>7</sup>		-38
					More <sup>7</sup>		-67
				F	All	-44	-45
	Less <sup>7</sup>		-33				
	More <sup>7</sup>		-56				
Blackaby <i>et al.</i> (1999)	Labour Force Survey	Winter 1992/3 to Winter 1995/6	Work limited <sup>2</sup>	M		-21	-13
				F		-17	
		Winter 1993/4 to Winter 1995/6	Long-standing work limited <sup>3</sup>	M		-11	
				F		-10	

**(Table 7.2 continued)**

- Notes: <sup>1</sup> Based on up to 108 questions on ability to perform various activities.
- <sup>2</sup> Health problems or disabilities expected to last more than one year that substantially limit the respondent's ability to carry out normal day-to-day activities.
- <sup>3</sup> Figures refer to non-sensory disabled.
- <sup>4</sup> Controls vary between studies.
- <sup>5</sup> 'Employed' refers to those aged 19 to 59 inclusive, working 16 or more hours per week only and includes those in education
- <sup>6</sup> Disabled people who were disabled at both the beginning and the end of the data period (15 months).
- <sup>7</sup> Severity proxied by number of health problems.

Source: Rigg (2005) and referenced studies.

**7.4 Causes of the disability pay gap**

Obviously, differences between the characteristics of disabled and non-disabled people may contribute towards the disabled pay gap. Disabled people tend to be older (Berthoud, 2006). They also tend to be less educated, to have fewer qualifications, to be in lower level jobs (Burchardt, 2005) and to have greater work absence. Barham and Begum (2005), for example, found that 5.9 per cent of employees who were DDA disabled were absent in a given week with sickness absence at 5.5 per cent compared with 2.5 per cent of non-disabled employees.<sup>30</sup> Their impairment may restrict their employment and consequent earnings. Disability is greater amongst those who completed their education in their teens and in areas of higher unemployment (Berthoud, 2006).

Evidence on the effect of these and other factors is discussed below.

***The adjusted hourly pay gap***

Adjusting for characteristics tends to reduce the disabled hourly pay gap, although Burchardt (2000a) found an increase. Thus part of the difference in hourly pay between disabled and non-disabled people seems likely to be due to differences in employment-related characteristics between the disabled and non-disabled populations, although Burchardt's result suggests caution and requires further investigation. Given the range of the unexplained pay gap (from six to 36 per cent for men and zero to 18 per cent for women), it is unclear how substantial the disabled

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<sup>30</sup> As absence varies with a wide range of personal and job characteristics, it would be useful to identify whether this difference persists once standardised for jobs and other characteristics.

hourly pay gap (and hence the upper limit for discrimination related to disability and employment) might be.

Disability results in greater disadvantage for men than for women (Berthoud and Blekesaune, 2007; Blackaby *et al.*, 1999).

### ***Education and qualifications***

Disabled people tend to have less education and fewer qualifications than non-disabled people. This is the result of four factors. Those who have been disabled since childhood tend to have disrupted or poor quality schooling (Burchardt, 2000a). People with low educational qualifications are more likely to become disabled (Burchardt, 2000a). Employed disabled people are less likely to receive job-related education or training (seven percentage points lower for disabled men and four percentage points lower for disabled women), although controlling for personal characteristics, there is only a significant difference for men (of two percentage points) (Rigg, 2005). Moreover, the incidence of disability increases with age, whereas education qualifications decrease. Adjusting for characteristics, young disabled people are less likely to stay on in full-time education, tend to achieve fewer qualifications, do not achieve the education or training places or occupations they aspire to, are more likely to be unemployed or inactive and, for those who are employed, have lower earnings (Burchardt, 2005). This is despite having similar aspirations to non-disabled young people.

Differences in education and qualifications between disabled and non-disabled people accounted for a large (indeed, the largest) part of the unadjusted hourly pay gap (Blackaby *et al.*, 1999; Berthoud *et al.*, 1993; Burchardt, 2000a). Blackaby *et al.* (1999) also found that disabled people reaped lower returns to education and qualifications. This may have a number of explanations, ranging from lack of access to appropriate jobs (for the level of education and qualifications), pay discrimination or missing variables in the models. However, it means that, currently, higher levels of education and qualification for disabled people would not lead to as great an increase in earnings as for non-disabled people. Thus, for addressing the hourly pay gap, it is pertinent to examine the reasons that disabled people have lower levels of schooling and qualifications. More research would be required to identify the reasons for lower returns and therefore the appropriate policy responses.

### ***Occupational patterns***

Part of the explanation for the earnings gap is that disabled people who work are more likely to be employed in lower skilled occupations (unskilled, semi-skilled and skilled manual) (Burchardt, 2005). This may be related to lower levels of education



and training. Certainly, Rigg (2005) found that once other characteristics were taken into account, disabled men and disabled women were as likely to progress to higher occupational levels as non-disabled men and women, respectively. Contrary to this, Blackaby *et al.* (1999) found that qualifications were less likely to lead to a professional or managerial career for disabled than non-disabled people.

The occupational gap has been declining (Burchardt, 2005). Disabled men have been moving up the occupational structure faster than non-disabled men (1984 to 1996). Disabled women have also been moving up, but at a similar rate to non-disabled women.

### ***Discrimination***

Whilst it is difficult to identify pay discrimination, there is indirect evidence of discrimination against disabled people that is likely to reduce pay.

Employed disabled people are more likely to be self-employed than are non-disabled people (Burchardt, 2005; Berthoud, 2006). Whilst self-employment may be a positive choice for some, this suggests greater difficulties for disabled people as employees compared with non-disabled people. Disabled people were also more likely to be on temporary contracts, a factor likely to increase unemployment and to reduce earnings (Meager *et al.*, 1998). Large firms are less likely than smaller firms to hire disabled workers, but large firms are more likely to retain employees who become disabled (Burchardt, 2000a), suggesting discrimination.

Employment rates of disabled people vary substantially across Europe (Blekesaune, 2007). Britain has relatively low employment rates among disabled people. Blekesaune found that, for mildly disabled people, employment rates tended to be affected by the overall employment situation in their country. However, this correlation did not hold for severely disabled people, nor was there a correlation with unemployment rates.

Other ways in which discrimination may occur include:

- conditions limiting ability to meet performance criteria even where these are not related to productivity (e.g. presenteeism and long hours);
- a lack of appropriate physical provision and organisation limiting performance; and

- discrimination against part-time working and part-time workers; disabled people are more likely to work part-time and part-time work incurs pay penalties (see Chapter 3).

### ***The onset of disability***

Jenkins and Rigg (2003) show how earnings fall with the onset of disability. Earnings at the year of onset of disability were 32 per cent lower than two years previously and a further five per cent lower the following year (using BHPS data for 1991–98, which has a work limiting definition of disability). The processes entailed require further research.

Those studies using more detailed assessments of disability based on daily living limitations found higher hourly pay gaps. On the other hand, studies using broadly comparable work limiting definitions may suggest a slight diminution in the hourly pay gap over time. Further research is required to assess the relative importance of the hourly pay gap.

### ***Employment transitions***

Rigg (2005) shows that disabled people tend to experience lower increases in earnings and higher decreases in earnings than do non-disabled workers. This applies across earnings levels. The lower increase in earnings is greater than the higher decrease. Disabled workers are also less likely to leave low earnings and more likely to enter low earnings (with 'low earnings' defined as earnings in the lowest decile and the lowest quartile of the earnings distribution). These findings hold for both women and for men.

Lower employment rates are caused not only through greater difficulty gaining a job, but also through disabled people (both women and men) being more likely to stop working (Rigg, 2005). This applies whether controls are used or not. Disabled men are almost three times as likely to leave work as non-disabled men, whilst disabled women are twice as likely to leave as non-disabled women.

Both disabled men and women workers are more likely to move into part-time work (under 30 hours per week) and to reduce their average hours (Rigg, 2005). Once controls are introduced, however, the fall in hours is weaker and only apparent for men.

These all suggest that policies to decrease the weekly and lifetime earnings gaps need to address retention and not just access to employment.

## 7.5 Wider earnings effects: informal carers<sup>31</sup>

The earnings effect of disability is not confined to disabled people: disability may affect the earnings of the informal carers of disabled people. In Britain in 2000, there were almost seven million informal carers of sick, disabled or elderly people (Heitmueller and Inglis, 2007). This included 14 per cent of the working age population.

Informal carers suffer a pay penalty (Heitmueller and Inglis, 2007; Carmichael and Charles, 2003).<sup>32</sup> Carmichael and Charles (2003)<sup>33</sup> found that, in 1990, caring more than ten hours per week reduced wages by about nine per cent for women and 18 per cent for men. Adjusting for characteristics, Heitmueller and Inglis (2007) examined the penalty in 1993 and 2002. On average, employed carers earned around six per cent less than non-carers, with about half accounted for by differences in characteristics and half unexplained. The pay gap was significant for women informal carers, but minimal for men, and was found along the pay distribution. Moreover, the gap had substantially increased. Having decomposed the gap into explained and unexplained parts and found that most of the increases in gap was in the unexplained part, they concluded (p. 831) that there was a:

... systematic difference in the way in which observed characteristics translate into wages for carers and non-carers, i.e. some form of pay penalty.

Informal carers are less likely to work and therefore have a lifetime earnings gap. McKay and Atkinson (2007) identified the effect on employment for families in which at least one household member was disabled. Their main findings were that:

- Child disability reduces employment for lone parents and for mothers in couples; it particularly reduces full-time working and slightly reduces part-time working; the effects differ with the child's disability; the effect on fathers' working is slight; consequently, two-earner households are less common amongst families with a disabled child than other families.

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<sup>31</sup> The issue of informal carers is also of relevance to the gender and age pay gaps, as most informal carers are female and informal caring increases with age.

<sup>32</sup> Referred to by Heitmueller and Inglis (2007).

<sup>33</sup> Referred to by Heitmueller and Inglis (2007).

Those with caring responsibilities of more than 20 hours per week are less likely to work (half the odds for 20–49 hours and a quarter the odds for over 50 hours). Male carers are less likely to work than female carers.

- The effect on employment depends on the number of family members who are disabled and/or caring and whether the respondent themselves is disabled.

Carers who work tend to be better qualified, to be single and to be female. There is also regional variation, suggesting availability of work may be a determinant. Those who live with the person for whom they care and who share care are more likely to work.

Taking into account personal characteristics, Heitmueller and Inglis (2007) calculated that, on average, an informal carer would lose between £41,000 and £52,000 over a 10 year period (1993 to 2002) in earnings due to lower employment levels.

## **7.6 Policies to reduce the pay gap**

Other than the Disability Discrimination Act, no policies have been introduced to address the disabled pay gap specifically and directly.

As with all groups with a disproportionate percentage of low paid people, the National Minimum Wage (NMW) might be expected to improve the disabled pay gap (as it has the gender pay gap, see Chapter 3). However, Schneider *et al.* (2001) found interaction between the NMW and benefits, resulting in hours being reduced to leave earnings unaffected, perhaps to retain benefit entitlements. The effects of the NMW were found to vary for disabled people by age, gender, impairment and type of employment setting.

Other policies, which may have reduced the disabled pay gap, are those aimed at increasing the employment rate of disabled people. These include sheltered employment, quotas, Access to Work, the New Deal for Disabled People and the Disability Discrimination Act (Burchardt, 2000a). Schemes which had close links with employers were found to be more successful (Blackburn *et al.*, 1999).

## **7.7 Conclusions and research gaps**

There is evidence of earnings, weekly and lifetime pay gaps for disabled people. The wide range in estimated size for earnings gaps and reliance on indirect evidence for weekly and lifetime pay gaps means that the actual size of the gaps is uncertain. Disability appears to have a greater downward effect on relative male than relative female pay. The gap widens as the severity of disability increases.

Certain causes of the disability pay gap have been identified. These tend to be set within a traditional economic framework, focusing on individual productivity (human capital) differences and discrimination. Some of the processes have been identified in relation to employment gaps, but this understanding needs to be extended to pay gaps. The effect (and causes) of higher concentration in part-time and temporary employment needs to be better understood, as does the interaction between disability and other equality strands.

Disabled pay gaps have been relatively well-researched, but important areas for further research include long-term effects of disability on pay rates and on lifetime earnings. The effect of transitions into disability have been explored (Jenkins and Rigg, 2003). However, impairments may fluctuate. It would be useful to identify how pay gaps alter with changes out of disability (and of repeat spells).

## 8. AGE

### 8.1 Introduction

The 'age pay gap' is somewhat different from most of the other pay gaps considered in this report. Age is a continuous characteristic and, for the individual, changes over time. In these ways, it is only similar to disability. However, age also differs in two ways from the other equality strands: all employees belong to the disadvantaged and the advantaged group and pay gaps may reflect cohort, not age, differences. The latter means it is important to consider both the pattern of earnings between cohorts, as well as across lifetimes.

Age discrimination occurs at all ages (Metcalf and Thompson, 1990). However, employment disadvantage is concentrated at the ends of the age distribution: amongst younger and older workers. Concern has been greatest about older workers and this is where much of the research evidence lies. The disadvantage suffered by younger workers has been of less concern largely because much is attributed to their lack of employment skills, which develop with age. Therefore, younger workers' disadvantage is largely not attributed to discrimination, but to a normal developmental process.

### 8.1 Evidence on age pay gaps

It is useful to consider both cross-sectional and cohort evidence on age pay gaps, as cohorts vary substantially in their employment characteristics. Cross-sectional evidence compares pay by age at a given time period. Cohort data compare pay at a given age for people born in different years and also how pay changes as individuals age.

#### ***Cross-sectional evidence***

Table 8.1 shows hourly pay rates and pay gaps by age. Key points are that pay rises steeply to plateau in the 30s, then falls after 60, i.e. it has a 'bell' shape. Thus the highest pay gaps are for 16- to 17-year-olds, with 18- to 21-year-olds also faring badly (gaps of 66 per cent and 53 per cent respectively). Over 60s also suffer a substantial pay gap of 20 per cent.

**Table 8.1 The age pay gap by gender, hourly pay<sup>a</sup>, 2007**

	Mean hourly pay, £			Pay gap, per cent			
	All	Male	Female	All <sup>c</sup>	Male <sup>c</sup>	Female <sup>c</sup>	Female v male aged 40-49
16-17 <sup>b</sup>	5	5	5	66	71	61	70
18-21	7	7	7	53	58	48	60
22-29	11	11	10	29	36	21	39
30-39	14	15	13	4	10	#	24
40-49	15	17	12	#	#	5	27
50-59	14	16	12	6	6	8	30
60+	12	13	10	20	23	22	40

*Notes:* <sup>a</sup> Employees on adult rates whose pay for the survey pay-period was not affected by absence.

<sup>b</sup> Figures for 16- to 17-year-olds include employees not on adult rates of pay.

<sup>c</sup> The comparator is the highest paid age group of the same gender, denoted by #.

*Source:* Annual Survey of Hours and Earnings, 2007, Office for National Statistics.

Pay profiles differ somewhat by gender. Women reach their peak earlier (aged 30–39) than men (40–49) and the age pay gap for younger workers is somewhat smaller for women than men. The age gap is similar for women and men over 60 (compared with their own gender). Analysis using finer age bands<sup>34</sup> shows the male peak to lie in the early 40s and the female peak in the late 30s, with the main decline for both women and men apparent in the late 50s (Longhi and Platt, 2008).

Within age groups the gender pay gap is in women's favour for 16- to 17-year-olds, but is in men's favour thereafter, rising to a peak of 27 per cent for all employees for those in their 40s (Table 8.2). The gap then slightly declines. Part of this rising gap is due to a rise in the percentage of women working part-time with age combined with the part-time pay penalty. Nevertheless, whilst the gap is smaller for full-timers, it is similar to that for all employees.

<sup>34</sup> Longhi and Platt use data from the Labour Force Survey for 2004 to 2007.

**Table 8.2 The gender pay gap within age groups, hourly pay<sup>a</sup>, 2007**

	Pay gap, per cent	
	All <sup>c</sup>	Full-time <sup>c</sup>
16-17 <sup>b</sup>	-3	-9
18-21	6	5
22-29	6	4
30-39	15	11
40-49	27	22
50-59	25	20
60+	22	14

Notes: <sup>a</sup> Employees on adult rates whose pay for the survey pay-period was not affected by absence.

<sup>b</sup> Figures for 16- to 17-year-olds include employees not on adult rates of pay.

<sup>c</sup> The comparator is the males of the same age.

Source: Annual Survey of Hours and Earnings, 2007, Office for National Statistics.

The age pay gap for women working part-time is smaller across the age range, i.e. the pay profile is flatter for part-timers than full-timers (Table 8.3).



**Table 8.3 The age pay gap by gender, full-time and part-time, hourly pay<sup>a</sup>, 2007**

	Mean hourly pay, £			Pay gap, per cent		
	Full-time male <sup>c</sup>	Full-time female <sup>c</sup>	Part-time female <sup>c</sup>	Full-time female v full-time male aged 40-49	Part-time female v full-time male aged 40-49	Part-time female v full-time female aged 30-39
16-17 <sup>b</sup>	72	63	52	70	70	63
18-21	57	50	40	59	63	54
22-29	35	23	21	38	51	39
30-39	10	#	#	19	38	23
40-49	#	4	5	22	41	27
50-59	6	7	8	25	43	29
60+	23	18	17	34	48	36

Notes: <sup>a</sup> Employees on adult rates whose pay for the survey pay-period was not affected by absence.

<sup>b</sup> Figures for 16- to 17-year-olds include employees not on adult rates of pay.

<sup>c</sup> The comparator is the highest paid age group of the same gender, denoted by #.

Source: Annual Survey of Hours and Earnings, 2007, Office for National Statistics.

Age-wage profiles differ by education as well as by gender. Although, the wage/age profile is bell shaped for each level of education, the bell is flatter for those with less than upper secondary education (i.e. 'A' level education) (Organisation for Economic Co-operation and Development (OECD), 2006). By the age of 60–64, those with upper secondary education and those with less than this both tend to earn less than at the age of 25–29 (and thus the decline is most pronounced for those with upper secondary education). For those with higher education, growth is greater and declines less. Nevertheless, 60–64-year-olds earn slightly less than 35–39-year-olds. Age-related differences have been found at various levels of employment, even up to Chief Executive posts (McKnight *et al.*, 2000).

Age/wage patterns vary by country, with some countries exhibiting continued growth in earnings with age. However, the UK male pattern is typical of OECD males (OECD, 2006).

### **Cohort evidence**

Cohort data also shows that as people age, pay first rises steeply, plateaus and then declines (Campbell, 1999; Kalwij and Alessie, 2007). However, the pattern is slightly different from that implied by cross-sectional data. For men, the peak is at a younger

age than implied by cross-sectional data<sup>35</sup> (Campbell, 1999; Kalwij and Alessie, 2007). For women, pay grows rapidly with age to the early 30s and then plateaus. It does not then decline. The decline found in the cross-sectional data is not due to ageing, but due to the pay of more recent cohorts being higher. For men, but not for women, manual and non-manual patterns differ, with lesser or no decline for non-manual workers (Meghir and Whitehouse, 1996; Mallier and Morris, 2003).

The peak earning age has declined over time (i.e. those born more recently see a peak in their earnings at a younger age)<sup>36</sup> (Campbell, 1999; Kalwij and Alessie, 2007), although, given the limited period over which this was observed, the decline may be due to interaction with the economic cycle, rather than a secular shift (Campbell, 1999). At any given age, annual earnings were almost always higher for successive cohorts (Campbell, 1999; Kalwij and Alessie, 2007). At the same time, the dispersion in wages at all ages has widened (Gosling *et al.*, 1996; Schmitt, 1995; Kalwij and Alessie, 2007). However, the increase in wage dispersion has been much greater amongst those in their late 40s than those in their late 50s (Dickens, 1996).

### 8.3 Causes of age pay gaps

Identifying the causes of the age pay gap is important, not only for addressing it, but also for establishing the extent to which the age is, in equity terms, a problem. Certainly, workers' perception of whether they are paid fairly declines with age (Paul, 2006). However, the age pay gap may, at least in part, result from cohort differences in skills held and in skills and experience demanded. It may also result from life cycle changes in circumstances and in non-employment lifestyle choices (in particular, due to changes in wealth and changing consumption needs and preferences). These may affect economic activity and employment rates (changing the composition of those employed), hours and job choice. At the same time, there is substantial evidence of discriminatory attitudes and practices, which are liable to both affect and constrain choice (for example, N. Manning, 1996; Metcalf and Meadows, 2006).

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<sup>35</sup> For selected cohorts born between 1930 and 1945. For later cohorts, data were not available for a long enough period to identify the peak.

<sup>36</sup> For selected cohorts born between 1930 and 1945. For later cohorts, data were not available for a long enough period to identify the peak.

***Compositional effects: age differences in economic activity rates***

The employment rate falls steadily beyond the age of 45 (Berthoud, 2006).<sup>37</sup> Movement out of employment varies with occupation, being greatest amongst the higher paid (taking early retirement) and amongst the lowest paid (becoming unemployed or long-term sick) (Phillipson and Smith, 2005). These different withdrawal rates mean that the older workforce is different in terms of its occupational/skill composition compared with both the same cohort at an earlier age or younger cohorts. As higher withdrawal rates occur at both the higher and lower paid ends of the distribution, it is unclear whether failure to take this compositional change into account over- or under- estimates the older age penalty.

Equally, for young people employment rates vary with qualification: those full-time employed under the age of 22 tend to be less qualified (as the better qualified stay on in full-time education). This should result in lower pay for younger employees (irrespective of other differences).

No evidence was found on the effect of compositional differences due to differences in economic activity (and employment) rates on the age pay gap.

***Productivity differences by age***

If productivity differs by age, this may contribute to the age pay gap. There are a number of ways in which productivity may change with age:

- the physical and mental ageing processes may reduce productivity;
- productivity increases with experience (at least initially) and so will increase with age
- education has changed over time, resulting in differences in educational levels by cohort
- receipt of training may be affected by age, and
- changes in industry and production techniques may affect the relative productivity of different age groups.

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<sup>37</sup> The degree of decline has been reduced somewhat recently, with employment rates of both men and women aged 50-70 increasing between 2000 and 2007 (Smeaton and Vegeris, 2009, forthcoming).

The evidence suggests that mental and physical decline does not explain the age pay gap for older workers. There is some evidence that after the age of 55, some physical and mental attributes deteriorate, but this may be compensated for by experience (OECD, 2006; Meadows, 2003). Indeed, Warr (1994), reviewing a wide range of previous studies, found no evidence of a deterioration of productivity with age.

We did not identify evidence of research into pay gaps that examined the effect of experience on productivity (except in compensating for slight mental or physical decline for older workers). However, there is extensive qualitative evidence of employers reporting that young workers show a lesser commitment and work ethic. Both lack of experience and lesser work ethic may contribute to the age pay gap for young people.

One of the reasons for lower wages amongst older men may be a cohort effect, with lower levels of education amongst earlier cohorts (Campbell, 1999). This stems both from changes over time in pre-labour market education and from differences in employer-supported training by age. Older people are less likely to receive work-related training (Smeaton and Vegeris, 2009 forthcoming) and so are less likely to maintain and upgrade their skills. Whilst evidence points to discrimination in selection for training (Meadows, 2003) and to older workers having a greater reluctance to participate in training, Disney *et al.* (2001) also identified a compositional effect, with older workers being less likely to be employed in occupations that offer training.

Productivity may decline due to obsolescence of skills. The OECD (2006) cites evidence that, although productivity may be lower amongst older workers, this may be due to older workers being concentrated in lower productivity workplaces (and younger workers moving out). However, they also find that pay does not reflect this lower productivity.

Few studies of pay by age address these productivity issues. Campbell (1999) standardised for qualification level. For women, he found that the cross-sectional peak in earnings is due to younger women having more qualifications than older women workers, but this did not explain the whole difference for men. However, the analysis uses a narrow proxy for human capital (qualifications) and it would be useful to expand this to include experience.

### ***Economy-level changes***

Economy-level changes, in both industry and in productive techniques, are liable to impact differently by age. New entrants to the labour market are more likely to

develop the skills of the expanding industries and occupations, whilst existing employees are more likely to be in declining industries (Campbell, 1999), occupations and firms (Urwin, 2004). This will occur merely due to the pattern of vacancies and due to employees' willingness to change jobs. It will also, possibly, be affected by the lesser relevance of older people's education to changing production techniques (Meghir and Whitehouse, 1996; Robinson, 2003b).

These changes, and their impact on earnings, do not imply lack of equity in employment by age, but are a result of historical change. However, to the extent that shifts into expanding industries are inhibited through lower levels of training for older workers and discrimination in recruitment, the concentration of older workers into declining industries will result from lack of equity.

### ***Unemployment penalty***

Gregg *et al.* (1999) identified how re-employment after unemployment may contribute to the age gap. They found that on return to work after a spell of unemployment, the earnings decline was greater with age. Workers aged 50 or more could receive 75 per cent of their previous wage, compared with 80 per cent for those aged 25 to 49. Moreover, the decline was greater the lower the qualifications and the longer the previous tenure, creating a triple negative effect for older workers.

### ***Part-time pay penalty***

A relatively high proportion of the over 50s work part-time (Grattan, 2005) and this is becoming increasingly important for older men (Smeaton and Vegeris, 2009 forthcoming). Part-time workers incur a part-time wage penalty (see Chapter 3) and this will combine to increase overall age gaps. This may be further compounded by limitations on the availability of part-time work and consequent occupational downgrading (see Chapter 3). However, we found no research on the occupational downgrading and the move to part-time work for older workers.

The part-time pay gap itself does vary with age (Table 8.4). For men, the part-time pay gap rises to the 30s and then declines. For women, the gap is similar across all ages, except it is smaller for young workers.

**Table 8.4 The part-time pay gap by age, hourly pay<sup>a</sup>, 2007**

	Pay gap, per cent	
	All <sup>c</sup>	Full-time <sup>c</sup>
16-17 <sup>b</sup>	-13	1
18-21	9	8
22-29	16	21
30-39	21	23
40-49	15	24
50-59	11	23
60+	11	22
<b>All ages</b>	<b>26</b>	<b>23</b>

Notes: <sup>a</sup> Employees on adult rates whose pay for the survey pay-period was not affected by absence.

<sup>b</sup> Figures for 16- to 17-year-olds include employees not on adult rates of pay.

<sup>c</sup> The comparator is the males of the same age.

Source: Annual Survey of Hours and Earnings, 2007, Office for National Statistics.

### **Pay systems**

Pay systems contribute to the age pay gap. Some inherently contain an age element, such as incremental scales. Indeed, seniority arrangements play a major part in maintaining the pay of older workers (OECD, 2006). However, there appears to be a trade off against employment.

Other types of systems, for example, individualised systems which allow greater discretion, may lead to indirect effects. As well as making direct discrimination easier, individualised systems can introduce indirectly discriminatory criteria, for example, through increasing the pay of employees who otherwise might be expected to leave (discriminatory against older workers, whose job mobility is lower) and rewarding for expected future performance (potential high fliers) (Metcalf and Meadows, 2006).

### *Monopsony and power differentials*

Young people are highly concentrated by industry and occupation, particularly those combining employment with education. This may lead to relatively lower pay in these sectors. We found no evidence of research into this issue.

#### **8.4 Conclusions and research gaps**

Research shows that workers at both ends of the age spectrum are paid less than prime age workers. Whilst there are some indicators of why this occurs, our understanding of the processes is limited. Substantially more research is required to understand the extent to which the age pay gap reflects positive choices and the extent to which it reflects constraints and discrimination and the consequent relevant policy response.

Decomposition analysis is required to identify the extent to which age pay gaps relate to differences in human capital and employment patterns by age. However, this should be supported by further research into why these differences occur, i.e. the relative roles of unconstrained choice, constrained choice and discrimination on employment patterns by age.

Further analysis of how pay changes with age (as opposed to cross-sectional analysis of differences by age) is necessary, both to distinguish between cohort and ageing effects and also to increase our understanding of the process by which age affects pay. This might examine, for example, the role of mobility: how pay changes for an individual through pay rises in post, through movement to another job and with movement in and out of employment.

We also need to understand more about how pay systems and their implementation lead to age pay gaps. This might include qualitative research into the role of different payment systems: how these are used in practice and the age consequences.

There is a dearth of research on the pay of young people. It is assumed that their lower pay is due to lower human capital and a worse work ethic and consequent lower productivity. However, there is little evidence on this, nor on other factors which might affect their pay (for example, crowding).

Finally, it would be useful to identify the role of age on pay within sub-groups, including by equality strands, family circumstances, occupations and education.

## 9. SUMMARY AND CONCLUSIONS

### 9.1 Evidence on pay gaps

The extent and quality of evidence on pay gaps and their causes varies extensively across the equality strands.

There is substantial evidence on the gender pay gap (including on the motherhood and part-time pay gap). In respect of the size of the pay gap and human capital explanations, the gender pay gap has been tracked over time. Some evidence also exists on lifetime pay gaps. The body of research has been developed across a range of disciplines, enabling a good understanding of the causes of the gender pay gap and the processes involved.

Thorough, robust and multi-faceted evidence does not exist as a body for any of the other equality strands. Human capital (and discrimination) approaches are reasonably represented in relation to the ethnic pay gap.

The sample size constraint on such research should be somewhat eased with the planned improvement in national datasets. However, there has been less investigation of other causes of the ethnic pay gap, although conditions are conducive to other causes. For example, occupational, regional and firm concentration may have led to monopsonistic power (or alternatively, compensating monopoly power) or to ethnic-based undervaluation of skills and jobs.

The situation is broadly similar for the age pay gap and the disability pay gap, although each issue faces different challenges. For age, further research on choice is particularly relevant. The extent to which changes in occupation and hours, as well as withdrawal from the labour market, results from choices conditioned by long-term discrimination (for example, in recruitment, progression and training) and how much is due to non-labour market considerations is unclear. For disability, the effect (and causes) of higher concentration in part-time and temporary employment needs to be better understood. Research into religious and sexual orientation pay gaps is in its infancy, hampered by a lack of data.

There is very little examination of the interaction between equality strands, with the exception of interactions between gender and the other strands and the very scant research into religion and ethnicity. For gender, the approach tends to be limited to identifying differences between women and men within an equality strand, and not using differences to increase understanding of the pay gaps for the strand.



## 9.2 Comparison between equality strands

The shortcomings in the research evidence identified in the previous section make it difficult to compare equality strands either in terms of the size of the pay gap or the causes of the pay gap, or to understand how pay gaps interact between equality strands. Any comparison is hampered by a lack of studies examining more than one strand (with the exception of gender) and differences in methods between studies.

For women, evidence points to the dominance of the gender pay gap over ethnic and disabled pay gaps. However, given that the main impact of the gender pay gap is due to motherhood and the part-time pay gap, and ethnic and disabled pay gap analysis has not examined these specifically, it is unclear how the relative effects impact (e.g. for childless women and for those who work full-time).

It is clear that pay gaps are substantial for less educated mothers, part-time workers, disabled people, Muslims, Sikhs, Black African men and Bangladeshi men. The size of the pay gap by age and by sexual orientation is less clear. Nevertheless, all major ethnic minority groups suffer a pay gap compared with whites and this is therefore a problem. The evidence also points to pay gaps for older workers.

The explanations of the causes of these pay gaps, except the gender pay gap, are relatively unsophisticated, relying largely on human capital and discrimination explanations. To develop a fuller explanation of the comparative causes requires substantial further research, taking the holistic approach applied to gender as a template.

## 9.3 Key research needs

Throughout the report, we have identified key research issues for each equality group. Given our much greater knowledge about the gender pay gap than any of the other pay gaps, we would suggest that research needs on the gender pay gap are less key than on other equality strands.

### ***Decomposition analysis for age, disability, ethnicity and religion or belief<sup>38</sup>***

Decomposition analysis, i.e. identifying the relative role of different characteristics (personal, educational and work), is needed in respect of age, disability, ethnicity and religion or belief pay gaps. This would assist in pinpointing where policy might be best directed to reduce each pay gap.

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<sup>38</sup> Sexual orientation has been excluded due to lack of suitable data.

Such analyses should take into account selection effects into employment (i.e. that, within some equality strands, participation rates differ between equality groups and that the pay gap only measures the gap for those in work; the actual pay differential for those who are not employed may be different). It would be useful to compare cohorts to identify whether change has occurred over time (i.e. generational effects) and in what ways and to separate age effects from cohort effects. Moreover, as datasets vary in the variables available and in sample sizes, it would be particularly useful to conduct similar analyses using a range of datasets.

### ***Longitudinal research***

In order to increase our understanding of the way in which pay gaps are produced, it would be useful to explore their development over the life cycle and in response to life events (e.g. motherhood, the onset of impairment). This type of research has been conducted in respect of gender and, to a lesser extent, age.<sup>39</sup> Further research for all strands would be useful.

For disability, ethnicity, religion or belief and sexual orientation, research needs to start by identifying the development of pay gaps with age and life events. However, such research would require longitudinal data, which are not currently available (with sufficiently large sample sizes). The proposed longitudinal survey of ethnic minorities, if developed, would rectify this for ethnic minorities, but for other equality groups, new dedicated longitudinal surveys are required.

Such surveys would be expensive, but could make a significant contribution to our understanding of how prior history and ‘trigger’ events can affect employment and earnings of individuals in the longer term.

### ***Process analysis***

Research into the processes by which pay gaps develop over individuals’ careers would be useful. This might include:

- pay change;
- links with mobility (and non-mobility);
- moves between full-time and part-time work; and
- moves into economic activity.

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<sup>39</sup> Age pay gap research has examined ageing and not life events.

Very little research has been conducted into processes: the few examples (in respect of the gender pay gap) include Manning and Petrongolo (2007), Manning and Swaffield (2005) and Manning and Robinson (2004).

Both quantitative and qualitative research on individuals and employers would be useful. International comparative research may also be useful where effects appear to differ (for example, the effect of part-time working on pay).

### ***Gender***

The main research needs are into processes by which the gender pay gap develops (described above) and the role of part-time work. In particular, it would be useful to identify why, in the UK, part-time work reduces not only current, but also future, earnings.

### ***Sexual orientation***

There is a dearth of knowledge about sexual orientation and employment. To understand sexual orientation pay gaps better, both research into pay gaps directly and employment more generally is required to help understand how pay gaps may be formed (e.g. into the employment patterns of gays, lesbians, bisexuals and transsexuals). Both quantitative and qualitative research is required, with the latter dependent on the development of appropriate datasets.

Qualitative research might include:

- how individuals' employment choices are influenced by their sexual orientation; and
- how employers' treatment of employees and applicants is influenced by sexual orientation (and perceived sexual orientation).

As far as possible, further research needs to consider the effect of being out or not and the effect of locality, given differences in acceptance of non-mainstream sexuality across the country.

### ***Ethnicity***

Our understanding of the ethnic pay gap could be greatly improved by further decomposition (and similar) analyses (discussed above). These should take into account gender and religion or belief and selection effects. In addition, it would be useful to explore whether monopsony and concentration play a role in the ethnic pay gap.

***Religion or belief***

There is a lack of understanding of religion or belief pay gaps. Decomposition analyses are needed to identify:

- the extent of any religion or belief pay penalty; and
- potential contributors to the pay gap, in terms of personal and labour market factors.

Whilst quantitative research in this area could be improved with better datasets (see below), further analysis of the Labour Force Survey would be useful.

Qualitative research would be useful to enhance our understanding of how religion or belief may contribute to disadvantage in the labour market more generally (and so contribute to the pay gap), for example, in respect of affecting participation and employment and experience of discrimination.

Given the correlation between religion and ethnicity, research that takes ethnicity into account and examines the interaction between religion and ethnicity is required.

***Disability***

Key areas for further research on disability pay gaps include:

- the long-term effects of disability on pay rates and on lifetime earnings; and
- the effect of fluctuations in the nature and severity of impairment.

The effect of transitions into disability have been explored (Jenkins and Rigg, 2003), but it would be useful to identify how pay gaps alter with movement out of disability and of repeat spells of disability.

***Age***

Age gap and employment research provides tantalising glimpses into the causes of the age pay gap. However, the extent of research makes it difficult to be confident about causes (and therefore of policies to address the age pay gap). Further research is needed into:

- the age gap for younger workers: decomposition analysis would be useful to identify the extent to which this may be a human capital issue or not;

- the extent to which the age pay gap reflects positive choices and the extent to which it reflects constraints and discrimination; and
- how pay systems and their implementation lead to age pay gaps; this might include qualitative research into the role of different payment systems: how these are used in practice and their age consequences.

Decomposition analyses, as discussed above, would be useful. This should be supported by research into why differences in employment patterns occur, i.e. the relative roles of unconstrained choice, constrained choice and discrimination on employment patterns by age.

Longitudinal analysis, as discussed above, is also needed, both to distinguish between cohort and ageing effects and also to increase our understanding of the process by which age affects pay. Issues of interest include the role of mobility: how pay changes for an individual through pay rises in post, through movement to another job and through movement in and out of employment.

#### 9.4 Data improvements

The analysis of pay gaps across the equality strands is hampered through data deficiencies. These are of three main types:

- ***The lack of identification of the equality strand characteristics.*** This mainly applies to sexual orientation, which is not properly covered in any of the major national or international datasets. However, religion or belief is also not covered in some, e.g. the European Labour Force Survey.

It would be useful that all major datasets collected data for each equality characteristics equally where possible. This applies not only to data on individuals, but also, for example, to data on organisations (for example, WERS, in which data are collected on the gender composition of an employee's colleagues, but not only the composition in relation to any other equality group).

For sexual orientation pay gap research to progress, an appropriate dataset is urgently required, which could be produced either through collecting sexual orientation data in the Labour Force Survey or through a dedicated survey.

- ***The small sample size for some equality strands.*** This hampers analysis of pay gaps related to disability, ethnicity and religion or belief and is likely to arise

with sexual orientation (if data were collected). Oversampling these groups (or increasing the total sample size) in the major datasets would be helpful.

- ***The range of other data collected by datasets.*** In particular, the inclusion of better indicators of human capital in the major datasets (notably of employment experience in cross-sectional datasets) and of workplace data (in the individual datasets) would enable analysis to examine these jointly. The standard inclusion of certain data (for example, English language competence, whether the person was a migrant to the UK and when; disability measures) would enhance pay gap analysis.

In addition, the inclusion of gross pay as a core variable in the European Labour Force Survey would facilitate international comparative research.

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This report examines research evidence on pay gaps in the UK from 2000 onwards by gender, sexual orientation, ethnicity, disability, religion or belief and age. Building on earlier research on the gender pay gap, the report outlines the gaps in the research evidence and draws out the implications for future research and data collection.