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# The economic cost of underachievement of Black boys and young men – technical paper for Communities and Local Government/Reach

## Communities and Local Government – REACH project

6th June 2007

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# 1 Introduction

## 1.1 Background

### 1.1.1 Introduction

PricewaterhouseCoopers LLP (PwC) was commissioned by the Race, Cohesion and Faith Research Unit within Communities and Local Government (CLG) to quantify the economic cost of underachievement and exclusion of Black[1] boys and young men in England and Wales. The cost estimates are to be used as supporting evidence to the REACH project[2]. The scope of the REACH project includes an assessment of the following areas:

- Issues impacting on Black boys' and young black men's achievement and/or aspiration, drawing together existing research on these issues;
- Examples of good practice and mechanisms for their dissemination;
- Possibilities for piloting different techniques; and
- Improved engagement with key stakeholders, and with Black boys and young men themselves, to increase effectiveness of Government policy for this group.

The objective of REACH is to produce a final report and recommendations at the end of the project, which will be used to influence policy-making across Whitehall and in the regions. The CLG is acting as the REACH project secretariat.

There is evidence that underachievement and exclusion reduce the aspirations of young Black men, as well as reducing their ability to participate in the labour market, enter certain occupations and obtain permanent employment. This contributes to low wages for this group of individuals as well as high unemployment rates. Unemployment and alienation from the educational system are also related to a higher propensity to be involved in crime, although over-representation in the Criminal Justice System (CJS) may also be associated with many other factors, such as discrimination,[3] and evidence linking ethnicity and criminality is inconclusive.

There are a number of key indicators that demonstrate the underachievement and exclusion of Black boys and young men and their subsequent impacts, including:

- The attainment of Black Caribbean and Black Other boys at GCSE level is lower than that for boys from almost any other ethnic group. In 2005/06, 35.9% of Black Caribbean and 38.9% of Black Other boys in England achieved 5 or more A*-C GCSEs (and equivalent).[4] This compares to 52.6% for White British boys, 66.7% for Indian boys and 74.6% for Chinese boys;
- The attainment of the Black boys' female counterparts is markedly higher. 52.4% of Black Caribbean girls and 55.7% of Black Other girls achieved 5 or more A*-C GCSE (and

[1] For the purposes of this study "Black" includes Black Caribbean, Black African and Black Other as defined in the 2001 census. It excludes the Mixed race group.

[2] See http:/www.reach.c-a-n-i.com.

[3] We do not make a judgement of the causes of CJS over-representation (i.e. whether over-representation is a result of higher offending, detection, prosecution or conviction rates).

[4] Table 8 of "National Curriculum Assessment, GCSE and Equivalent Attainment and Post-16 Attainment by Pupil Characteristics in England 2005/06 (Provisional), DfES.

equivalent). This compares to 61.9% for White British girls, 76.5% for Indian girls and 84.3% for Chinese girls;

- Black Caribbean and Black Other pupils are almost three times more likely to be permanently excluded from school – in the school year 2004/05, the proportion of all pupils (boys and girls of compulsory school age) permanently excluded from school in England was 0.14%[5], whereas the proportions for Black Caribbean and Black Other were 0.39% and 0.36% respectively. With respect to fixed period exclusions, while 5.7% of all pupils were excluded for fixed periods, the proportions for Black Caribbean and Black Other were 10.6% and 10.5% respectively[6]. The proportions of Black African children excluded, by contrast, were on a par with, or lower than, the average (0.14% permanent, 5% fixed period);

- Black boys and young men are disproportionately likely to be involved in the CJS – excluding foreign nationals, in Great Britain in 2005 Black people were five times more likely to be in prison than White people[7] and 6 per cent of all people starting court order supervision by the Probation Service in the period October to December 2004 were Black (of either gender) compared to 2.3 per cent representation in the population as a whole;

- The economic inactivity rate is higher for Black men (23.6% of working age males) than for all men (16.9%)[8], and the unemployment rate for Black men aged 16 and above (16.4%) is higher than for White men (4.4%)[9]; and

- Black African men have hourly earnings that are approximately 12% lower than those of White men (for Black Caribbean men the equivalent figure is approximately 10%)[10].

## 1.2 Scope of the study

The drivers of underachievement are complex and wide-ranging. Possible drivers include family background (for example, the income, education and socioeconomic status of parents), neighbourhood factors, peer group pressure, attitudes to education, discrimination, and the nature of the educational institutions. The remit of this study is not to examine the causes of underachievement but to evaluate the consequences. The impacts of underachievement are also wide-ranging. For the purposes of this study, three priority areas for analysis were identified by CLG:

- Education, including both under-performance and school exclusions;

- Labour market outcomes, including pay and levels of employment; and

- Over-representation in the CJS as suspects and defendants.

Furthermore, the types of costs associated with each of these areas are also potentially numerous. For the purposes of this study we have focused on a discrete number of measurable costs associated with each of the priority areas as follows:

- Annual costs of exclusions;

[5] Table 7 in "Permanent and Fixed Period Exclusions from Schools and Exclusion Appeals in England, 2004/05, First Release", Department for Education and Skills.

[6] ibid.

[7] "Focus into the Relationship between Young Black People and the CJS – Annex B", Home Office, 2006.

[8] Office for National Statistics. 2005/6.

[9] ibid.

[10] "Ethnic penalties in the labour market: employers and discrimination", Heath and Cheung, DWP research report no. 341, 2006.

- Annual costs of unemployment;
- Annual costs of CJS participation; and
- Lifetime earnings impact.

In the sections that follow, we elaborate on each of these. We recognise that there are many potential additional costs to individuals and society that result from the underachievement of Black boys and young men. Such potential costs include the fear of crime, stress, and family break-up, to name but a small number. However, these were outside the scope of our work.

## 1.3 Our approach

### 1.3.1 Introduction

Our approach involved a number of stages: establishing an analytical framework; conducting a literature review; data collection; analysis and cost estimation; and reporting. We outline each of these in turn.

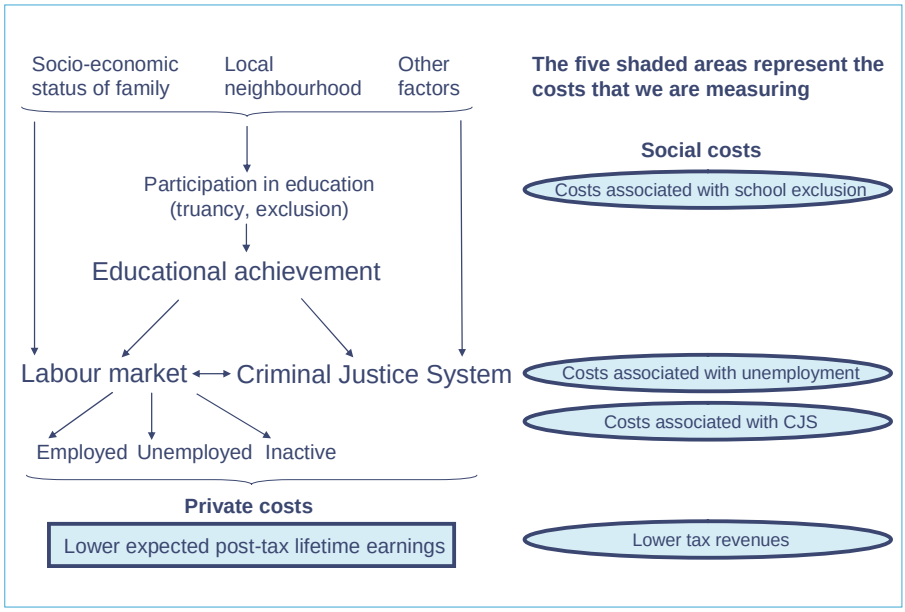
### 1.3.2 Analytical framework

On commencing the study we set out an analytical framework to guide our work. This essentially set out:

- The various linkages between the three priority areas of the study, namely education, the labour market and the criminal justice system;
- Within the various areas and linkages, the main costs to estimate;
- Whether the costs were private or social, annual or lifetime,
- Which costs are Exchequer/taxpayer costs (including transfers); and, for completeness
- Other possible related costs, which for the purposes of this study are non-measurable.

In Figure 1 we provide a high-level, stylised summary of the costs of underachievement that we proposed to measure.

**Figure 1: Stylised summary of the measurable costs of underachievement**




Clearly the diagram is high level and simplified, and some linkages have not been made explicit, for instance, exclusions linking directly to CJS participation. Owing to the complexity of the various inter-relationships, we deliberately composed a simple stylised model to focus on the most important costs to be estimated. We consider that the costs identified in the chart are those which best portray the observed and potentially measurable impacts of the various stages, allowing us to provide defensible and quantifiable estimates of costs whilst avoiding double-counting. Each arrow in the chain should be interpreted as the cumulative effect of all preceding factors. Following the identification of the main costs, we then considered their composition in more detail, which we describe in the following section.

### 1.3.3 Taxonomy of costs

In Figure 2 we provide a further breakdown of the various costs associated with the underachievement. This distinguishes between private costs (i.e. costs that are directly borne by the Black males themselves) and social costs (i.e. costs that are borne by society at large). The sum of these private and social costs is a measure of the overall economic cost of underachievement. Figure 2 also identifies those costs which are borne by the Exchequer/taxpayer. We also highlight the costs that we are to estimate, together with other possible, less easily measurable costs. For the latter we distinguish "economic" and "other" costs, where the latter refer to psychological and or sociological costs[11].

[11] These costs could potentially be measured in monetary terms but this is beyond the scope of our study.

**Figure 2: Taxonomy of costs**

| | | Private | Social | Exchequer |
|---|---|---|---|---|
| Measured | Economic | Lower expected post-tax lifetime earnings. | Costs associated with school exclusion.<br>Costs associated with Criminal Justice System.<br>Costs associated with job centres.<br>Reduction in tax revenues (including employers' taxes). | Payment of Job Seeker's allowance.<br>Payment of tax credits. |
| Non-measured | Economic | | Lower expected post-tax earnings for next generation.<br>Costs of avoiding crime.<br>Costs of healthcare provision. | |
| | Other | Other impacts of exclusion, low school achievement, poor labour market outcomes, experience of CJS (as defendant, victim, or witness).<br>Fear of crime. | Costs associated with mitigation of other impacts e.g. extra policing; counselling; social workers.<br>Other impacts from experience of CJS (as victim or witness).<br>Fear of crime.<br>Family break-up.<br>Clusters of deprivation. | |

In our analysis we also identified additional "transfer payments" between the Exchequer/taxpayers and Black males resulting from relative underachievement. We consider the two most significant categories of transfer payments to be the payment of Job Seeker's allowance and tax credits. Unlike the private and social costs identified, such transfer payments do not represent a real economic cost to society as a whole[12].

There are also indirect economic and psychological/sociological costs (across all three of the Private, Social, and Exchequer categories) that we do not intend to measure as part of this study. Nevertheless, we list examples of the main costs here for completeness.

### 1.3.4 Literature review/data collection

We reviewed existing literature from the wide range of areas (notably economics and sociological research) relating to the academic underachievement of young Black males. This has informed our analytical framework by identifying the key areas to be measured and the causal linkages between them. Data for this study have been collected from a number of sources, including: Government departments; academic studies; and, pre-existing datasets. Where we have been uncertain as to the correct interpretation of a data source, we have endeavoured to contact the authors for clarification. We have supplemented these sources with material from discussions with sector experts identified by the REACH committee.

References to specific data sources together with the relevant literature are made throughout this document.

### 1.3.5 Cost estimation /modelling

Our approach to estimating the costs can be broken down into a number of elements:

[12] This ignores any distortion effects caused by levying taxes i.e. the "deadweight costs" of taxation.

- Define the "target" group (i.e. the group that is the subject of our analysis) and "comparator" groups (i.e. other population groups that it is informative to compare our target group with);
- Estimate the size of the target and comparator groups for each category of costs;
- Estimate the differential rate between the two groups for each category of costs to be incurred;
- Estimate the unit cost (i.e. cost per unit of underachievement) for each category; and
- Calculate two types of cost:
  - The per annum cost as of 2006;
  - The present value[13] of the cost of current and future generations, assuming underachievement remains at the same level as in 2006, using the methodology in the Treasury's Green Book[14].

For the present value exercise, we provide two estimates of future costs: into the future in perpetuity i.e. indefinitely; and, into the future for the next fifty years. We also separated our cost estimates for future cohorts (i.e. those Black boys who are yet to enter the labour force) from those for current cohorts (i.e. those Black men who have already completed education and entered the workforce) as this could be relevant to the evaluation of policies designed to improve future achievement in education.

The target group for this study was males living in England and Wales with ethnic origins of Black African, Black Caribbean, and Black Other. The main comparator group was all males of a comparable age to the target group living in England and Wales with ethnic origins other than those in the target group. The exact age of the target and comparator groups varied according to which cost category was being estimated. For example, in the section on exclusions we concentrate on male school pupils of compulsory school age (5-16 years), whereas in the section on gross lifetime earnings we are concerned with each cohort entering the labour market and forecast the earnings differential over the expected working lifetime of the cohort. Further details of the calculations employed in each cost category are presented in the relevant sections.

### 1.3.6 Key assumptions

In Table 1 we present our assumptions underlying our approach to estimating the costs of underachievement.

[13] A present value is the *"current value of specified future amount: the value now of a sum of money expected to be received in the future, calculated by subtracting the interest and other value that will accrue in the intervening period"*, MSN Encarta, accessed 29 April 2007.

[14] "The Green Book: Appraisal and Evaluation in Central Government", HM Treasury.

**Table 1: Key assumptions**

| Assumption | Justification |
|---|---|
| No multiplier effects. | A multiplier effect results where increased spending in one part of the economy (e.g. due to increased earnings) leads to a larger overall effect on the economy. Including a multiplier effect would have increased our cost estimates.<br>Multiplier effects are highly uncertain; hence we excluded them to ensure a conservative estimate. |
| No displaced worker effects. | We assumed that if Black male achievement were improved and thus Black men were more likely to be employed and more likely to be in better paid jobs, then this would not result in lower employment or wages for other workers. We believe that this is a reasonable assumption to adopt, certainly in the longer run, since it would be a relatively small proportion of the workforce added gradually over time. |
| Resources used in the CJS and in the administrative costs of job broking, benefit provision and school exclusions would otherwise be used productively for other purposes. | Similarly to the displaced worker effect, resources associated with job broking, benefit provision and school exclusions are associated with a very small proportion of the UK economy and would be added to the productive economy gradually over time. |
| We estimated the impact on individuals, society, and government, but did not estimate the impact on firms' profits. | Firms take capital and labour (broadly defined) as inputs and combine them to produce value-added output. We have assumed the extent to which firms are constrained by access to a supply of quality-adjusted labour would not change as a result of a relatively small proportion of the workforce being added gradually over time.<br>Furthermore, firms also have the option of adjusting the ratio of their inputs between capital and labour. This will affect the returns to capital and have further effects on the providers of capital. Due to the large degree of uncertainty inherent in the process, we have not estimated the impact on firms' profits. Neither have we estimated the fiscal effect from employers' National Insurance Contributions, as this is a share of firms' profits. |
| We estimated the impact to the formal economy only, and did not consider the "hidden" economy. | The size of the informal economy is uncertain, and its relationships with the variables considered here are uncertain. |

### 1.3.7 Control for socioeconomic status

In order to understand the extent to which the costs estimated result from socioeconomic factors, or are related to Black boys and young men in particular, we conducted a further cost estimation exercise in which we adjusted for socioeconomic factors using the achievement of Black females, and the gender differential between the achievements of non-Black males and non-Black females.

The results of this exercise suggest that the costs we estimated were costs of Black male underachievement, rather than resulting from the lower average socioeconomic status of Black males, as compared to non-Black males.

## 1.4 Study limitations

It is important to highlight that this was a limited study. Our work commenced on 20 February 2007 and was substantively completed on 20 March 2007. We thus had four working weeks in which to establish the methodological framework, undertake desk research, gather data, conduct cost modelling, and write our draft report. Within these time constraints we focussed on gathering the most appropriate and obtainable data together with identifying pragmatic methods for estimating costs. In our view we have provided a reasonable estimate of the magnitude of the costs of underachievement of young Black males, based on plausible assumptions and data we could obtain during the timescale available for our work. No doubt there are areas that could be refined, with further available time and should further data and/or research become available.

It should also be noted that our methods were designed and selected to indicate a conservative estimate of the order of magnitude of the costs associated with underachievement and were not intended to be precise estimates. It is possible that use of different methods and/or data sources might lead to alternative estimates that differ from those presented in this report.

As discussed in Section 1.3.6, in estimating the costs to the UK economy, we assumed no multiplier effects[15], no displaced worker effects (i.e. we assume that one extra job for one person does not lead to the loss of a job for another person[16]) and we implicitly assume that resources used in the CJS and in the administrative costs of job broking, benefit provision and school exclusions would otherwise be used productively. We estimated the impact on individuals, society, and government, but did not estimate the impact on firms' profits. Also, we estimated the impact to the formal economy only, and did not consider the "hidden" economy.

In order to understand the extent to which the costs estimated result from socioeconomic factors, or are related to Black boys and young men in particular, we carried out a comparison estimate of our estimated costs against a comparison group, in which we adjusted for socioeconomic factors using the achievement of Black females, and the gender differential between the achievements of non-Black males and non-Black females. The results of our comparison suggested that the costs we estimated were costs of Black male underachievement, rather than resulting from the lower average socioeconomic status of Black males, as compared to non-Black males.

## 1.5 Areas for further research

In conducting our work, we identified a number of areas where we consider further research would be useful to increase understanding of the myriad of issues raised, and, importantly, to inform policy. Such research would need to follow the methodology adopted here of first examining existing work and evidence and then building on it. We describe these potential areas for further research below.

### 1.5.1 Causality

As mentioned in the introduction to the study, we have not explored the causes of underachievement although we understand that there is a wide range of possible complex and inter-related drivers. Possible causes include family background (for example, the income, education and socioeconomic status of parents), neighbourhood factors, peer group pressure, attitudes to education, discrimination, and the nature of the educational institutions. Empirical investigation to identify the important drivers and their relative magnitude would help to inform how best to direct policy. For example, if it emerged that single parent families was the most important factor then this would point towards a very different policy lever than if peer group influence emerged as the key driver. The existing body of literature and research conducted thus far together with available data could be

[15] The concept of multiplier effects is the idea that increased spending (e.g. due to increased earnings) in one part of the economy will lead to bigger effects in other parts.

[16] This is discussed further in Section 2.5.2.

reviewed to ascertain whether econometric analysis is possible. To augment this, a representative survey of Black boys and young men would provide an excellent source of data and it would be worthwhile repeating the survey over time in order to generate panel data. Econometric analysis of the survey data (or, if a survey is not possible, existing available data, if practical) would enable policy makers to identify the most important drivers, their relative magnitude, and which policy levers might best be applied.

### 1.5.2 Assessment of the differences between the various ethnic groups

This would build on the above. We were unable to provide comprehensive estimates of the differences in outcomes (educational and labour market) between the various Black ethnic groups. However, it was notable that GCSE achievements and school exclusions data did vary between the groups. Gaining an understanding of why the Black Caribbean and Black Other groups achieved lower GCSE grades than Black Africans and were more likely to be excluded from school would be a useful input to policy formation. While not directly relevant to the REACH, committee, we noted that some of the other ethnic groups also appear to be underachieving in education and the labour market (e.g. Pakistani and Bangladeshi pupils and workers, Gypsy/Roma pupils and Travellers of Irish Heritage pupils). It is possible that the drivers of these observed outcomes differ to those for Black boys and young men. If a greater understanding of the causes could be gained empirically then again, this would be useful input to the policy debate. With respect to crime, in studying the statistics on youth crime from the YJB, we noted that the Mixed ethnic group appeared to have a higher propensity to be involved in the CJS (compared to other ethnic groups) across most crimes (e.g. data on offences resulting in a disposal) and that there were significant increases in offences resulting in a disposal in 2005/06 compared to 2002/03 amongst this ethnic group. Gaining a greater understanding of the key drivers of this, based on empirical evidence, would be a useful input to the policy debate. Similarly, we understand that it can be difficult to design policies to target the Mixed race group because there is not a well-defined Mixed community. Hence, it would be a useful input into policy development to conduct empirical analysis into the extent to which those of Mixed race may benefit, or otherwise, from policies targeting Black persons, or policies targeting other ethnic groups.

### 1.5.3 School exclusions

While our estimate of the direct cost of school exclusions (per se) was not large compared to many of the other costs we estimated, evidence we found indicated that the knock-on cost effects of school exclusions (such as entry into the CJS) can be significant (notwithstanding the non-measured costs of school exclusions prior to and as they occur). More granular information on school exclusions such as frequencies, destinations, durations and post-exclusion behaviour might yield further insights to the economic and other costs associated with this area.

## 1.6 Structure of the report

The remainder of this report is organised as follows:

- In Section 2 we calculate the effects of lower educational achievement on gross lifetime earnings;
- In Section 3 we divide the gross earnings effect into the impacts on net (post-tax) earnings, and on taxes net of benefit payments;
- In Section 4 we assess the direct costs of additional support for those on low incomes and for the unemployed;
- In Section 5 we calculate the costs associated with extra exclusions from school;

- In Section 6 we estimate the extra costs incurred by the CJS; and
- In Section 7 we summarise our main findings.

# 2 Labour market outcomes – earnings

## 2.1 Introduction

In this section we set out our estimates of the costs associated with the impact of the underachievement of Black males in the labour market together with statistics on Black male underachievement compared to non-Black males and a description of:

- Characteristics and trends in labour market outcomes;
- Our approach to estimating costs; and
- The data available and data issues.

Underachievement in the labour market is associated with a number of different types of costs. Table 2 provides a breakdown of the main measurable costs associated with labour market underachievement and the type of cost (i.e. cost to UK economy, or cost to UK Exchequer/taxpayer).

**Table 2: Costs of labour market underachievement**

| Forms of labour market underachievement | Costs associated with labour market underachievement | Type of cost |
|---|---|---|
| Low labour force participation<br>Unemployment<br>Low earnings whilst in employment | Lower gross earnings and lower GDP(i) | Cost to UK economy.<br>Lower tax revenues are also an Exchequer cost |
| | Lower gross earnings means greater payments in working tax credits and other support for those working but on low incomes | Payments of working tax credit etc. are transfers and hence are only Exchequer costs, not costs to the UK economy |
| | Higher unemployment means greater payment of Job Seeker's allowance and other support for the unemployed | Payments of Job Seeker's allowance etc. are transfers and hence are only Exchequer costs, not costs to the UK economy |
| | Both support for those on low incomes and support for the unemployed require administrative costs | These are both Exchequer costs and costs to the UK economy |

*(i) Lower gross earnings imply both lower net earnings (cost to the individual) and lower tax revenues (cost to Exchequer). Gross earnings are the sum of net earnings and tax revenues and represent the cost (lost productive output) to the UK economy as a whole.*

In this section we restrict our analysis to the impact of qualifications on lower gross lifetime earnings resulting in longer expected time in unemployment and lower earnings whilst in employment. The costs of support for those on low incomes or who are unemployed is investigated in Section 3.

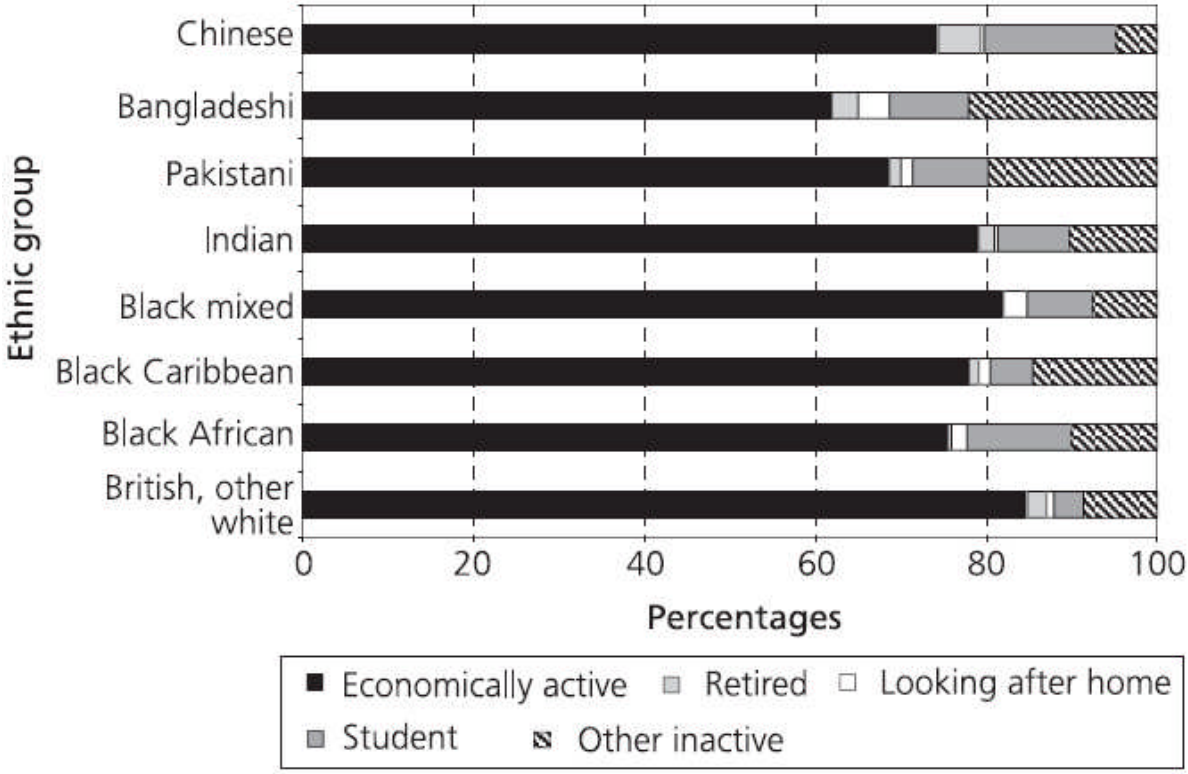
## 2.2 Characteristics and trends in labour market outcomes

### 2.2.1 Unemployment and labour force participation

Existing research has found that ethnic minority men tend to have below-average rates of labour force participation and high rates of unemployment. This is a well-documented characteristic of ethnic minorities in the UK labour market.

Figure 3, from Heath and Cheung (2006)[17], demonstrates (using data for Great Britain) that a lower proportion of Black Caribbean and Black African males are economically active than is the case for White males. In particular it is striking that the proportion of Black Caribbean males classified as "Other inactive" is approximately 15%. Heath and Cheung report that an above-average proportion of Black Caribbean males classified as "Other inactive" are "discouraged workers" that have dropped out of the labour force due to their experience of difficulty in obtaining work.

**Figure 3: Proportion of males that are economically active or inactive, by ethnic group, Britain**

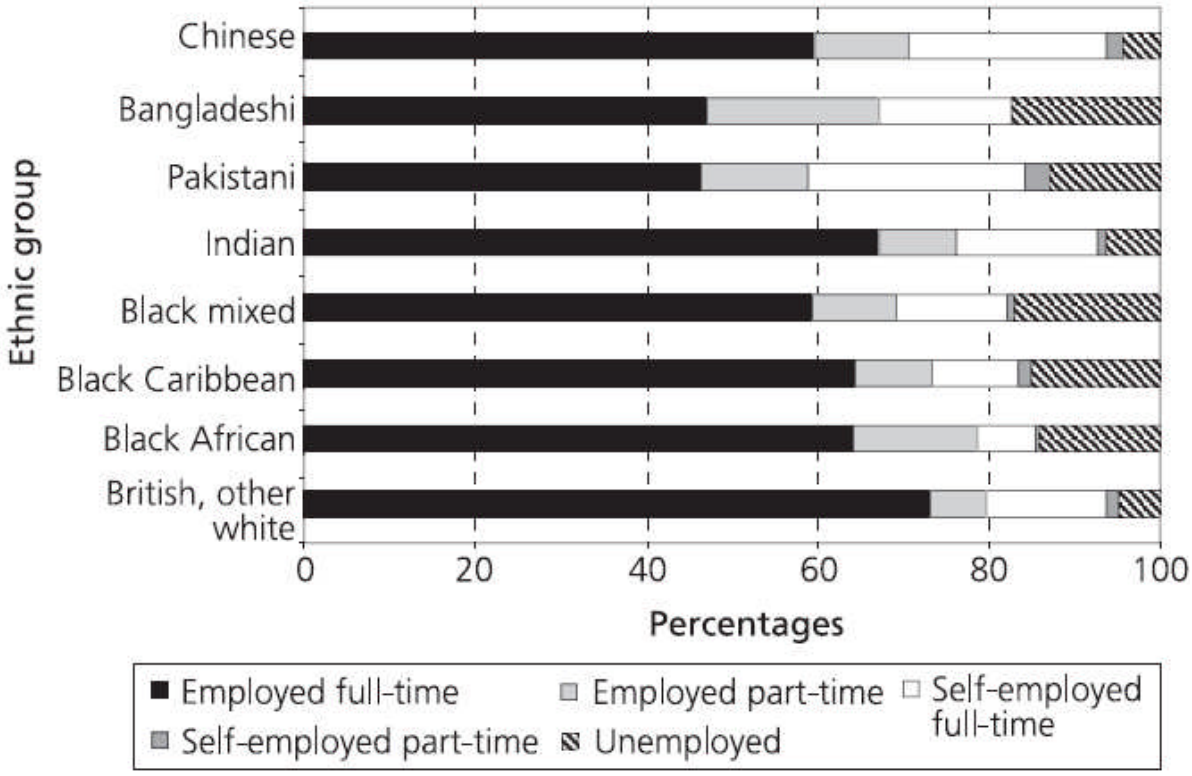



*Source: Heath and Cheung, "Ethnic penalties in the labour market: employers and discrimination", DWP research report no. 341 (2006).*

In terms of the active labour force (i.e. those either in, or seeking employment), Heath and Cheung (Figure 4) report that a substantially higher proportion of Black African men and Black Caribbean men are unemployed than is the case for White males, and that larger proportions than White males are employed part-time rather than full-time.

[17] Heath and Cheung, "Ethnic penalties in the labour market: employers and discrimination", DWP research report no. 341 (2006).

**Figure 4: Proportion of economically active males that are employed or unemployed, by ethnic group, Britain**



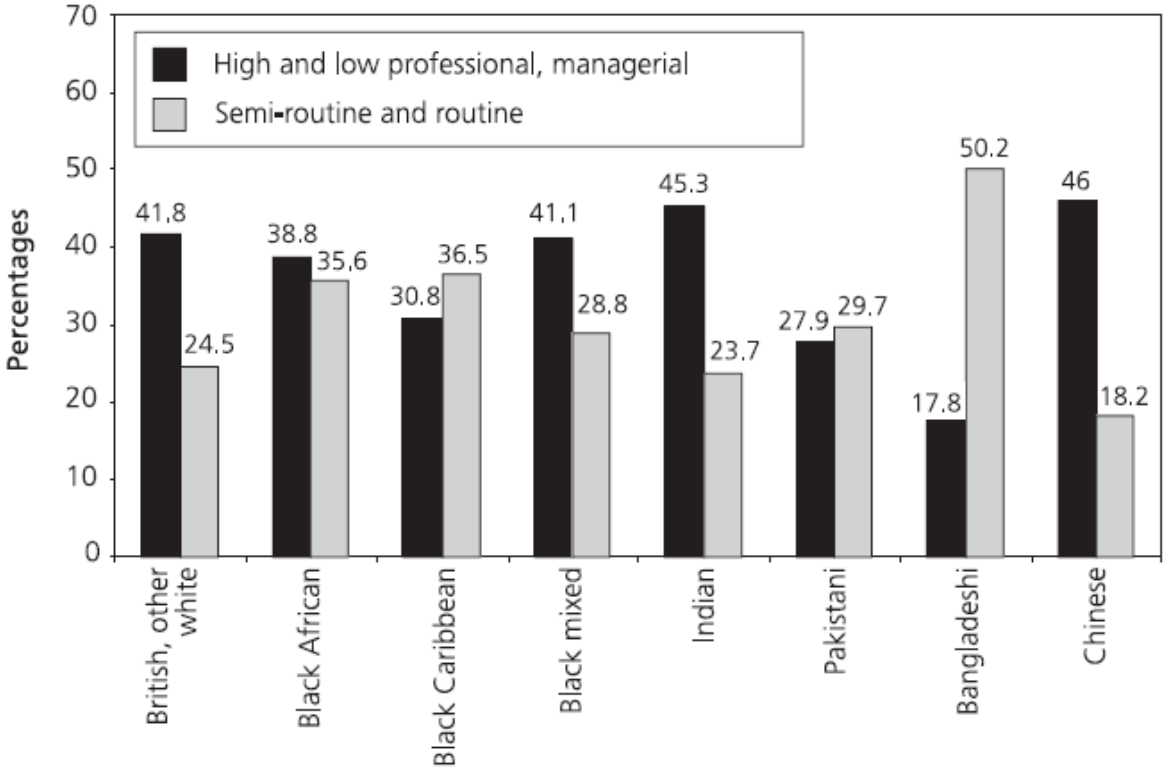

*Source: Heath and Cheung, "Ethnic penalties in the labour market: employers and discrimination", DWP research report no. 341 (2006).*

### 2.2.2 Earnings whilst in employment

For those in employment, there is evidence that Black men are on average employed in less highly paid jobs. Black Caribbean men, in particular, are under-represented in professional and managerial occupations compared with many other ethnic groups, and their employment is skewed instead towards semi-routine and routine employment (Figure 5). Such a pattern of occupational attainment would lead us to expect Black Caribbean men's earnings to be below average for the population as a whole, and below those of White men, an expectation confirmed in Figure 6[18].

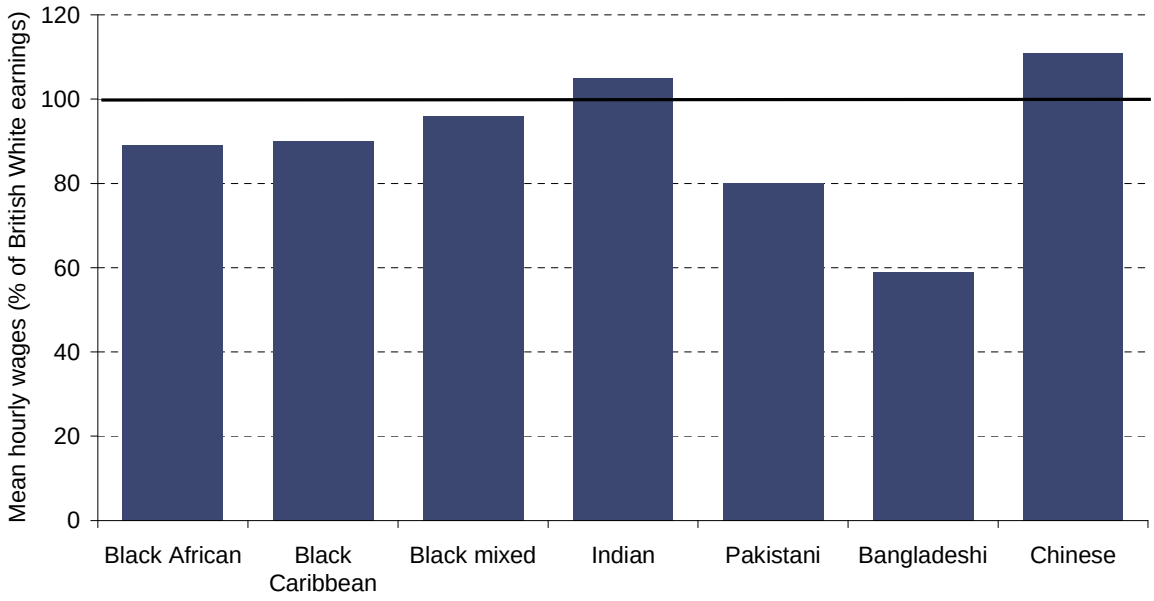
[18] Heath and Cheung (2006) does not provide comparative information on the "Black Other" ethnic group.

**Figure 5: Occupational attainment of men, by ethnic group, 2001-04**




*Source: Heath and Cheung, "Ethnic penalties in the labour market: employers and discrimination", DWP research report no. 341 (2006).*

**Figure 6: Average hourly earnings of men (per cent of British White hourly earnings), by ethnic group, 2001-04**



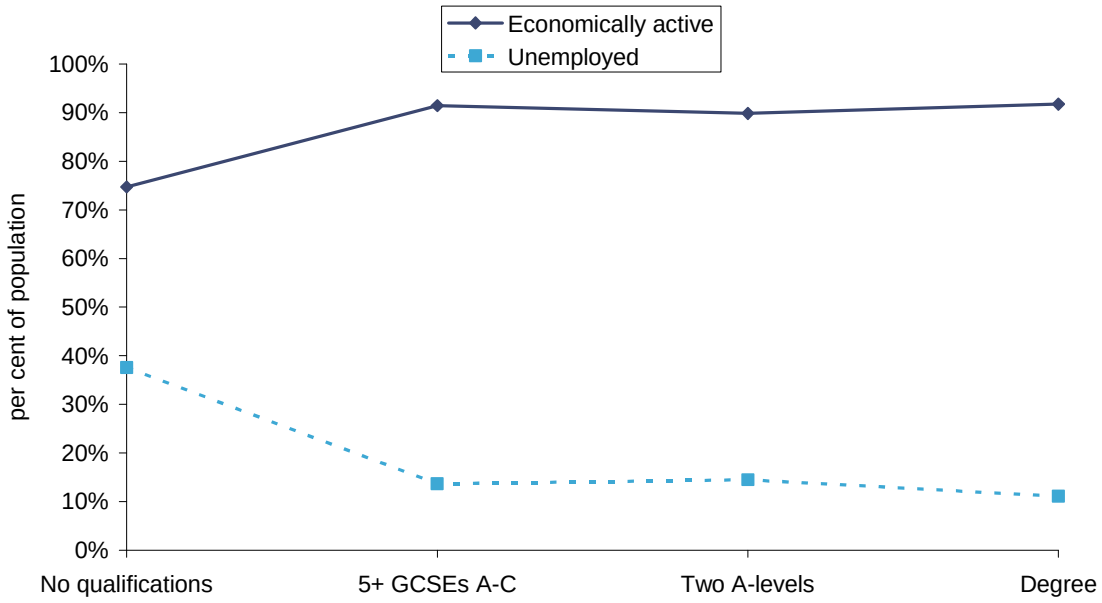

*Source: Heath and Cheung, "Ethnic penalties in the labour market: employers and discrimination", DWP research report no. 341 (2006).*

## 2.3 Relationship between educational attainment and labour market outcomes

### 2.3.1 Educational attainment and unemployment/labour force participation

Simpson et al[19] provides estimates of the proportion of different ethnic groups across the different states of economic activity and unemployment. Aggregating for the entire population studied, i.e. independent of ethnic group, suggests a clear link between qualification attainment and economic activity and unemployment rates (Figure 7). People with no qualifications are substantially less likely to be economically active, and of the economically active, those with no qualifications are substantially more likely to be unemployed. It is important to note however, that this does not necessarily imply causality as there may be other factors (such as personal discipline and family background etc.) that tend to reduce both qualifications and the probability of economic activity and employment.

**Figure 7: Economic activity and unemployment rates by qualification**




*Source: PwC estimates based on Simpson et al (2006)*

### 2.3.2 Educational attainment and reduced earnings

The relationship between educational attainment and earnings, often used as an estimate of productivity, has been widely studied in the literature, particularly in the UK, using data sets such as the Labour Force Survey (LFS). Studies have demonstrated a relationship between educational levels and wage rates in the LFS that suggests a high financial return to education. However this return varies considerably across individuals, across the additional level of education being considered and, in the case of higher education, it depends on the degree subject[20].

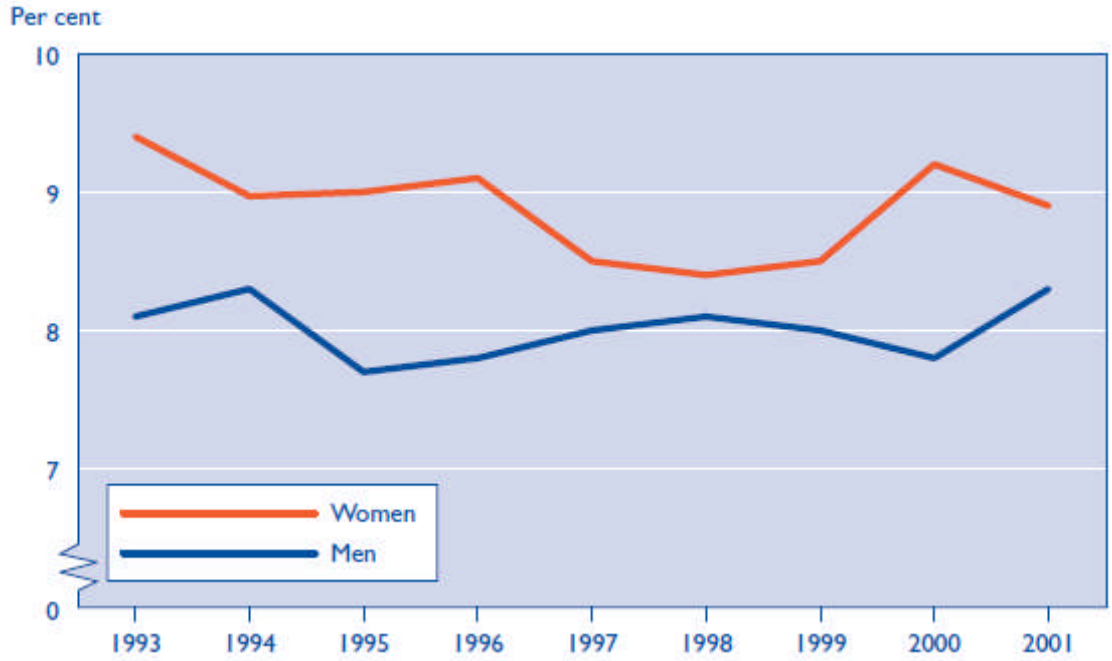
Conventional estimates of the return to education estimate wage differentials based on an extra year of education, controlling for factors such as age, geography, health, non-White ethnicity, union membership and marital status. Walker and Zhu, in line with other estimates, find a rate of return

[19] Simpson, Purdam, Tajar, Fieldhouse, Gavalas, Tranmer, Pritchard and Dorling, "Ethnic minority populations and the labour market: an analysis of the 1991 and 2001 Census" DWP, 2006.

[20] The main source for this section is Walker and Zhu, "Education, Earnings and Productivity: Recent UK Evidence", 2003.

average for a year's additional education of around 8% for men and 9% for women (Figure 8). For instance, this suggests that a man with an extra year's education will earn wages that are 8% higher than a man who is identical in all other aspects, but has one less year of education.

**Figure 8: Proportional effect of additional year of education on wages by sex; England and Wales, 1993 to 2001**

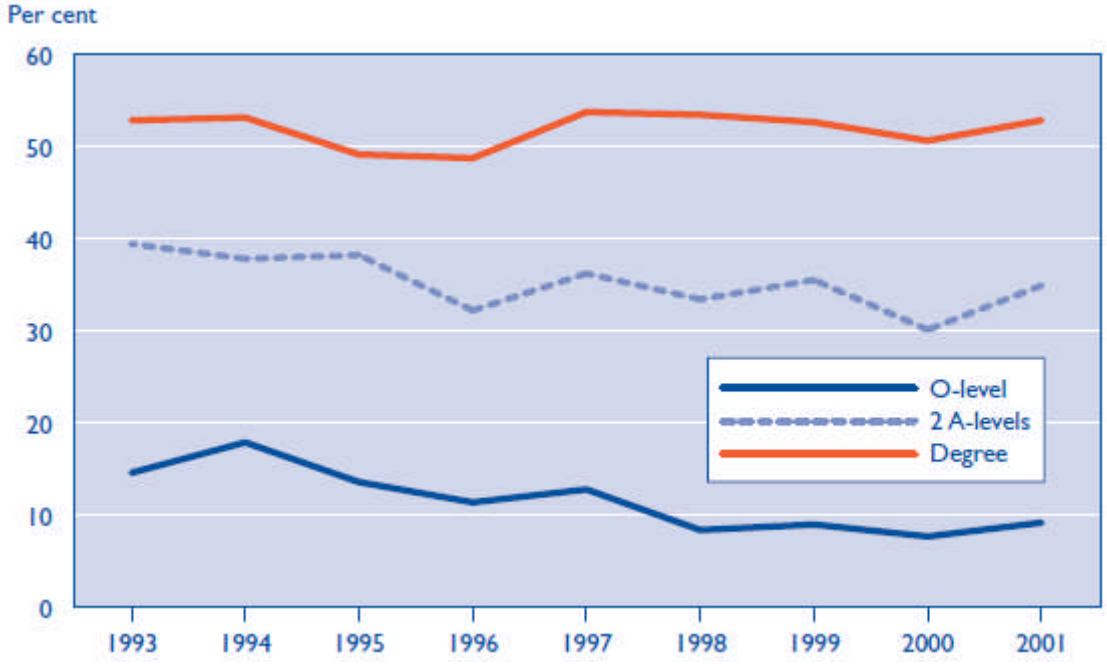



*Source: Walker and Zhu, "Education, Earnings and Productivity: Recent UK Evidence" (2003)*

More recently, more flexible specifications of the education-earnings relationship have been estimated. These base the effect of education on wages on the highest qualification that individuals in the LFS data are observed to have. Walker and Zhu estimate the return to O-levels[21] relative to no qualifications as around 10 per cent, the effect of 2+ A-levels relative to O-levels as around 20 per cent for men, and the effect of a degree relative to 2+ A-levels as around 15 per cent for men (Figure 9).

[21] 5+ GCSEs grade A-C, CSE grade 1,or GCE grade 1-6.

**Figure 9: Proportional effect of educational qualification on wages of men; England and Wales, 1993 to 2001**




*Source: Walker and Zhu, "Education, Earnings and Productivity: Recent UK Evidence" (2003)*

Walker and Zhu also find that the returns to education have not varied significantly over time. Figures 8 and 9 above show that the effects on wages of an additional education year or a higher qualification did not change significantly over the period they studied. Walker and Zhu however present evidence suggesting that the most recent cohorts they analyse (those born in 1969-77) appear to have experienced a lower return to an additional year of schooling than previous cohorts (Table 3), although the return to a degree, relative to 2+ A-levels, appears to have risen (Table 4).

**Table 3: Proportional effect of additional year of education on wages by birth cohort and sex; England and Wales; 1993 to 2001**

Per cent

| | Born | | | |
|---|---|---|---|---|
| | 1933-46 | 1947-57 | 1958-68 | 1969-77 |
| Women | 8.9 | 8.7 | 8.9 | 5.7 |
| Men | 8.7 | 8.0 | 7.3 | 4.3 |

*Source: Walker and Zhu, "Education, Earnings and Productivity: Recent UK Evidence" (2003)*

**Table 4: Proportional effect of degree over 2+ A-levels on wages by birth cohort and sex; England and Wales; 1993 to 2001**

Per cent

| | Born | | | |
|---|---|---|---|---|
| | 1933-46 | 1947-57 | 1958-68 | 1969-77 |
| Women | 22 | 23 | 19 | 24 |
| Men | 11 | 12 | 10 | 16 |

*Source: Walker and Zhu, "Education, Earnings and Productivity: Recent UK Evidence" (2003)*

### 2.3.3 Ethnicity and the education/employment and education/earnings relationships

Whilst most research papers focus on estimating the return to education as an average across the population, most also control for ethnicity, because there is evidence that the returns to education differ across ethnic groups. It is, however, outside the scope of this work to consider why this may be the case.

Berthoud (2000)[22] has shown, using the Labour Force Survey, that some ethnic minority populations face disadvantage or "ethnic penalties" even after taking account of characteristics that affect earnings and unemployment, including educational achievement. For example, Black Africans on average have some of the highest educational qualification rates yet they experience high levels of unemployment and low earnings. However, there is also evidence to suggest that some ethnic minorities may experience higher returns on some qualifications than White people.

Because of the inconclusive evidence with respect to ethnic penalties, we have not accounted for them in our cost calculations. We note, however, that further research in this area may yield further insight. In addition, we note that even if Black male educational achievement was to rise to the level of non-Black males, there is evidence to suggest that their labour market outcomes might still be inferior.

## 2.4 Comparator group

The main comparator group we use is all non-Black boys and young men. Owing to the composition of the UK population, this comparator group is predominantly of White ethnicity.

In using this as our comparator group one issue that we considered was socioeconomic status. If there is a correlation between low socioeconomic status and low educational achievement, and Black boys and young men on average are in families of relatively low socioeconomic status, then it could be argued that at least some of the educational underachievement of Black boys and young men is due to socioeconomic status rather than issues associated with their Black ethnicity or other factors directly associated with Black boys. Following this line of reasoning it could be argued that a better comparator group would be non-Black boys and young men of a similar socioeconomic status to Black boys and young men. If low socioeconomic status was an issue, this would reduce the measured educational underachievement for Black boys and young men and would reduce our cost estimates.

It was not possible to adjust for the socioeconomic status of the target and main comparator group directly. Therefore, to investigate the possible impact of socioeconomic status on our results we also used a comparator group based upon the educational achievement of Black girls and young women. It is reasonable to assume that Black girls and young women have the same socioeconomic status, on average, as Black boys and young men as they have the same family and household backgrounds. Furthermore, because this comparator group comprises Black individuals, this also has the effect of controlling for any element of underachievement due to Black ethnicity that affects males and females equally.

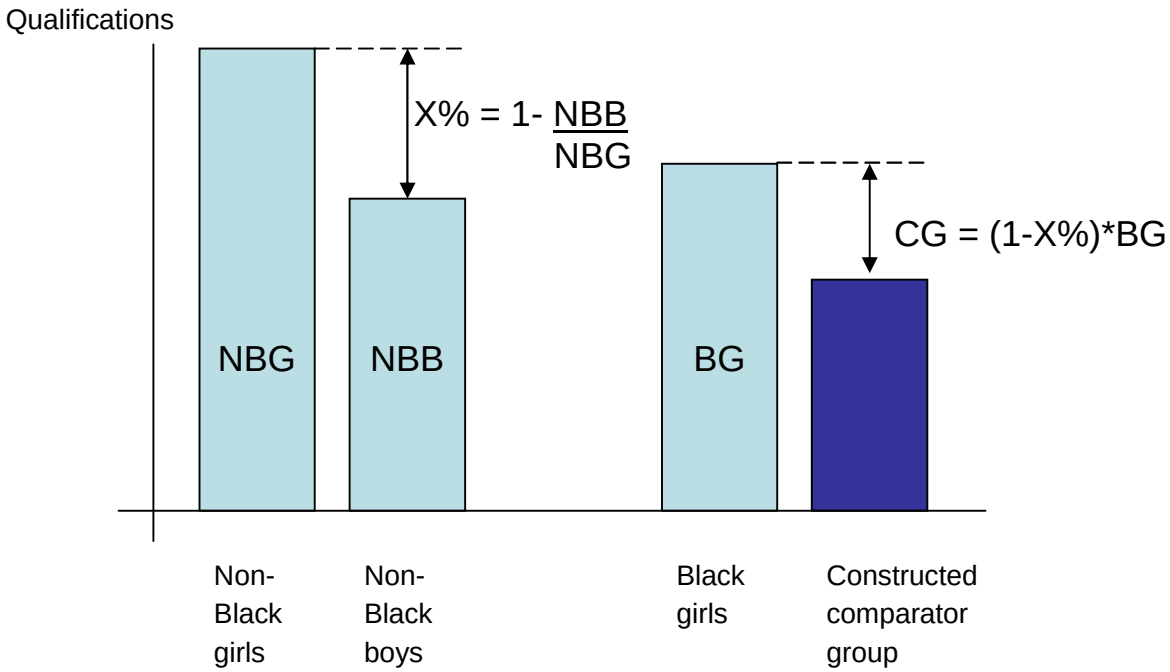
An issue that arises is that there may be differences in male and female achievement in education which could distort our results if we compare males directly with females. To control for this, we compared the educational achievements of Black males not directly with those of Black females, but with Black female achievements adjusted by the difference in qualifications achieved between non-Black males and non-Black females. If non-Black males' qualifications are, say, X% lower than the

[22] Berthoud, "Ethnic employment penalties in Britain", Journal of Ethnic and Migration Studies, Vol 26 No 3, 2000. See also Simpson, Purdam, Tajar, Fieldhouse, Gavalas, Tranmer, Pritchard and Dorling, "Ethnic minority populations and the labour market: an analysis of the 1991 and 2001 Census", DWP, 2006.

qualifications of non-Black females, our comparator group reduces Black females' qualifications by this X%. This has the effect of controlling for gender differences observed more widely in society based on non-Black children and young people.

Figure 10 demonstrates how we constructed this comparison group.

**Figure 10: Control for socioeconomic status**




Note:
NBG = qualifications of non-Black girls;
NBB = qualifications of non-Black boys;
BG = qualifications of Black girls; and
CG = qualifications of the constructed comparator group. We measured the cost of raising Black male achievement to the level of this group.

Thus, in comparison with the target group (Black boys and young men) the resulting comparator group has the same Black ethnicity status; the same socioeconomic status; and, through the application of the wider society gender difference between boys and girls, effectively has been manipulated to have the "same" gender status. Any observed difference in educational achievement (and hence labour force outcomes) between this comparator group and the target group therefore represents a "Black male cost" – the underachievement by Black males that cannot be directly explained by socioeconomic status, gender or Black ethnicity per se, but nevertheless is associated with Black boys and young men as a group.

The estimated costs of lower Black male achievement based on comparisons with this alternative comparator group were a very similar magnitude to the estimates using the non-Black male comparator group. This suggests that the cost of Black male underachievement appears to be specific to Black males, and if it is related to Black ethnicity and/or socioeconomic status, then it occurs in a way that does not appear to be mirrored in the achievements of Black females. As a result of these findings, for the remainder of the study we concentrate on the comparison against non-Black males.

We also prefer to concentrate on all non-Black boys and young men as the comparator group because, if Black boys and young men are indeed on average from backgrounds of low

socioeconomic status, and this contributes to lower achievement, then it can be argued that low socioeconomic status is itself a Black ethnic issue influencing underachievement, and the costs of this are relevant to our study and should not be eliminated by using a different comparator group.

In addition, we believe that use of non-Black boys and young men as the comparator group gives the most appropriate calculation of the full cost of the actual underachievement by Black boys, whatever its cause – ethnicity, socioeconomic status or other factors. This is in line with our general approach to this study which was to concentrate on observable and quantifiable outcomes rather than to seek to understand the complex reasons behind their occurrence. Of course, an implication of this is that if policies are to be enacted to eliminate all the costs we identify then these will need to deal with all the underlying causes of underachievement and poor labour market outcomes if they are to be fully successful.

## 2.5 Our approach to estimating gross lifetime earnings costs

### 2.5.1 Population projections

We identified population projections for England and Wales, by ethnic group, from the Government Actuary's Department. These provide forecasts, based on the 2001 census, of the population by ethnic group in 2010 and 2020, but do not distinguish gender. Assuming linear growth between 2001 and 2010, and between 2010 and 2020, we applied the growth rates implicit in these forecasts to 2001 Census data on population split by ethnicity and gender.

We were unable to identify projections beyond 2020 of the population growth rate by ethnic group. To ensure conservative estimates, we assumed zero growth of the population of Black males in England and Wales after 2020. This is likely to be an underestimate, which will tend to bias all of the calculated costs downwards.

### 2.5.2 Additionality of Black male earnings to UK economy

In addition to there being a private benefit, we assume that all additional gross lifetime earnings by Black males are a gain to the UK economy. In particular we assume that, because any improvement in Black male attainment would be likely to be gradual, and because the relevant Black males form a relatively small proportion of the population, there would be no shock to the economy that might cause Black male workers to displace other workers, causing them to be unemployed or underemployed.

An overview of our approach to estimating the costs of lower lifetime earnings of Black males resulting from the educational underachievement of Black boys and young men compared with non-Black boys and young men follows.

### 2.5.3 Estimate the underachievement in qualifications of Black boys and young men compared with non-Black boys and young men

- Ideally, we wished to identify the "expected" educational achievement of an average Black boy or young man and an average non-Black boy or young man, as if he passed through all the stages of the entire educational system in a single year (2006). This was the ideal approach, since we wished to focus on the costs of underachievement that could be influenced by new policies – we did not want to use data on historical educational achievements since these past underachievements could not be changed;

- We were unable to obtain sufficient data on qualifications to use full national statistics on A-levels and Higher Education, so we proxied the achievement of young Black males in education with the achievement of Black males using Annual Population Survey (APS) data; and

- We used these qualifications to estimate expected earnings based on educational achievement using qualifications that match those used in McIntosh (2004)[23] and for which 2006 data are available. These were: proportion achieving 5+ GCSEs A*-C, proportion achieving 1 A-level, and proportion obtaining a degree (all in 2006)[24].

### 2.5.4 Estimating lifetime earnings

- From LFS data we estimated a model of average (across the population) lifetime earnings for a person with no qualifications on the basis of 2006 data for each year of employment. Using this, APS data on qualifications, and the McIntosh estimated qualifications-earnings relationships, we calculated expected lifetime incomes (at 2006 prices) for each ethnic group, based on the various average qualifications achieved historically. The result of this calculation was a measure of the cost, over their expected working lives, of the impact on lifetime earnings of educational underachievement of young Black males entering the labour force in 2006;

- However, the above calculation produced a figure that implicitly ignores unemployment and labour market inactivity, which themselves depend on qualifications achieved. We therefore adjusted the per annum earnings figures by the probability of being unemployed or economically inactive (equivalent to the percentage of men who were unemployed or economically inactive at a point in time) and hence built up a model of expected lifetime earnings, based on the patterns of educational achievement in 2006, that included the probability of being unemployed, or economically inactive, at any point in time. Using Simpson et al (2006)[25] data on unemployment and inactivity rates by qualification achieved, we related the time expected to be unemployed or economically inactive to education. Hence, we adjusted the zero qualifications lifetime earnings figure for average unemployment and economic inactivity of persons with no qualifications and then applied different expected unemployment and economic inactivity rates according to qualifications achieved;

- We discounted future earnings to give a present value of expected lifetime earnings, using discount rates from HM Treasury's Green Book, of a Black male leaving education in 2006, with the average qualifications that were obtained at each qualification level in 2006 by Black males, as compared to the equivalent expected earnings of a non-Black male calculated on the same basis; and

- We multiplied the reduction in expected lifetime earnings by our estimate of the number of Black males entering the labour market per annum to get the present value of the difference in lifetime earnings across the whole cohort.

### 2.5.5 Projecting forward

The above method provided an estimate of the cost impact for one cohort only – that cohort leaving education in 2006. To estimate the magnitude of the costs of future cohorts if there were no change in educational achievement, we assumed that the same reduction in expected lifetime earnings would persist in perpetuity, but that the number of Black males leaving education each year would change according to population forecasts by ethnicity[26]. Again, we discounted each cohort's

[23] McIntosh, "Further Analysis of the Returns to Academic and Vocational Qualifications", CEE, 2004. See Annex 1 for details of our decision to use McIntosh (2004) estimates of the qualifications-earnings relationship.

[24] The exact data from APS is on the highest qualification obtained. We assume that qualifications are cumulative with respect to their impact on earnings. We assume that everyone obtaining A-levels achieved 5 GCSEs A*-C and everyone obtaining a degree obtained an A-level.

[25] Simpson, Purdam, Tajar, Fieldhouse, Gavalas, Tranmer, Pritchard and Dorling, "Ethnic minority populations and the labour market: an analysis of the 1991 and 2001 Census" DWP, 2006.

[26] We have identified population forecasts by ethnicity from Government Actuary's Department (GAD) from 2001 up to 2020. We make a linear extrapolation between these dates then after 2020 assume that the number of Black males leaving

expected underachievement in earnings by Green Book discount rates to arrive at a figure that represents the present value of the earnings differential, if the current relative underachievement persisted.

### 2.5.6 Present value discounting

We followed Treasury Green Book guidance for our discount rates. The Green Book recommends a real discount rate of 3.5% for the period 0-30 years, followed by a schedule of declining discount rates for subsequent years[27].

### 2.5.7 Per annum costs

As of 2006, the current workforce comprises previous cohorts aged 16 upwards. Hence, to calculate the per annum costs, we applied the difference in annual earnings between Black males and non-Black males at each age, according to their distribution in the workforce in 2006, to arrive at an estimate of the cost per annum in 2006.

### 2.5.8 Current cohorts

To estimate the ongoing cost of current cohorts (i.e. those that are currently in the workforce), we modelled the retirement of each cohort, from those that have been in the workforce for only one year up to those that are one year from retirement. The present value of the stream of earnings differences provides an estimate of the cost of underachievement for cohorts currently in the workforce. These are cohorts that any new policy addressing the educational achievements of children and young people would be unable to affect, because they have already left education.

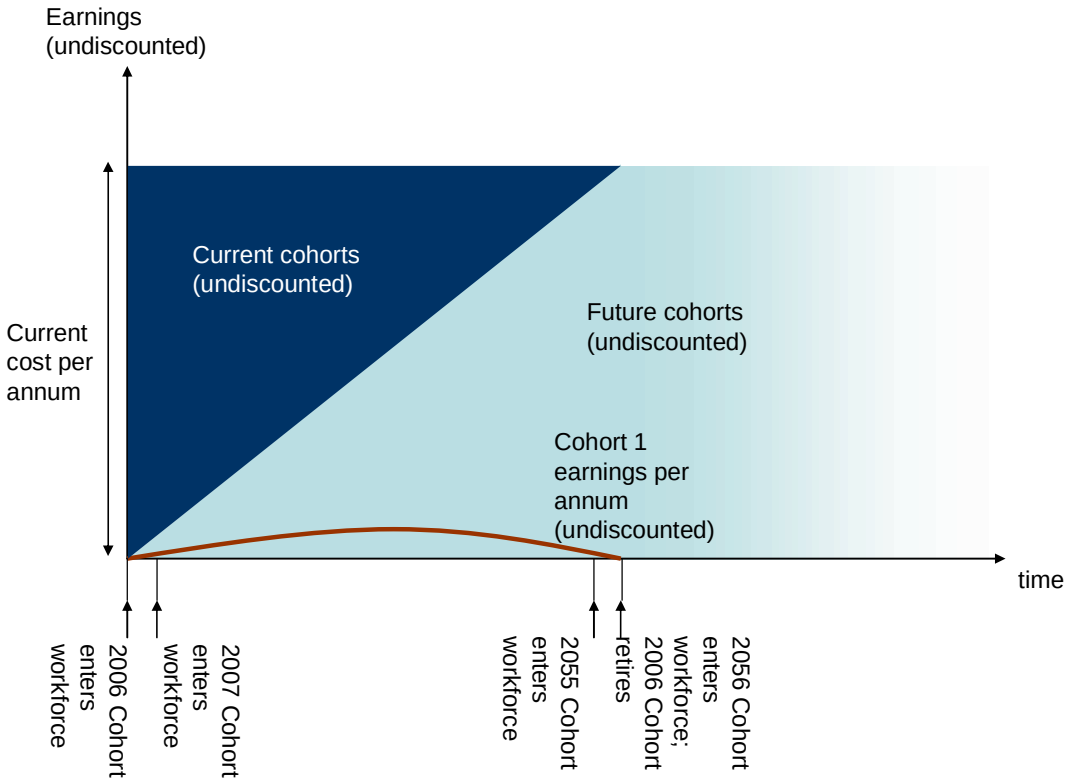
### 2.5.9 Total present value

The total present value cost is equal to the future cohorts cost plus the current cohort cost, and represents the cost of underachievement by Black males currently in the workforce *and* those entering the workforce into perpetuity. Figure 11 demonstrates the relationship between per annum, current cohort and future cohort costs.

education each year is flat. We approximate the number of males leaving education each year by the number eligible for GCSEs in 2006, plus population growth from forecasts.

[27] HM Treasury, "The Green Book", 2003.

**Figure 11: Cohort entry and exit (does not include population growth)**




## 2.6 Data availability and issues

### 2.6.1 Rates of return to qualification by ethnicity

As discussed, a number of papers[28] report that the return to qualifications tends to differ across ethnic groups, both in terms of unemployment and inactivity rates, and in terms of earnings whilst working. A number of estimates of the "ethnic penalty" are present in the literature and there does not appear to be a clear consensus. It may actually be the case that for some ethnic groups there is an "ethnic premium" for some qualifications – they achieve a greater return on qualifications than White persons. Because of inconclusive evidence, and due to time constraints, we did not estimate earnings and unemployment according to different returns to qualifications by ethnicity.

Of course, the existence of an ethnic penalty would have policy implications. Conceptually, we assumed that the final goal of policy is to close the gap on all aspects of underachievement, so that, as well as achieving broadly similar levels of qualifications, all ethnic groups would earn broadly the same returns on the qualifications they obtain.

Hence, the potential earnings benefits we present are the benefits of attaining comparable qualifications (to the comparator group) together with earning comparable returns on those qualifications.

### 2.6.2 Number of Black/non-Black males in the cohort entering the workforce in 2006

It was difficult to estimate the exact number of males in each cohort, because our methodology treats a cohort as the number of people leaving education and entering employment or economic inactivity

[28] See Heath and Cheung (2006), Simpson et al, 2006, amongst others.

each year. Such a cohort will comprise some people who start work after GCSEs at age 16, some who start work after A-levels at age 18, and some who start work after a degree, as well as those starting work between these ages or later.

We proxied the number of males in each cohort by the number of males of GCSE age in each year. In reality, some members will enter the workforce straight after GCSEs and some will enter a number of years later, but on average, the number of males leaving education and hence either entering the workforce or entering a state of economic inactivity will be equal to the number of GCSE-eligible males in 2006, increased in the future by the rate of population growth.

## 2.7 Approach to calculation

In this section, we provide a summary of our approach to estimating the costs of poor labour market outcomes resulting from educational underachievement.

**Table 5: Approach to calculating the impact of qualifications on annual earnings whilst employed**

| | Cost element | Approach/Data | Source |
|---|---|---|---|
| 1 | Average age-earnings per annum for persons with no qualifications | e.g. after 25 years working = £16,900 per annum | APS (July-September 2006) |
| 2 | Returns on education by qualification achieved | 5 GCSEs A*-C = 29.3% | McIntosh (2004)[29] estimates, averaged across 1993-2002 |
| | | 1 A-level = 7.6% | |
| | | Degree = 27.1% | |
| 3 | Cumulative return on education by qualification achieved | 5 GCSEs A*-C = 29.3% | Cumulative returns using cost element 2 |
| | | 1 A-level = (1+29.3%)*(1+7.6%)-1 = 39.1% | |
| | | Degree = (1+39.1%)*(1+27.1%)-1 = 76.9% | |
| 4 | Earnings per annum according to highest qualification achieved | e.g. after 25 years working with 5 GCSEs A*-C = £16,900*(1+29.3%) = £21,850 | Cost element 1 multiplied by (1 plus cost element 3) |
| | | e.g. after 25 years working with 1 A-level = £16.900*(1+39.1%) = £25,323 | |
| | | e.g. after 25 years working with Degree = £16.900*(1+76.9%) = £30,442 | |

[29] "Further Analysis of the Returns to Academic and Vocational Qualifications".

**Table 6: Approach to calculating the present value of lifetime earnings according to qualification achieved**

| | Cost element | Approach/Data | Source |
|---|---|---|---|
| 5 | Likelihood of unemployment or inactivity in a given year | Average across ethnicities to get average unemployment and economic inactivity rates that vary only by qualification e.g. probability of unemployment or economic inactivity at any point in time for person with 1 A-level = 12.6%. | Simpson et al (2006)[30] |
| 6 | Earnings per annum (including expected period spent unemployed or economically inactive) | e.g. after 25 years working with 1 A-level = £25,323*(1-12.6%) = £22,123 | Cost element 4 multiplied by (1 minus cost element 5) |
| 7 | Discount rate | 0–30 years = 3.5%<br>31 years onwards = declining schedule | Treasury Green Book[31] |
| 8 | Discount factor | Year one = 100%<br>Year two = 100%*[1/(1+3.5%)] = 96.62%<br>Year three = 96.62%*[1/(1+3.5%)] = 93.35% | Previous year discount factor multiplied by [1/ (1 plus discount rate)]<br>Year one = 100% |
| 9 | Earnings per annum (including expected period spent unemployed or economically inactive) in present value terms | e.g. present value of earnings per annum after 25 years working with 1 A-level = £22,123*42.31% (discount factor after 25 years) = £9,361 | Cost element 6 multiplied by corresponding year in cost element 8 |

**Table 7: Approach to calculating the present value of lifetime earnings for individual Black and non-Black males**

| | Cost element | Approach/Data | Source |
|---|---|---|---|
| 10 | Average highest qualifications achieved by Black and non-Black males | Scale percentages so that % gaining no qualifications plus % gaining 5 GCSEs A*-C plus % gaining 1 A-level plus % obtaining a Degree equals 100%<br>e.g. Black male:<br>No qualifications = 24%<br>5 GCSEs A*-C = 23%<br>1 A-level = 28%<br>Degree = 24% | APS (January to December 2005) |

[30] "Ethnic minority populations and the labour market: an analysis of the 1991 and 2001 Census".

[31] HM Treasury, "The Green Book", 2003.

| | | | |
|---|---|---|---|
| 11 | Present value of expected earnings per annum for Black males and non-Black males based on average qualifications achieved | e.g. after 25 years Black male: (24%*no qualifications earnings)+(23%*GCSE earnings)+(28%*A-level earnings)+(24%*degree earnings) = £8,468 | (Per cent gaining qualification per ethnic group from cost element 10 multiplied by the present value of average earnings per annum for that qualification from cost element 9) summed across qualifications |
| 12 | Total present value of expected lifetime earnings for Black males and non-Black males | Black = £386,163<br>Non-Black = £400,082 | Sum cost element 11 across years of working life |

**Table 8: Approach to calculating the present value of cost of underachievement by Black males in future cohorts from 2006 into perpetuity**

| | **Cost element** | **Approach/Data** | **Source** |
|---|---|---|---|
| 13 | Number of Black males in cohorts leaving education each year | 2006: 9,859 15 year-old Black males<br>e.g. 2015: 11,476 15 year-old Black males | APS grown according to population projections described above in Section 2.5.1 and extrapolated back to the past for current cohorts |
| 14 | Undiscounted value of each cohort's expected present value lifetime earnings[32] | 2006 cohort Black males: £386,163*9,859 = £3.8bn | Cost element 12 multiplied by cost element 13 |
| 15 | Present value of all future Black male cohorts' lifetime earnings, discounted back to 2006 | £147.0bn | Cost element 14 multiplied by cost element 8 (discount factor). Sum across all years |
| 16 | Undiscounted value of each cohort's expected present value lifetime earnings, if Black males achieved same level of qualifications as non-Black males | 2006 cohort = £400,082*9,859 = £3.9bn | Multiply cost element 12 (non-Black males) by cost element 13 |
| 17 | Present value of all future cohorts' lifetime earnings, discounted back to 2006, if Black males achieved same level of qualifications as non-Black males | £152.3bn | Cost element 16 multiplied by cost element 8 (discount factor). Sum across all years |
| 18 | Potential benefit if Black males achieved same level of qualifications as non-Black males | £152.3bn - £147.0bn = £5.3bn | Cost element 17 minus cost element 15 |

[32] This gives the present value, discounted back to the year in which they enter the labour force, of the expected earnings of each cohort leaving education. These figures are not all discounted back to 2006 – e.g. the present value of lifetime earnings in 2015 is discounted back to 2015.

**Table 9: Approach to calculating the per annum cost**

| | Cost element | Assumption/Data | Source |
|---|---|---|---|
| 19 | Undiscounted individual earnings per annum, taking into account unemployment and inactivity | e.g. Black male first year in workforce = £9,526, non-Black male first year in workforce = £10,074 | Earnings per annum for given qualification multiplied by weighted average qualification of Black/non-Black males |
| 20 | Undiscounted per annum cost per individual | e.g. first year in workforce = £10,074 - £9,526 = £548 | Cost element 19 (Black minus non-Black) |
| 21 | Undiscounted per annum cost per cohort | e.g. cohort of first year in workforce = 9,589*£548 = £5.4m | Cost element 20 * cost element 13 |
| 22 | Total per annum cost | £215m | Sum of cost element 21 across all cohorts currently in workforce |

**Table 10: Approach to calculating the present value cost for current cohorts**

| | Cost element | Assumption/Data | Source |
|---|---|---|---|
| 23 | Discounted difference in remaining individual earnings, by cohort | e.g. individual that entered workforce in 2005 = £13,919, individual that entered workforce in 1980 = £8,317 | Sum of remaining years' earnings for an individual in each cohort currently in the workforce, discounted back to 2006 |
| 24 | Discounted difference in remaining cohort earnings | e.g. 2005 cohort = £13,919*9,859 = £137.2m, 1980 cohort = £8,317*7,550 = £62.8m | Cost element 23 * cost element 13 (cohort size) |
| 25 | Present value of differences in remaining earnings of cohorts in workforce in 2006 | £3.2bn | Sum of cost element 24 across all cohorts currently in workforce |

## 2.8 Estimated costs of educational underachievement on gross lifetime earnings

### 2.8.1 Estimated impact on gross lifetime earnings

*Comparison to non-Black boys*

Based on the approach outlined above, we generated an estimate of £8.5 billion (at 2006 prices) for the present value of the cost to the UK economy into perpetuity of the lower gross earnings associated with educational underachievement of Black boys relative to non-Black boys. Of this total, £5.3 billion is associated with individuals yet to leave education (including those yet to enter education and those yet to be born) which represents the cost that policy affecting the educational achievement of Black Boys and young men can hope to address. The current annual cost was estimated as £215 million per annum.

### 2.8.2 Reasonableness check

To benchmark the reasonableness of the magnitude of our estimated costs we made a comparison: The Women and Work Commission (2006)[33] estimated the potential benefit to the UK economy of reducing gender segregation of jobs and increasing women's employment as £15bn to £23bn per annum. Given that women represent roughly half the UK population, and Black males account for roughly 1.2% of the population, a commensurate per capita increase in earnings would suggest a figure in the region of £360 million[34] to £552 million[35] per annum. The Women and Work Commission estimate measures a different type of cost from our estimate (the Women and Work Commission estimate is based upon underachievement in the labour market directly, rather than underachievement in education), and estimates that cost for a different group. Hence there is no reason why these cost estimates should be similar. However if the magnitude of the per capita estimates were significantly different then we would have cause for concern with our estimates. As a check on the broad magnitude of the costs estimated in this report, this comparison provides some indication that our figures are of the same order of magnitude as previous work on related issues.

## 2.9 Other and non-measurable costs

We discuss these in terms of net earnings to the individual and Exchequer revenues in Section 3.

## 2.10 Potential benefits of closing the gap

We estimate the potential benefits, in terms of extra gross earnings, of closing the gap between the educational achievements of Black males and non-Black males as £215 million per annum, and the present value of the earnings differential into perpetuity as £8.5 billion. Of this, £5.3 billion is associated with individuals who have not yet left education to enter the workforce, i.e. those individuals whose qualifications can still be affected by policy addressing people in education.

[33] "Shaping a Fairer Future".

[34] £15 billon*(1.2%/50%) = £360 million.

[35] £23 billion*(1.2%/50%) = £552 million.

# 3 Labour market – split of gross earnings into net earnings and Exchequer impacts

## 3.1 Introduction

Section 2 provides an estimate of the reduction in the lifetime gross earnings of Black males associated with the educational underachievement of Black boys and young men relative to non-Black boys and young men. If this underperformance could be eliminated, then the increase in gross earnings would comprise two elements. First, there would be increased net (post-tax) earnings that would be retained by the individual Black male workers (and either saved or spent, in the latter case there being an additional benefit to the economy of increased demand for other products and services). Secondly, the Exchequer/taxpayer would benefit from the increased tax revenues paid by the Black male workers.

Furthermore, in the event that policies were successful at improving the labour force outcome of Black men, there would be other advantages for the Exchequer as a result of lower net benefit payments to Black men (including changes in their receipt of, for example, Job Seeker's allowance, Working Tax Credit, and Child Tax Credit).

Neither these benefit payments, nor the split between post-tax earnings and tax, were discussed in Section 2. This is because the gross (pre-tax) earnings figure is the most relevant figure for giving insight into the impact that improving Black male educational achievement could have on the economy as a whole, since it provides an estimate of the higher output that could be achieved by Black men, whether the financial benefits accrue to the Black men themselves or to the Exchequer. Changes in benefit payments are not relevant to this economic impact calculation at all, as they do not represent any change in underlying production in the economy – they simply represent transfers of resources between different groups of people within society (namely between Black men and taxpayers).

However, to inform policy we believe that it will be of interest to understand the underlying effects on the public finances of the educational underachievement of Black boys and young men. In this section we therefore set out how we estimated the costs to the Exchequer arising from educational underachievement in the form of both reduced tax revenues from Black men and higher net benefit payments to Black men in two stages:

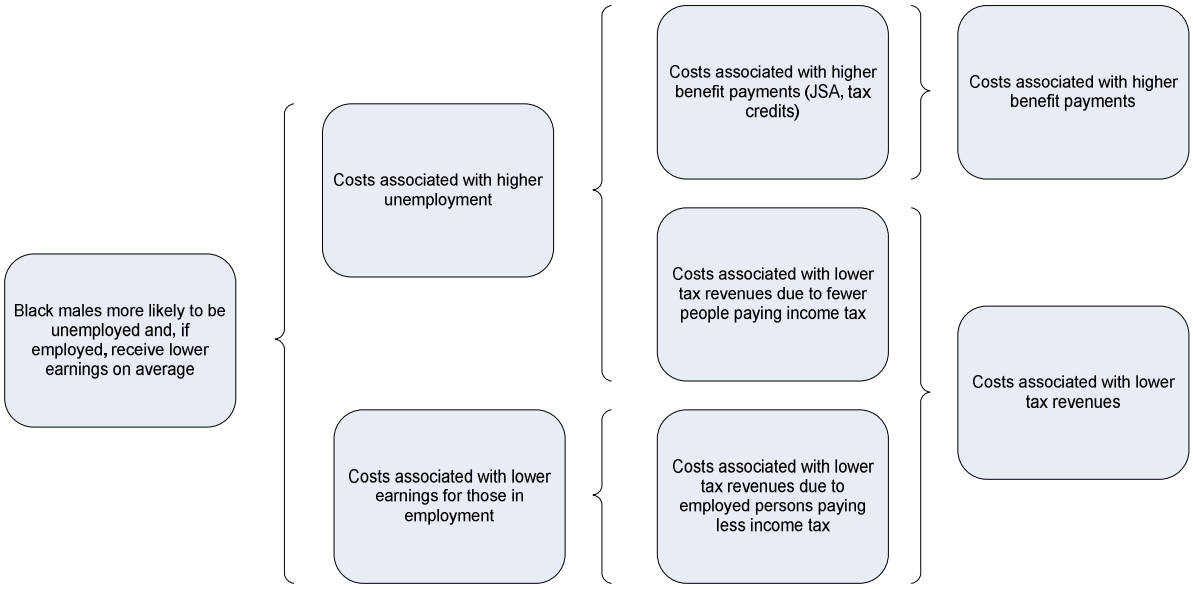
- Firstly, we estimated the fiscal cost associated with a higher Claimant Count of Black men being paid Job Seeker's allowance (JSA) benefits, as a result of lower educational qualifications[36]; and

- Secondly we estimated the fiscal cost of reduced annual incomes of those in employment, as a result of lower educational qualifications.

The costs we estimated are described below in Figure 12.

[36] Note that our estimates exclude costs associated with a range of other benefits, such as free prescriptions. We also do not consider any link between qualification outcomes and disability allowance, for instance. We have excluded these because we are unaware of any reliable cost estimates associated with moving one person off these benefits and into work.

**Figure 12: Schematic of social/fiscal costs associated with labour market underachievement**




## 3.2 Characteristics and trends in labour market outcomes

These have already been described in Section 2.

## 3.3 Our approach to estimating the split of gross lifetime earnings costs into net earnings and Exchequer impacts

### 3.3.1 Increased payments to JSA claimants

Black males are over-represented (relative to non-Black males) in the claimant count for JSA. We set out our estimates of the extent of higher Black male representation in the claimant count in Section 2. The fiscal cost of the lower educational achievement of Black boys is the higher JSA payments paid to Black men, and the lower taxes received, as a result.

As previously noted, this is a fiscal cost to the Exchequer rather than an economic cost to the UK economy, because JSA payments are transfers from taxpayers to JSA recipients rather than costs to the economy as a whole.

Our approach to calculating the additional number of Black men claiming JSA as a result of educational underachievement was as follows:

- We used the percentage unemployed by highest qualification data from Simpson et al (2006), as used in calculating expected lifetime earnings in Section 2, and APS data, also as used above, to estimate the expected proportion of Black and non-Black males that are unemployed at any point in time;
- Applied these unemployment rates to the number of Black and non-Black males entering the workforce each year;
- Applied the estimated non-Black male unemployment rate to the number of Black males entering the workforce each year to measure the level of unemployment if Black male qualifications equalled those of non-Black males; and

- Discounted future years and summed across years to give the present value of the total length of time spent unemployed per cohort over the number of years each cohort is in the workforce, discounted back to the year the cohort enters the workforce (i.e. leaves education).

The above analysis was conducted in terms of unemployment, as derived from Simpson et al (2006), which uses an unemployment definition consistent with the International Labour Force (ILO) definition of unemployment. However, not all unemployed people are eligible to claim benefits, and hence the appropriate (and lower) figure to use for calculating the costs of paying JSA is the Claimant Count. Therefore, we converted our unemployment figures calculated according to the ILO definition into Claimant Count figures using the following methodology:

- Calculated the average historic ratio of Claimant Count to ILO-consistent unemployment over the five years to July 2006; and

- Applied this ratio to the calculated unemployment figures, making the implicit assumption that the claimant count/unemployment ratio does not differ across Black males and the rest of the population for any reason other than, potentially, qualifications.

At this point, by subtracting the estimated number of Black males in each cohort that would be claiming JSA per annum if JSA rates fell to those of non-Black males from the estimated number that we estimated are claiming JSA under current claiming rates, we identified the additional expected number of years that Black males, per cohort entering the labour force, spend claiming JSA as a result of their lower educational qualifications.

To convert this volume figure into a present value of future costs, we:

- Multiplied the estimated additional claimant count for each cohort, into perpetuity, by the estimated net annual fiscal cost of a JSA claimant (both in terms of benefits paid to them and taxes foregone). This estimate was supplied to us by the DWP and has a number of caveats:

  - It is a provisional estimate that has not been finalised;

  - The estimate makes a number of simplifying assumptions; and

  - Some of the estimated benefits of moving someone off JSA and into employment are based on information about the average claimant and so will ignore how some benefits received and taxes paid vary according to the distribution of a person's income and variation in a person's circumstances.

The estimate is calculated in Table 11[37].

[37] The estimate supplied to us by the DWP included the impact on indirect taxes of a JSA claimant moving into work. Because this figure depends on assumptions regarding spending and the economic multiplier effect from increased income, we do not include these estimates in our analysis. Also, the DWP estimate included the impact on employers' NICs, which we do not consider here because they are not included in the standard definition of Gross Earnings. Our use of the DWP estimates implicitly assumes that taxes, benefits, and threshold levels continue to be the same in the future. Furthermore, the DWP estimates are for the average JSA claimant. Using them to estimate fiscal costs for young Black males will be subject to error by the extent with which young Black males differ from the average. In particular, we used JSA costs alone – we did not adjust for differences in potential earnings of inactives. This is likely to have a minimal effect on the final cost estimates which are estimates of the order of magnitude.

**Table 11: Estimated net annual fiscal cost of a JSA claimant**

| **Yearly fiscal cost of a JSA claimant (2005/6)** | |
|---|---|
| Unemployment benefits | £2,900 |
| Housing and council tax benefits | £1,200 |
| **Total** | **£4,100** |
| | |
| **Yearly fiscal cost of a JSA claimant not being in work (2005/6)** | |
| Income tax foregone | £1,200 |
| National Insurance Contributions (NIC) foregone | £700 |
| *Less* Tax Credits received whilst working | £300 |
| **Total** | **£1,600** |
| | |
| **Net fiscal cost of a JSA Claimant not being in work** | **£5,700** |

*Source: DWP, on request (9 March 2007)*

- Applied Green Book discount rates to the estimated cost of each cohort entering the labour force to obtain the present value in 2006 of JSA costs associated with the worse unemployment outcomes resulting from the lower educational attainment of Black boys and young men relative to non-Black boys and young men.

### 3.3.2 Reduced tax revenue from lower employment rates

In addition to higher unemployment rates, Black males experience higher rates of economic inactivity. Higher rates of unemployment and economic inactivity both reduce tax revenues. We calculated this cost using an identical approach to that described above, except:

- Instead of claimant count, we used the total rate of unemployed or inactive, sourced from Simpson et al[38]; and

- For the cost of lower tax revenue for one person being out of work for a year, we used the DWP estimates of income tax and national insurance foregone as described in Table 11. The total cost is £1,900, comprising £1,200 in income tax foregone and £700 in National Insurance Contributions foregone.

### 3.3.3 Reduced tax revenue from lower earnings of those in employment

As well as Exchequer costs as a result of the higher claimant count and lower employment rate, the lower educational underachievement of Black boys and young men results in losses to the Exchequer as a result of reduced tax revenues associated with the lower average earnings of those who are in employment. Our approach to estimating these costs was as follows:

- Estimated average income tax rates (including tax credits) for Black and non-Black males, based upon family characteristics[39];

[38] Simpson, Purdam, Tajar, Fieldhouse, Gavalas, Tranmer, Pritchard and Dorling, "Ethnic minority populations and the labour market: an analysis of the 1991 and 2001 Census", DWP, 2006.

[39] We use the average tax band, for given family structures, rather than using tax bands corresponding to incomes because the aim of the policy is to raise Black male incomes to the same level as non-Black males – at which level they would face the same rates of income tax. We do, however, adjust for family make-up which differs across ethnic groups.

- Used the above data from the JSA calculation to estimate the average ratio of total fiscal contribution to income tax (net of tax credits)[40] and used this ratio to estimate the average fiscal contribution from income taxation and NICs based on the calculated income tax rate; and

- Multiplied the estimated gross earnings reduction calculated in Section 2 by the percentage total fiscal contribution from income tax and NICs to obtain an estimate of the amount of the reduced gross earnings that is lost to the Exchequer as unpaid tax and NICs, as opposed to the proportion of reduced gross earnings that is borne by Black men themselves in the form of lower net earnings.

### 3.3.4 Net income

The net income cost to the Black men is simply the remaining gross earnings reduction after the total fiscal cost (taxes, NICs and benefits) of underachievement has been deducted.

## 3.4 Data availability and issues

### 3.4.1 Net annual fiscal cost of a JSA claimant

As described above, the DWP has estimated the net annual fiscal cost of a JSA claimant, and this estimate is subject to the caveats already mentioned. These caveats are necessary because the progressive nature of the UK tax and benefits system combined with the heterogeneity of the labour force makes calculation of the average Exchequer costs per claimant a complex and assumption dependent exercise. For example, the different income tax rates that apply to different bands of earnings (including the tax-free allowance) mean that the average tax rate faced by an individual varies with income.

## 3.5 Our approach

In Table 12 we provide a summary of our approach to estimating the reduced tax revenue and higher net benefits payments that result from the higher unemployment of Black males relative to non-Black males, together with their sources. We have used our own estimates of the potential reduction in the Claimant Count together with DWP estimates of the net annual fiscal cost of a JSA claimant.

**Table 12: Our approach to calculating the reduced tax revenue resulting from higher unemployment or inactivity of future cohorts**

| | Cost element | Assumption/Data | Source |
|---|---|---|---|
| 1 | Likelihood of unemployment or inactivity in a given year, on basis of highest qualification achieved | e.g. with 1 A-level: 12.6% | Simpson et al (2006)[41] |
| 2 | Likelihood of unemployment or inactivity in a given year for Black and non-Black males due to educational achievement (also equals expected proportion of lifetime spent unemployed or | Black male: 17.6%<br>Non-Black male: 15.8% | (Per cent gaining qualification per ethnic group from earnings calculation multiplied by each element of cost element 1) summed across qualifications. |

[40] This ratio is calculated as (Income Tax + NICs – Tax Credits)/(Income Tax – Tax Credits) = £1,600/£900 = 1.78. This ratio is based on the average JSA claimant and the precision of our estimates will be reduced by the extent that average income tax rates for Black and non-Black males adjusted for family characteristics are different from the overall average income tax rates.

[41] Simpson, Purdam, Tajar, Fieldhouse, Gavalas, Tranmer, Pritchard and Dorling, "Ethnic minority populations and the labour market: an analysis of the 1991 and 2001 Census", DWP, 2006.

| | | | |
|---|---|---|---|
| | inactive) | | |
| 3 | Total unemployed or economically inactive (person-years) of cohort over rest of working life discounted back to cohort entry date, for Black males and for non-Black males | Cohort size multiplied by proportion unemployed or inactive multiplied by sum of discount factors across lifetime to get present value<br>e.g. Black males in 2006 = 38,797<br>Black males in 2020 = 48,101 | Cost element 13 from Table 8*cost element 2*sum of cost element 8 from Table 6 |
| 4 | Present value at year of workforce entry of lifetime cost of missed taxes due to unemployment or inactivity per cohort | Total period spent inactive, per cohort, * cost per person-year inactive (see paragraph 3.3.2)<br>e.g. Black males in 2006 = £73.7 million<br>Black males in 2020 = £91.4 million | Cost element 3 * £1,900 |
| 5 | Discounted lifetime cost of missed taxes due to unemployment or inactivity per cohort, discounted back to 2006 | Lifetime cost of missed taxes due to unemployment or inactivity per cohort, discounted back to year of workforce entry multiplied by corresponding discount factor<br>e.g. Black males in 2006 = £73.7 million*100% = £73.7 million<br>Black males in 2020 = £91.4 million*61.78% = £56.5 million | Cost element 4 * cost element 8 from Table 6 |
| 6 | Present value of missed taxes due to unemployment or inactivity of all future cohorts, discounted back to 2006 | Black male cohort = £2.85bn, Black male cohort with non-Black male unemployment and inactivity rates = £2.57bn | Cost element 5, summed across all cohorts into perpetuity |
| 7 | Present value of cost of lower tax revenues resulting from higher unemployment and inactivity rates of Black males | £2.85bn - £2.57bn = £281 million | Cost element 6 (Black male) – cost element 6 (Black male with non-Black male unemployment and inactivity rates) |

For calculating the increased JSA expenditure resulting from higher claimant rates of future cohorts, we repeated the process described in Table 12, replacing the rates of unemployment or inactivity with JSA claimant rates, and replacing the tax revenue cost of unemployment per person per annum (£1,900) with the cost of JSA payments per person per annum (£3,800).

For the per annum and current cohort costs of tax revenues foregone, and of additional JSA payments, due to higher unemployment, inactivity and claimant rates, we followed the approach outlined in Table 9 and Table 10, replacing the cost of lower earnings with the cost of lower tax revenues or cost of additional JSA payments as appropriate.

In Table 13 we provide a summary of our approach to estimating the reduced tax revenue and net benefits payments that result from lower Black male earnings relative to non-Black male earnings, in future cohorts. We used HMRC estimates of the average income tax rates by position in the earnings distribution and family structure.

**Table 13: Our approach to calculating the reduced tax revenue from lower earnings whilst in employment, of future cohorts**

| | **Cost element** | **Assumption/Data** | **Source** |
|---|---|---|---|
| 1 | Present value of gross lifetime | e.g. Black males in 2006 cohort | Section 2 calculations |

| | | | |
|---|---|---|---|
| | earnings of cohort leaving education each year (2006 prices) | = £3.81 billion, used to generate Black males if they had non-Black male unemployment[42] rate in 2006 cohort = £3.89 billion<br>Black males if they had same qualifications as non-Black males in 2006 cohort = £3.94bn | |
| 2 | Total effective direct tax rate | Weighted average across family types for Black males of income tax rates including tax credits, multiplied by the ratio of total taxes (including national insurance contributions (NICs)) to income tax paid = 25.2% | Income tax rates from http://www.hmrc.gov.uk/stats/income_tax/menu.htm<br>Family structure by ethnicity from LFS July-September 2006<br>Ratio of total tax to income tax from DWP supplied information on costs of JSA |
| 3 | Undiscounted value of present value lifetime taxes per cohort (2006 prices) | e.g. Black males with non-Black males' unemployment rate in 2006 cohort = £981 million<br>Black males if they had same qualifications as non-Black males in 2006 cohort = £996 million | Cost element 1 multiplied by cost element 2 |
| 4 | Present value of lifetime taxes for all future cohorts | Black males with non-Black males' unemployment rate = £37.9bn<br>Black males if they had same qualifications as non-Black males in 2006 cohort = £38.5bn | Cost element 3 discounted to 2006, summed across all cohorts into perpetuity |
| 5 | Present value of potential benefits if Black male earnings whilst in employment increased to that of non-Black males | £38.5bn - £37.9bn = £557 million | Cost element 4 (Black males with non-Black males' unemployment rate) minus cost element 4 (Black males if they had same qualifications as non-Black males) |

In Table 13 we provide a summary of the approach used to estimate the per annum cost of reduced tax revenues due to lower earnings whilst in employment.

**Table 14: Our approach to calculating the per annum reduced tax revenue from lower earnings whilst in employment**

| | **Cost element** | **Assumption/Data** | **Source** |
|---|---|---|---|
| 1 | Undiscounted individual earnings per annum, including unemployment (and inactivity) | Black male with non-Black unemployment and inactivity rates from 2006 cohort = £9,726,<br>Non-Black male from 2006 cohort = £10,074 | Section 2 calculations |
| 2 | Undiscounted cohort earnings per annum | Black male with non-Black unemployment and inactivity rates (2006 cohort) = £9,726*9,859 = £96 million<br>Non-Black male (2006 cohort) = £10,074*9,859 = £99 million | Cost element 1*cost element 13 from Table 8 |
| 3 | Total per annum earnings, | Black male with non-Black | Sum cost element 2 across all |

[42] In this table (and the following two tables), by unemployment rate, we are actually referring to the total rate of unemployment or inactivity.

| | | | |
|---|---|---|---|
| | across all current cohorts | unemployment and inactivity rates = £6.25 billion<br>Black male with non-Black qualifications = £6.33 billion | cohorts |
| 4 | Difference in per annum earnings associated with earnings only (not unemployment) | £6.33bn - £6.25bn = £86 million | Difference between figures in cost element 3 |
| 5 | Difference in per annum taxes associated with earnings only (not unemployment) | £86m*25.2% = £22 million | Cost element 4*cost element 2 from Table 13 |

In Table 15 we provide a summary of the approach used to estimate the present value of the cost of reduced tax revenues due to lower earnings whilst in employment.

**Table 15: Our approach to calculating the reduced tax revenue from lower earnings whilst in employment, of current cohorts**

| | **Cost element** | **Assumption/Data** | **Source** |
|---|---|---|---|
| 1 | Undiscounted difference in tax, per individual, by cohort | 2006 cohort = (£10,074 - £9,726)*25.2% = £88 | Difference between figures in cost element 1 from Table 14, multiplied by cost element 2 from Table 13 |
| 2 | Undiscounted difference in remaining lifetime tax payments, per individual, by cohort | Sum tax difference per annum across all remaining years in workforce, 2006 cohort = £1,462 | Sum cost element 1 across all remaining years in workforce |
| 3 | Undiscounted difference in remaining lifetime tax payments, per cohort | 2005 cohort = £1,462*9,859 (2006 cohort size) = £14 million | Cost element 2*cost element 13 from Table 8 |
| 4 | Total difference in remaining lifetime payments, all current cohorts | £298 million | Cost element 3 summed across all current cohorts |

## 3.6 Estimated costs of educational underachievement on net earnings and impacts on the Exchequer

### 3.6.1 Estimated impact on taxes, benefit payments and net income

Using the approach set out above we calibrated the cost estimates summarised in Table 16.

**Table 16: Estimated impact on taxes, benefit payments and net income**

| Comparator Group | Non-Black males | |
|---|---|---|
| **Cost type** | Present value | Per annum |
| **Gross earnings cost** | £8.5bn | £215m |
| **Total fiscal cost** | £1.6bn | £39m |
| Benefits | £253m | £6m |
| Taxes | £1.3bn | £33m |
| *Taxes from Black males that would become employed if unemployment rate equated* | £453m | £11m |
| *Taxes from Black males whose earnings would increase if earnings in employment equated* | £854m | £22m |
| **Net impact on earnings** | £6.9bn | £176m |

Note:

(i) "Taxes" equals "*Taxes from Black males that would become employed if unemployment rate equated" plus*

*(ii) "Taxes from Black males whose earnings would increase if earnings in employment equated";*

*(iii) "Total fiscal cost" = "Benefits" plus "Taxes"; and*

*(iv) "Net impact on earnings" = "Gross earnings cost" (from Section 2) minus "Total fiscal cost".*

## 3.7 Non-measurable costs

### 3.7.1 Taxes and benefit payments

The reduced taxes that the Exchequer receives net of benefit payments as a result of underachievement by Black males means that there is less funding available to provide other public services such as the NHS, education, and policing. For example, the salary of a junior teacher is £19,641[43] so elimination of the Black male underachievement gap would allow the salaries of around 2,000 extra teachers to be funded per annum (exclusive of other costs of employment and pension costs). Alternatively, a newly qualified police constable receives a salary of £23,338[44] so it would be possible to fund the salaries of an additional 1,680.

### 3.7.2 Net lifetime earnings

The non-measurable costs in terms of net lifetime earnings include, but are not limited to:

- Reduced self esteem from unemployment or employment in a less value-added jobs;
- More geographical areas of deprivation (where large numbers of unemployed or low income persons tend to live);

[43] "Teacher's Pay 2005-8", National Union of Teachers.

[44] PNB circular 05/2, Manpower Economics, 2005.

- Potential multiplier effects on the rest of the economy from the reduced incomes of this section of the population; and

- Potential impacts on the earnings of future generations (as some studies have shown a link between parents' earnings (and education) and their children's earnings).

## 3.8 Potential benefits of closing the gap

The potential benefits in terms of net earnings from reducing the gap between the educational achievements of Black and non-Black males are £176 million per annum and £6.9 billion in present value terms, plus the non-measurable costs identified. The present value of the potential net earnings benefits of reducing the gap for Black males currently in education, yet to enter education or yet to be born is £4.3 billion.

The potential benefits to the Exchequer in terms of increased tax receipts and reduced net benefit payments are £39 million per annum, or £1.6 billion in present value terms. The present value of the potential fiscal benefits of reducing the gap for Black males currently in education, yet to enter education or yet to be born is £996 million. In addition the Exchequer would have more resources available to fund public services, which would generate economic benefits to the extent that the output of public sector employees exceeds their costs of employment.

# 4 Labour market outcomes – costs of processing benefits and aiding job search

## 4.1 Introduction

As described in Section 2.1, ethnic minorities are over-represented in unemployment figures and amongst those on low incomes. They are also under-represented in professional and managerial occupations, and over-represented in menial or repetitive occupations. In this section we set out our calculations of the direct administrative and other costs to the UK economy of providing support to those on low incomes and to the unemployed[45].

The direct resource costs for the UK economy are the costs of processing benefits and aiding job-search. If structural unemployment could be reduced then fewer resources would be required for these tasks, which would free up staff, buildings, and equipment for alternative uses. Therefore, this category of costs is included in our overall estimate of the costs to the UK economy of the inequality in the educational achievement of Black boys and young men relative to non-Black boys and young men.

## 4.2 Characteristics and trends in labour market outcomes

We describe recent characteristics and trends in Section 2 above.

## 4.3 Our approach to estimating costs

The costs of processing benefits and aiding job-search represent a real consumption of resources rather than a transfer between different sections of society. In England and Wales, the responsibility for these functions is vested in Jobcentre Plus, an Executive Agency of the Department for Work and Pensions (DWP). Jobcentre Plus publishes annual accounts that contain its administrative and employment programme expenditure. The value of the benefit payments processed by Jobcentre Plus is accounted for separately in the DWP's Resource Accounts. The per annum net operating costs of Jobcentre Plus, and therefore the total costs of processing benefits and aiding job search, are disclosed in the Jobcentre Plus accounts.

We divided the per annum net operating cost by the average of the monthly claimant count (over the same time period covered by the Jobcentre Plus annual accounts) to obtain an estimate of the cost of processing benefits and aiding job-search per claimant-year.

We then multiplied by the estimated additional Black male claimant-years associated with lower educational achievement to calculate per annum and present value costs on the same basis as in Section 2.

## 4.4 Data availability and issues

### 4.4.1 Incremental costs of processing benefits and aiding job-search

We have assumed that the additional unemployment associated with educational underachievement results in a proportional increase in the costs of processing benefits and aiding job-search. In practice if there is a large proportion of fixed costs, for example as a result of having to maintain a national network of Jobcentres, then this would imply that the additional costs should be less than

[45] The cost of the benefit payments themselves are estimated in Section 3.

proportionate to the additional number of claimants, and using this assumption leads to an overestimate of costs. However, the possibility that incremental proportionality may lead to an overestimation of costs may be partly mitigated by the clustering of the Black population in particular geographical areas, especially metropolitan areas such as London. As such, there is a small possibility that reductions in structural unemployment associated with Black male educational underachievement would allow Jobcentres to be closed in these areas and greater than proportionate cost savings (on staff, buildings, and equipment) to be achieved. Incremental cost savings would, however, be more likely to be possible for employment programmes e.g. Work Based Learning for Adults; Employment Zones; and Ethnic Minorities Pilot[46].

## 4.5 Our approach

### 4.5.1 Costs of processing benefits and aiding job-search

Our approach to estimating the costs of processing benefits and aiding job-search mirrored the approach to estimating the cost of higher JSA payments to claimants. The only change is that the difference in claimant count was multiplied in this calculation by the annual cost of processing benefits and aiding job-search per claimant, which we calculated as the net operating cost of Jobcentre Plus in the UK over the period April 2005-March 2006 (£4.5bn) divided by the average claimant count in the UK over the same period (886,642 claimants) to arrive at a figure of £5,075, per claimant per annum.

## 4.6 Estimated cost of processing benefits and aiding job search

Our estimates, using the approach outlined above, calculated the reduced cost of processing benefits and aiding job search due to improved educational qualifications of Black boys to match those of non-Black boys as £8 million per annum, equivalent to £338 million in perpetuity in present value terms.

## 4.7 Non-measurable costs

The non-measurable costs of processing benefits and aiding job-search are the extra benefits that could be generated by allocating the public expenditure differently e.g. the output generated by a public sector teacher in excess of their employment cost. These are discussed in Section 3.

## 4.8 Potential benefits of closing the gap

The potential benefits to the Exchequer in terms of reduced expenditure on processing benefits and aiding job-search are £8 million per annum or £338 million in present value terms. The present value of the potential net benefits of reducing the gap for Black males currently in education, yet to enter education or yet to be born is £210 million.

In addition the Exchequer would have more resources available to fund public services, which would generate economic benefits to the extent that the output of public sector employees exceeds their costs of employment.

[46] See “Jobcentre Plus Annual Report and Accounts 2005-6” for a complete list of employment programmes funded by Jobcentre Plus.

# 5 Exclusions

## 5.1 Introduction

Exclusions from schools occur most often as a result of persistent disruptive behaviour, and are "regarded as the 'ultimate sanction' for challenging behaviour in schools"[47]. We found evidence that Black boys are excluded from school to a greater extent than boys from other ethnic groups. In this section we set out our estimates of the costs associated with the greater extent of exclusions for Black boys together with statistics on Black boys' exclusions compared to other pupils and a description of:

- Characteristics and trends in exclusions and the destination of those excluded;
- Our approach to estimating costs; and
- The data available and data issues.

In the long term, exclusions may lead to a number of poorer outcomes such as the excluded individuals having worse family circumstances or being associated with peer groups which have an adverse influence on aspirations and achievement. However, we estimate the short term costs of exclusions because the longer term linkages are complex and their associated costs are difficult to quantify.

## 5.2 Characteristics and trends in exclusions

### 5.2.1 Types of exclusions

The process of exclusion entails informing the pupil's parents; informing the school's governing body and the local education authority (LEA); potential review by the governing body; and potential review by an independent appeals panel.

Following this process, responsibility for the pupil's education depends on which of the two types of exclusion is implemented:

- Fixed period – a pupil is excluded from a specific school for a period of time (the average duration in 2004/05 was 3.6 days[48]) after which the pupil returns to that school. During this time the pupil's education remains the responsibility of the same school; and
- Permanent – a pupil is excluded permanently from a specific school; their name is removed from that school's register. The responsibility for the permanently excluded pupil's education then lies with the local authority. Such pupils are educated either at another school or through some other form of provision including home provision, Further Education Colleges, or a Pupil Referral Unit (PRU).

The breakdown of permanent exclusions by type of school in 2004/05 was as follows:

- 85% from secondary schools;

[47] "Toward Zero Exclusion: An action plan for schools and policy makers", Reed, J., IPPR and CfBT Research & Development, 2005.

[48] Unless indicated otherwise, all data referred to in this section is sourced from "Permanent and Fixed Period Exclusions from Schools and Exclusion Appeals in England, 2004/05, First Release", Department for Education and Skills. We explain later in this section how we extrapolate the data to include Wales.

- 12% from primary schools; and
- 3% from special schools[49].

According to the Department for Education and Skills (DfES), there has not been much variation in the proportion of permanent exclusions by each type of school since 1997/98.

While persistent disruptive behaviour is cited as the most common reason for all exclusions, the next two most common reasons are physical assault against a pupil, and verbal abuse/threatening behaviour against an adult[50].

### 5.2.2 Number of exclusions

According to statistics provided by DfES, in 2004/05 12 pupils in every 10,000 (aged four and above) were permanently excluded from school in England. Gillborn[51], however, states that the official figures understate the real level of exclusions owing to the occurrence of unofficial exclusions whereby pupils are excluded prior to the formal exclusion date. Unofficial school exclusions occur when head teachers or other school staff send pupils home for disciplinary reasons, but do not follow procedures required for formal exclusion, or when pupils are sent home for either a short period of time, or for a longer indefinite period, which results in the pupil not returning to school. In our assessment of the costs of exclusions, we have relied on the published data.

The DfES also reports that the number of permanent exclusions since 2000/01 has been 12 per 10,000 pupils with the exception of 2003/04 when it was 13 per 10,000 pupils. Data on fixed period exclusions are provided for 2003/04 and 2004/05 and these indicate a 12% increase in the numbers of fixed period exclusions between these two years. As a proportion of the school population, the increase was from 4.5% to 5.1% over that same period.

With respect to fixed period exclusions, these relate to *cases* rather than pupils as pupils may be temporarily excluded more than once. DfES reports that of those excluded for fixed periods, 63% of pupils were excluded once and 19% of pupils were excluded twice. The remaining 18% were temporarily excluded from school on more than two occasions.

### 5.2.3 Exclusions by gender and ethnicity

Exclusions vary by gender, with boys accounting for 80% of permanent exclusions each year and 76% of fixed period exclusions. Boys are thus 4 (3) times more likely than girls to be excluded permanently (on a fixed term basis) from school. Of total exclusions, 46% occur at ages 13 and 14 (with no gender differences).

Exclusion rates vary with ethnicity, as demonstrated in Table 17 in which we provide the latest publicly available (2004/05) statistics for all pupils, White pupils and the sub-categories of Black pupils (both boys and girls) in England. The exclusion rate displayed here for all pupils (0.14%) differs from the previous figure (12 in every 10,000 pupils, or 0.12%) because it includes only pupils of compulsory school age.

[49] See Table 1 in "Permanent and Fixed Period Exclusions from Schools and Exclusion Appeals in England, 2004/05, First Release", DfES.

[50] See Table 11 in "Permanent and Fixed Period Exclusions from Schools and Exclusion Appeals in England, 2004/05, First Release", DfES.

[51] "Exclusion from school: an overview of the issues" in "Second Chances: Exclusion from School and Equality of Opportunity", Edited by Nick Donavan, New Policy Institute, April 1998.

**Table 17: Exclusion rates for a selection of pupils aged five and above in 2004/05**

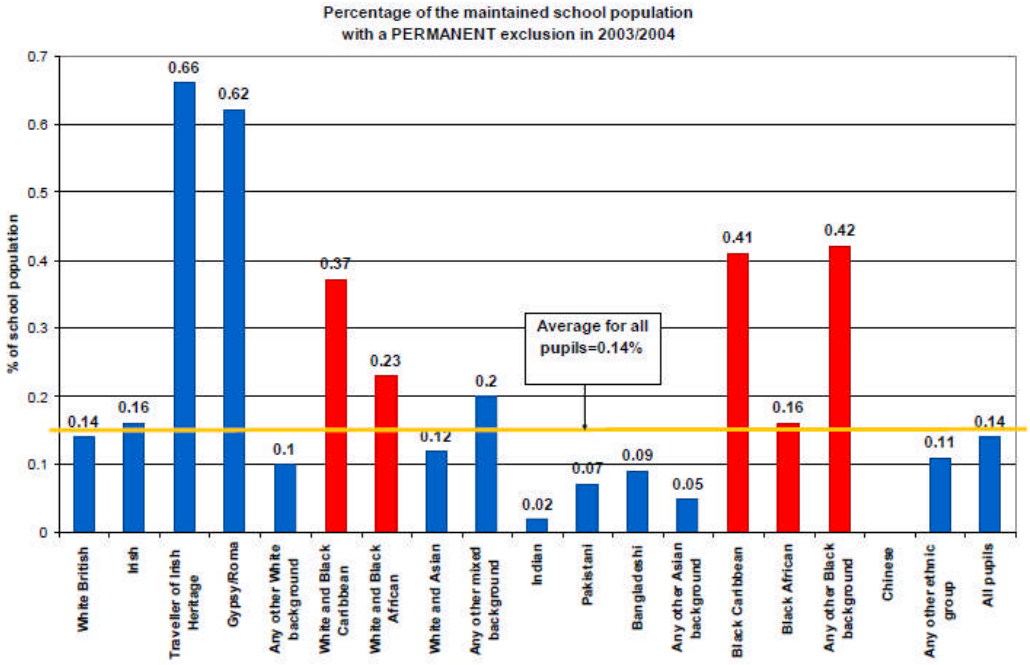
| | All pupils | White pupils | Black Caribbean | Black African | Any other Black background |
|---|---|---|---|---|---|
| Permanent exclusions as a percentage of school population | 0.14 | 0.13 | 0.39 | 0.14 | 0.36 |
| Fixed period exclusions as a percentage of school population | 5.72 | 5.65 | 10.58 | 4.97 | 10.51 |

*Source: Table 7, Permanent and Fixed Period Exclusions from Schools and Exclusion Appeals in England, 2004/05*

The data in Table 17 indicate that within the Black group in which we are interested, the statistics for Black African pupils are similar to those for all pupils and, indeed, lower than the average for fixed period exclusions. In contrast, Black Caribbean pupils and Black Other pupils exhibit significantly higher exclusion rates (both permanent and fixed period) than all pupils.

Figure 13 illustrates the differences amongst a wider range of ethnic groups. The chart demonstrates that apart from the Traveller of Irish Heritage and Gypsy/Roma groups, Black Caribbean and Black Other pupils also experienced above average permanent exclusions in 2003/04.

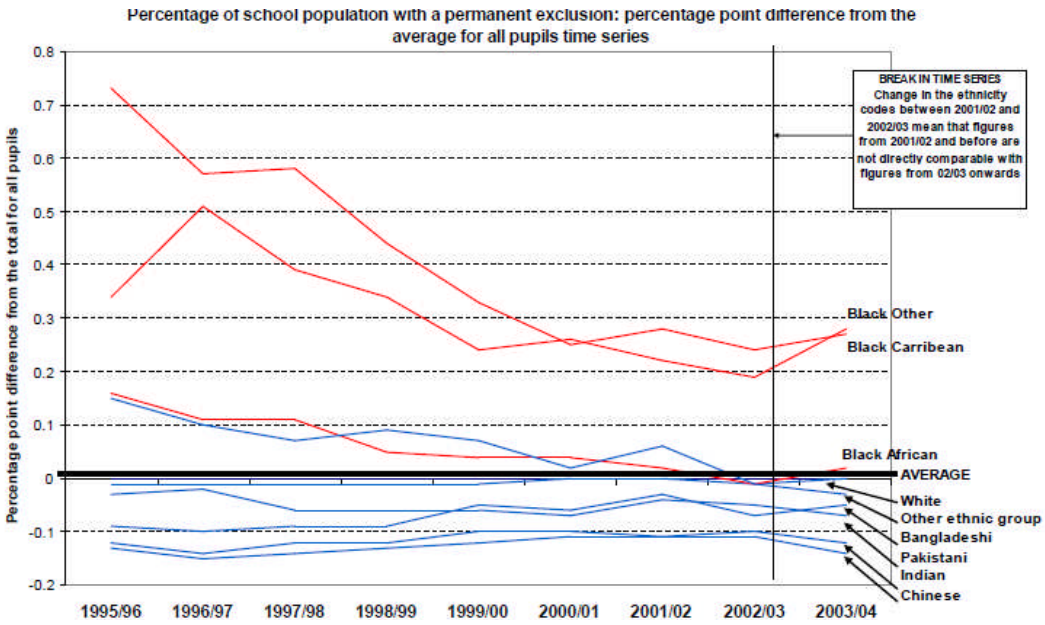
**Figure 13: Percentage of the maintained school population in England with a permanent exclusion in 2003/04**




*Source: "Getting it. Getting it right – Exclusion of Black Pupils Priority Review", DfES (2006)*

Figure 14 shows how exclusion rates have varied over time for different ethnic groups. Although data pre- and post-2002 are not directly comparable due to a change in the ethnicity codes affecting the way that individuals' ethnic backgrounds are classified, it is evident that the Black Caribbean and Black Other groups have consistently experienced higher than average exclusion rates. However, the exclusion rates for these groups appear to have been declining over time and converging with the average, although there was divergence from the average, particularly for Black Caribbean pupils, in 2003/04.

**Figure 14: Percentage of school population in England with a permanent exclusion: percentage point difference from the average for all pupils time series.**




*Source: "Getting it. Getting it right – Exclusion of Black Pupils Priority Review", DfES (2006)*

For the purposes of this study we wanted to focus on Black boys, rather than all Black pupils. However, we were unable to identify recent data on exclusions broken down both by ethnic sub-category (i.e. Black Caribbean, Black African and Black Other) and gender. Instead our only source of gender data was for the Black category as a whole. In Table 18 we present the exclusion rates in 2004/05 in England for all pupils, White pupils and Black pupils by gender.

**Table 18: Exclusion rates for a selection of pupils by gender in 2004/05**

| | | All pupils | White pupils | Black pupils |
|---|---|---|---|---|
| Permanent exclusions as a percentage of school population | Total | 0.14 | 0.13 | 0.26 |
| | Girls | 0.06 | 0.06 | 0.11 |
| | Boys | 0.21 | 0.21 | 0.41 |
| Fixed period exclusions as a percentage of school population | Total | 5.51 | 5.65 | 7.65 |
| | Girls | 2.73 | 2.81 | 3.88 |
| | Boys | 8.20 | 8.37 | 11.43 |

*Source: Table 9, Permanent and Fixed Period Exclusions from Schools and Exclusion Appeals in England, 2004/05*

The data indicate that Black boys are significantly more likely to be excluded from school both permanently and for a fixed period than the average male pupil (as indeed are Black girls compared with the average female pupil).

### 5.2.4 Destination of excluded children

The destination of excluded pupils varies depending on whether the exclusion is:

- Fixed period – this will depend on the duration of the exclusion. For short durations (as previously noted the average is 3.6 days), many children remain at home; or
- Permanent – destinations include an alternative school, PRUs, home tuition, specialist unit, college, and shared tuition.

The cost of each of the alternative forms of education varies (see Section 5.2.5). A recent study that surveyed ten LEAs[52] in England provides an indication of the destinations for permanently excluded pupils. For the sample of 193 pupils the breakdown is shown in Table 19.

[52] "Study of Young People Permanently Excluded from School", Daniels, H., Cole, T., Sellman, E., Sutton, J., Visser, J., Bedward, J., DfES, 2004.

**Table 19: First placement destination of permanently excluded pupils (2000 – 2002)**

| First placement destination | Frequency (% of 193 excluded pupils) |
|---|---|
| PRU | 54.9 |
| New mainstream school | 14.5 |
| Further Education college | 6.7 |
| No involvement with education | 6.2 |
| Tuition at home/community base | 4.7 |
| Other | 2.6 |
| Work based learning/training | 2.1 |
| Youth Offending Institute | 2.1 |
| Home education | 1.6 |
| Special school | 1.6 |
| Destination not known | 3.1 |

Source: "Study of Young People Permanently Excluded from School", Daniels, H., Cole, T., Sellman, E., Sutton, J., Visser, J., Bedward, J., DfES, 2004.

Table 19 shows that the destination is unknown for 3.1% of excluded pupils, and that 6.2% have no involvement with education. While this did not affect our calculations of the net cost of providing additional education for excluded pupils it did raise concern that the statistics did not accurately monitor the activities of all excluded pupils. There may therefore be additional costs associated with individuals being "Not in Education, Employment, or Training" such as identified in Godfrey *et al* (2002)[53].

### 5.2.5 Costs of exclusions

With respect to costs, one study in 1998[54], based on a survey of six LEAs, estimated that the cost of exclusion was around 1.9 times the cost of secondary education broken down as follows:

- 17% of the additional cost was associated with managing the exclusion process;
- 66% was for the delivery of replacement education; and
- 17% was for support.

"Support" refers to the cost of other services such as social services, health and the police. In our cost estimates we picked up the police costs through our work on the CJS. We did not attempt to estimate the other costs of support in this exercise as we had no recent evidence on which to base these estimates, and in any case they were likely to be small relative to the costs of delivering replacement education.

### 5.2.6 Summary

To summarise, based on the published data from DfES, the following key comments can be made:

- While fixed period exclusions rose during the period 2003/04 to 2004/05 as a proportion of the school population in England, permanent exclusions have remained a broadly constant proportion of the school population since 2000/01;

[53] "Estimating the Cost of Being 'Not in Education, Employment or Training' at Age 16-18", Godfrey *et al,* DfES, 2002.

[54] "Second Chances: Exclusion from School and Equality of Opportunity", Edited by Nick Donavan, New Policy Institute, April 1998.

- Boys are much more likely to be excluded from school than girls both on a fixed period basis (3 times more likely) and on a permanent basis (4 times more likely);
- The most common ages for exclusion are 13 and 14 with no gender differences;
- Exclusion rates vary by ethnicity, with Black Caribbean and Black Other pupils experiencing above average rates of both fixed period and permanent exclusion;
- The most common first placement destination is a PRU, accounting for approximately 55% of all permanent exclusions; and
- Approximately 66% of the cost of exclusions is accounted for by the costs of replacement education, with a further 17% accounted for by both the costs of managing the process and providing subsequent support.

## 5.3 Our approach to estimating costs

### 5.3.1 Number of exclusions

*Permanent exclusions*

We needed data on the difference in the number of exclusions per year between our target and comparator groups. The best source of information that we identified was DfES (2006), Table 9 in "Permanent and fixed period exclusions from schools and exclusion appeals in England, 2004/05". This source reports that across all school types (in England) there were 530 permanent exclusions of Black boys in 2004/05, or 0.41 per cent of all Black boys in the school population. From this we estimated the implied number of Black boys in the school population as 129,268. The corresponding figures for non-Black boys were[55] 6,610 and 0.21 per cent, and the implied population was 3,190,574.

As these figures were for England only, we adjusted to account for the population of Black boys in Wales and the relative exclusion rate in Wales compared to England. We multiplied the numbers for England by an adjustment factor, calculated as the ratio of the Black population of England and Wales, divided by the Black population of England only. Within this calculation, to account for the lower propensity for pupils to be excluded from Welsh schools compared to English schools, the Black population of Wales was multiplied by the ratio of the exclusion rate in Wales to the exclusion rate in England.

If Black boys had the same exclusion rates as non-Black boys then we estimated that there would have been 268 (129,268*0.21%) permanent exclusions of Black boys in England in 2004/05, 262 less than our estimate of the actual figure.

Inclusion of Wales increased the estimated number of additional permanent expulsions of Black boys from 262 to 265.

*Fixed period exclusions*

Using a similar method to that for permanent exclusions, we estimated that the number of fixed period exclusions of Black boys in England and Wales in 2004/05 would have been 14,165 if they had had the same exclusion rate as non-Black boys. We estimated that there were 14,926 fixed period exclusions of Black boys in 2004/05, suggesting a potential reduction in fixed period expulsions of Black boys of 761.

[55] Based on the addition of the relevant data appearing in columns 1, 2, 3 and 5 of Table 9.

Multiplying these figures by the average length of a fixed period exclusion gave:

- Estimated pupil-days of fixed period exclusions of Black boys in 2004/05 = 53,735;
- Estimated pupil-days of fixed period exclusions of Black boys if exclusion rate had been same as non-Black boys = 50,996; and
- Potential reduction in fixed period exclusion-days of Black boys = 2,740.

### 5.3.2 Cost per exclusion

We also needed to know the cost of each exclusion net of mainstream education costs. While we recognised that there are a number of alternatives for excluded pupils, we used the following report to quantify both the costs of education in a PRU, and the costs of mainstream education:

- Jackson *et al* (2002), "The costs and benefits of educating children in care", Centre for Longitudinal Studies, Working Paper 4.

We assumed that there were no additional educational costs to the state as a result of fixed period exclusions. Regarding permanent exclusions, we assumed that £1,154 in administration costs were incurred per case. In addition, we assumed that the costs of educating the 65% of excluded pupils that attend PRUs, net of avoided mainstream education costs, were incurred.

## 5.4 Data availability and issues

Prior to providing our estimates of the costs of the additional exclusions of Black boys, it is important to highlight a number of issues with respect to the data – its availability, its definition and how we made the best use of the data we had available.

### 5.4.1 Permanent exclusions

*Numbers excluded*

In 2004/05, according to DfES[56], 530 Black boys were permanently excluded from school in England. This includes primary, secondary, and special schools. However, we do not know at what point in the year they were excluded. Furthermore, we understand that these data do not include permanently excluded pupils from previous years, and so they represent the number of Black boys newly permanently excluded from school at some point during 2004/05. Ideally we would want to have data on the "stock" of excluded pupils at the start and end of the year together with the pattern of flows into the stock. That way we would have an accurate picture of the numbers and durations of permanent exclusions for the year. To address this issue we examined the trend in Black boys' exclusions over the last 5 years to identify whether the flow into the stock was stable over time. If so, then we could use the size of the inflow together with an estimation of the average duration of time spent in the "stock" to estimate the size of the stock at any point in time.

The size of the stock affects the ongoing cost of providing alternative education or care for the excluded pupils. As explained in Section 5.4.4, the only cost of providing alternative education that we considered was the cost of educating a pupil in a PRU. We used an estimated 7.7 months as the duration of time spent in the stock of PRU pupils, and multiplied this by the annual flow into the stock

[56] "Permanent and Fixed Period Exclusions from Schools and Exclusion Appeals in England, 2004/05, First Release", DfES.

to calculate the size of the stock. The figure of 7.7 months was calculated from our analysis of "Table D1:Post-exclusion trajectories of the young people" in Daniels et al (2004)[57].

*Destinations of the excluded*

The source for Table 19 reports the first placement destination of a sample of excluded pupils. The accompanying data annex allowed us to estimate the average duration of time spent in a PRU and therefore the net costs of educating excluded pupils in this way. Table 19 also states that the first destination for 4.7% of excluded pupils was "Tuition at home/community base", and for 1.6% was "Home education". Where full-time tuition at home is provided by personal tutors, we would expect this to be a significant area of costs. However, the accompanying data annex did not allow us to estimate the number of hours of home tuition per week nor the duration of time spent receiving home tuition. We therefore adopted a conservative approach and did not allocate extra costs associated with home tuition of excluded pupils.

Table 19 also reports that 1.6% of excluded pupils attend special schools as their first placement destination. While we would expect this to increase the net cost of education in the case where the pupil was excluded from a mainstream primary or secondary school, if the excluded pupil was already attending a special school then there would be no net increase in the ongoing cost of educating that pupil as a result of their exclusion. Therefore we again adopted a conservative approach and did not increase the costs of exclusion associated with pupils being admitted to special schools.

### 5.4.2 Fixed period exclusions

The data for fixed period exclusions refer to cases rather than numbers of pupils. This does not present a particular problem for the purpose of estimating costs, but should be borne in mind when interpreting the data. As we lacked data on how pupils excluded for fixed periods spent their time, we assumed that they receive no additional education during these periods. We also made an implicit assumption that the length of days excluded from school was the same across ethnic groups. There was therefore no extra cost burden on the state arsing from a requirement to provide education. The majority of the costs from fixed period exclusions would therefore be borne out through lower lifetime earnings or an increased risk of involvement with the Criminal Justice System, and these are captured in our calculations in those areas.

### 5.4.3 England and Wales

The DfES (2006)[58] data on exclusions by ethnicity only cover England. As we were interested in the costs of exclusions in England and Wales, we adjusted the figures for England. As noted above, we multiplied the numbers for England by an adjustment factor, calculated as the ratio of the Black population of England and Wales, divided by the Black population of England only. To account for the lower propensity for pupils to be excluded from Welsh schools compared to English schools, the Black population of Wales was multiplied by the ratio of the exclusion rate in Wales to the exclusion rate in England.

### 5.4.4 Cost estimates

There are very limited data on the cost of the various options available for the education of excluded pupils. The majority of pupils (55%) are educated in PRUs immediately following their exclusion. A further 10% enter PRUs following an initial period of up to two months where they are uninvolved

[57] "Study of Young People Permanently Excluded from School", Daniels, H., Cole, T., Sellman, E., Sutton, J., Visser, J., Bedward, J., DfES, 2004.

[58] "Permanent and Fixed Period Exclusions from Schools and Exclusion Appeals in England, 2004/05, First Release", DfES.

with the education system[59], which makes a total of 65% spending time in PRUs at some point after they are excluded. Most of the remainder are reabsorbed into the mainstream education system. PRUs are also one of the most expensive forms of alternative education. Therefore, we concentrated on the potential net cost savings arising from fewer Black boys being admitted to PRUs. We also, however, took account of the estimated administrative costs associated with permanent exclusions.

## 5.5 Our approach

In Table 20 we provide a summary of our approach to estimating the costs of permanent exclusions together with their sources. We compiled data based on 2004/05 numbers of exclusions for England and Wales. We inflated the cost estimates to 2006 prices. For the purposes of this exercise on exclusions, we considered that the best comparator group was non-Black boys.

**Table 20: Key assumptions for calculating the costs of permanent exclusions**

| | Cost element | Assumption/Data | Source |
|---|---|---|---|
| 1 | Number of Black boys in maintained primary, secondary, and special schools in England 2004/5 | 129,268 | "Permanent and Fixed Period Exclusions from Schools and Exclusion Appeals in England, 2004/05, First Release", Department for Education and Skills (2006) |
| 2 | Number of Black boys permanently excluded in England | 530 | DfES (2006) |
| 3 | Percentage of Black boys permanently excluded in 2004/5 | 0.41% | Cost element 2 / cost element 1 |
| 4 | Number of non-Black boys in maintained primary, secondary, and special schools in England 2004/5 | 3,190,574 | Calculated from DfES (2006) using number of exclusions per each non-Black ethnic group divided by the exclusion rate for that group. |
| 5 | Number of non-Black boys permanently excluded in England | 6,610 | DfES (2006) |
| 6 | Percentage of non-Black boys permanently excluded in 2004/5 | 0.21% | Cost element 5 / cost element 4 |
| 7 | Percentage reduction to comparator group | 0.20% | Cost element 3 – cost element 6 |
| 8 | Potential reduction in Black boy exclusions per annum in England | 262 | Cost element 1 * cost element 7 |
| 9 | Black population of England | 541,395 | Census 2001 |
| 10 | Black population of Wales | 7,464 | Census 2001 |
| 11 | Percentage of pupils excluded from English schools in 2004/5 | 0.12% | The Poverty Site www.poverty.org.uk |
| 12 | Percentage of pupils excluded from Welsh schools in 2004/5 | 0.10% | The Poverty Site. www.poverty.org.uk |
| 13 | Relative propensity of pupils to be excluded from Welsh schools | 0.82 | Cost element 12 / cost element 11 |
| 14 | "Uprate factor" to estimate potential reduction in Black boy exclusions per annum in England and Wales | 1.011 | [(Cost element 10 * cost element 13) + cost element 9] / cost element 9 |

[59] Table D1 in "Study of Young People Permanently Excluded from School", Daniels, H., Cole, T., Sellman, E., Sutton, J., Visser, J., Bedward, J., DfES, 2004.

| | | | |
|---|---|---|---|
| 15 | Potential reduction in Black boy exclusions per annum in England and Wales | 265 | Cost element 8 * cost element 14. |
| 16 | Administrative cost per permanent (new) exclusion | £1,154 | "School's Out?", Goodall, New Philanthropy Capital, (2005) , adjusted to 2006 prices using the GDP deflator |
| 17 | Cost of alternative education in a PRU per pupil per annum | £14,632 | "School's Out?", Goodall,, New Philanthropy Capital, (2005), adjusted to 2006 prices using the GDP deflator |
| 18 | Average duration of permanent exclusion | 7.7 months based on the average time spent in a PRU over a two year period | PwC calculation based on Table D1 of "Study of Young People Permanently Excluded from Schools", Daniels et al, DfES (2004) |
| 19 | Average cost per pupil for those excluded pupils who spend time in a PRU | £9,389 | Cost element 17 * (cost element 18 / 12) |
| 20 | Cost of mainstream education per pupil per annum | £2,978 based on the per pupil costs of primary and secondary schooling, weighted according to the propensity of primary and secondary pupils to be excluded | "The Costs and Benefits of Educating Children in Care", Jackson et al, Centre for Longitudinal Studies, (2002), adjusted to 2006 prices using the GDP deflator |
| 21 | Cost of mainstream education for same period as average time spent by excluded pupils in PRU | £1,911 | Cost element 20 * (cost element 18 / 12) |
| 22 | Average additional cost per excluded pupil of time spent in PRU | £7,478 | Cost element 19 – cost element 21 |
| 23 | Proportion of excluded pupils that spend time in PRUs at some point after they are excluded | 65% | PwC calculation based on "Study of Young People Permanently Excluded from Schools", Daniels et al, DfES (2004) |
| 24 | Potential per annum savings of administrative costs | £305,859 | Cost element 15 * cost element 16 |
| 25 | Potential per annum savings net of mainstream education costs by reducing the number of pupils entering PRUs | £1,288,722 | Cost element 15 * cost element 23 * cost element 22 |
| 26 | Total potential per annum savings by reducing the number of exclusions of Black boys | £1,594,580 | Cost element 24 + cost element 25 |
| 27 | Present value of estimated benefits from reducing Black boy exclusion rate to that of the comparator group | £61, 587,260 (the value of cost element 26 as a perpetuity) | A discount rate of 3.5% is used for the first 30 years and a declining schedule for subsequent years in accordance with Treasury Green Book guidance |

Similarly, in Table 21 we summarise our approach in respect of fixed period exclusions. However, as stated above, we have not identified evidence that indicates there is a cost burden on the state as a result of having to provide additional education. Therefore, we do not calculate a separate figure for the total per annum additional costs of fixed period exclusions of Black boys.

**Table 21: Approach to calculating the number of fixed period exclusions**

| | Cost element | Assumption/Data | Source |
|---|---|---|---|
| 22 | Number of cases of Black boys excluded for a fixed period in England in 2004/5 | 14,760 | DfES (2006) |
| 23 | Number of cases of Black boys excluded for a fixed period in England and Wales in 2004/5 | 14,926 | Cost element 22 * cost element 14 |
| 24 | Average duration of fixed period exclusion | 3.6 days | DfES (2006) |
| 25 | Black boys' exclusion rate | 11.4% | DfES (2006) |
| 26 | Non-Black boys' exclusion rate | 10.8% | Calculated from DfES (2006) using number of exclusions per each non-Black ethnic group divided by the exclusion rate for that group. |
| 27 | Percentage reduction to comparator group | 0.58% | Cost element 25 – cost element 26 |
| 28 | Potential reduction in Black exclusion days per annum | 2,740 | Cost element 23 * cost element 24 * cost element 27 |

## 5.6 Estimated costs of exclusions

Combining the estimated number of additional permanent exclusions with the costs per permanent exclusion produces an estimated per annum total cost of approximately £1.6 million. A conservative estimate of the present value of these costs into perpetuity is approximately £61.6 million.

This estimate is conservative because we measured only those costs for which data of a reasonable quality were available. As noted in Section 5.3.2, we did not estimate additional costs for home tuition or tuition in special schools. Further costs associated with exclusions that we were unable to measure included the demands placed on the social and health services. We also assumed that there was a pro rata reduction in mainstream education costs as a result of pupils being transferred to PRUs. However, in reality it is unlikely that schools can adjust their cost base as a result of having one less pupil to educate, so it may be impossible to realise this cost saving. Furthermore, we did not measure any costs associated with fixed period exclusions.

## 5.7 Other and non-measurable costs

There is evidence to suggest that there are significant benefits associated with the duration of time spent in formal education. For example Hammond (2002)[60] finds that there is a positive correlation between the number of years spent in education and individuals' health status relating to their physical and mental condition. Furthermore, Jackson and Martin (1998)[61] report that evidence from qualitative studies suggests that higher education makes it more likely that children will overcome mental health problems.

To the extent that Black boys and young men are at an increased risk of spending shorter periods of time in formal education, they are likely to experience reduced benefits from education. These costs are difficult to measure given the current availability of data, but are nonetheless likely to be significant. They are numerous but are likely to include stress (to both the excluded individual and also to their family) and negative impacts on self-esteem, motivation, and aspiration.

[60] "Learning to be healthy", Hammond, "Wider Benefits of Learning", Monograph No. 3, London Institute of Education, 2002.

[61] "Surviving the care system: education and resilience", Jackson and Martin, Journal of Adolescence, 21, 569-583, 1998.

There are also likely to be cost implications for the CJS as a result of exclusions. For example, evidence from a MORI survey[62] in 2004 suggests that 51% of young people who have been excluded from school on five or more occasions (both permanent and fixed period exclusions) had committed an offence in the previous twelve months. Furthermore, 46% of young people who offend have been given both temporary and permanent exclusions, compared with 28% of non-offenders[63]. However, these costs have been included in our analysis of the CJS, so to avoid double-counting we do not include them here.

## 5.8 Potential benefits of closing the gap

The potential benefits of closing the gap between the exclusion rates of Black boys and their non-Black counterparts is the sum of the measurable and non-measurable benefits. On a per annum basis, this amounts to £1.6 million plus the potential improvement in the health status (both physical and mental) of the Black boys who would otherwise have been excluded. In present value terms, the potential benefits are £61.6 million plus the present value of improved health status over the lifetimes of the Black males.

[62] "MORI Youth Survey 2004", a MORI report for the Youth Justice Board, 2004.

[63] ibid.

# 6 Criminal Justice System

## 6.1 Introduction

In this section we set out our estimates for the costs associated with the over-representation of Black males in the Criminal Justice System (CJS) together with statistics on the extent of this over-representation compared to other ethnic groups and a description of:

- Characteristics and trends in CJS participation;
- Our approach to estimating costs; and
- The data available and data issues.

## 6.2 Characteristics and trends in CJS participation

### 6.2.1 Types of CJS participation

We focus on two main types of participation in the CJS[64]:

- Participation as offenders – in England and Wales, excluding foreign nationals, Black males in 2005 were five times more likely to be in prison than White males[65] and 6% of all persons starting court order supervision by the Probation Service in the period October to December 2004 were Black, compared to 2.3% representation in the population as a whole.
- Participation as suspects – data for 2003/04 show that, in England and Wales, Black people were over six times more likely to be stopped and searched by the police than White people (although this may reflect the concentration of such searches in London) and were three times more likely to be arrested than White people[66]. A smaller proportion of Black defendants (73 per cent) than White defendants (78 per cent) were found guilty in the Crown Court in 2003[67].

### 6.2.2 Number of recorded crimes

Home Office figures[68] report that there were 5.56 million crimes recorded by the police in (the financial year) 2005/06, down from 5.64 million crimes recorded in 2004/05. Crimes recorded by the police are an underestimate of the number of crimes committed, because many crimes go unrecorded. Using Home Office estimates, the multiplier (i.e. ratio of total crimes committed to crimes recorded) for offences against individuals and households in 2003/04 was just over 3. Hence, whilst the total volume of offences against individuals and households recorded in 2003/04 was 3.95 million, the Home Office estimates that the total volume of offences against individuals and households committed was more than three times higher, at 12.17 million.

The differences in crimes committed by various ethnic groups must be considered in the context of trends in total recorded crimes, which have declined since 2003/04, as demonstrated in Figure 15, which shows all recorded offences (including those committed against individuals and households and the commercial and public sectors). In forming our cost estimates we made the assumption that

[64] People may also participate in the CJS as victims, but we do not focus on this form of participation in the CJS in this study.

[65] Home Office, "Focus into the Relationship between Young Black People and the CJS – Annex B", 2006.

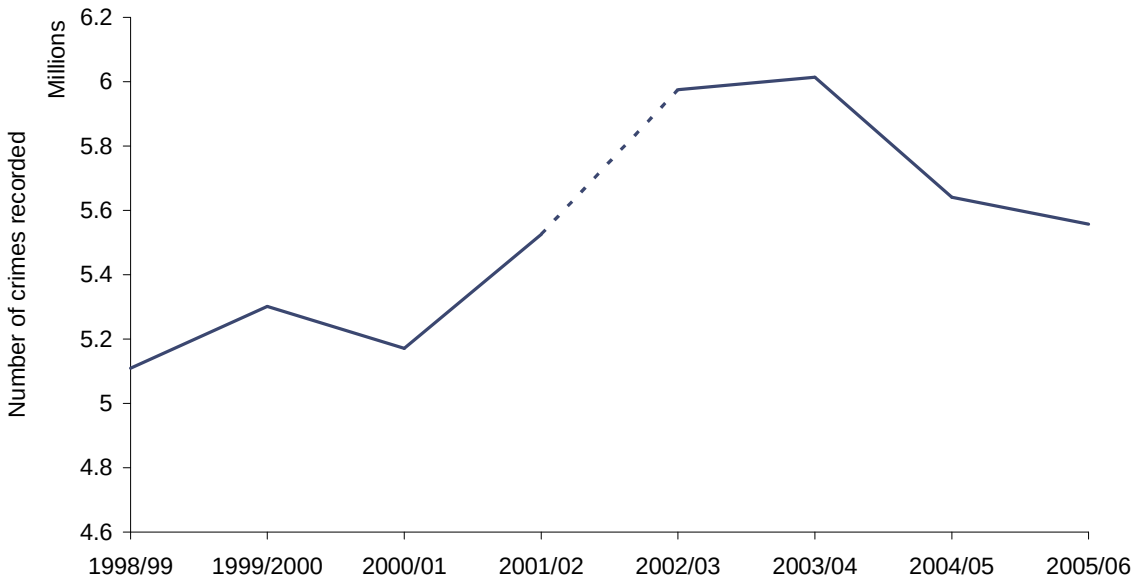
[66] Ibid.

[67] Ibid.

[68] Home Office, "Crime in England and Wales 2005/06", 2006.

crime rates stayed the same as in 2003/04 and the distribution between different types of crime and sentencing patterns remained the same. We used 2003/04 data on crimes because these were the most recent data for which we received estimates of total crime (rather than just data on recorded crime).

**Figure 15: Total recorded crime in England and Wales**




*Source: Home Office, "Crime in England and Wales 2005/06" (2006).*
Note: Crime recording and reporting changed in 2002, meaning that we can draw no inference from the 2001/02 to 2002/03 change.

### 6.2.3 CJS participation by gender and ethnicity

Most CJS participation statistics report ethnicity based on ethnic appearance (as perceived by the police) and do not include mixed races as a category. To adjust for this, we used the relative numbers of Black and Mixed-Black persons in prison (for which there are data) to provide an estimate of the number of Black persons at each stage of the CJS. The exceptions were data for youth offences, persons on probation and persons in prison establishments, for which data exist on self-identified ethnic group, including mixed. If the ratio of Mixed-Black persons to Black persons is higher (lower) at earlier stages of the CJS than at the prison stage, then our approach would tend to overestimate (underestimate) the number of Black (defined as Black Caribbean, Black African or Black Other) persons at early stages of the CJS (e.g. arrests).

Similarly, the ethnicity and CJS participation statistics do not report gender. We assumed that gender representation does not vary by ethnicity, but does vary across different stages of the CJS, and hence estimated the number of Black males by applying gender proportions from Home Office Statistical Bulletin 21/05.

Using these approaches, our estimates of the representation of Black males in the CJS in 2005 are shown in Table 19. Column 5 shows the ratio of the representation of Black males in the CJS in 2005 to the representation of non-Black males in the CJS in 2005. This demonstrates that a Black male is 5.7 times as likely to be stop-and-searched than a non-Black male, 3.3 times as likely to be arrested and 5 times as likely to be sent to prison.

**Table 22: 2005 representation in CJS of Black and non-Black Males in England and Wales**

| CJS stage | Number of CJS events involving Black males | Number of CJS events involving non-Black males | | CJS events per thousand of Black male population | CJS events per thousand of non-Black male population | Ratio of Black male CJS representation to non-Black male representation |
|---|---|---|---|---|---|---|
| | (1) | (2) | | (3) | (4) | (5)=(3)/(4) |
| Stops and searches[(i)] | 91,402 | 682,814 | | 237 | 42 | 5.7 |
| Arrests[(i)] | 91,842 | 1,176,951 | | 238 | 72 | 3.3 |
| Persons cautioned | 11,805 | 203,246 | | 31 | 12 | 2.5 |
| Prosecutions at magistrates' courts[(i)] | 31,235 | 295,300 | | 81 | 18 | 4.5 |
| Persons tried at the Crown Court | 6,037 | 52,624 | | 16 | 3 | 4.8 |
| Persons on court order supervision by the Probation Service[(ii)] | 12,727 | 197,133 | | 33 | 12 | 2.7 |
| Population in prison establishments | 6,389 | 52,349 | | 17 | 3 | 5.2 |
| Sentenced prison receptions[(i)] | 8,788 | 76,853 | | 23 | 5 | 4.8 |

Source: Home Office, "Statistics on Race and the Criminal Justice System – 2005" (2006), Home Office Statistical Bulletin 21/05, 2001 Census, and PwC estimates based on Government Actuary Department projections

(i) These are data on number of events rather than number of people; hence some people may be counted more than once, if they have been stopped and searched/arrested/prosecuted/entered prison more than once.

(ii) Percentages from Home Office (2006) applied to total number of offenders being supervised by probation service (Source: House of Commons Hansard Written Answers for 23 Nov 2006 (pt 0017) "Home Department").

### 6.2.4 Costs of CJS participation

Offenders and suspects proceed through various stages of the CJS, depending upon the crime for which they are suspected or accused. The cost associated with each crime therefore depends on how likely the crime is to be recorded, the probability of prosecution, and the route taken through the CJS, together with the individual costs of each CJS cost category that is incurred. For instance, an average Common Assault generates a total CJS cost of £274[69], the major component of which is the cost of police activity. An average robbery of an individual, however, generates a much greater total CJS cost of £2,795, the major component costs being £878 for police activity costs and £851 for prison service costs.

### 6.2.5 Summary

To summarise, based on the published data from the Home Office, the following key comments can be made:

- A large number of crimes go unreported – however only reported crimes impact on CJS costs;

[69] Home Office, "The Economic and Social cost of Crime against Individuals and Households 2003/04", 2005. Estimated CJS cost of £255 at 2003 prices inflated to 2006 prices using GDP deflator.

- Black males are over-represented compared to non-Black males at every stage of the CJS;
- In particular, Black males are over 5.5 times more likely to be stopped and searched than non-Black males, over 3 times as likely to be arrested and 5 times more likely to be in prison; and
- CJS costs associated with a crime are dependent on the nature of the crime and the route taken through the CJS (e.g. whether it leads to a caution, prosecution at magistrates' courts or the Crown Court, and the form of punishment).

## 6.3 Our approach to estimating costs

This section gives an overview of our approach to estimating the costs of over-representation in the CJS. It should be noted that, due to time and data limitations, we have not calculated the impact of the different age structure of the Black male population, as compared to the non-Black male population, nor have we calculated the impact of different patterns of CJS representation "type" (e.g. prison or arrest) across age or ethnicity. We estimated the costs for a specific year (the latest year for which data are available) based on the following steps.

### 6.3.1 Calculated total costs of crime per CJS stage

The cost of crime estimates provided by the Home Office take into account the probability of a crime occurrence being recorded. Hence, whilst we are only interested in the costs of crimes that enter the CJS, this cost is spread over all crimes that are estimated to have occurred. For example, the prison service costs associated with one robbery are estimated at £851. However, because the estimation of this figure includes the probability of a robbery being reported, the expected prison service cost *per robbery that is recorded* is equal to the given cost of prison service associated with a robbery, multiplied by the ratio of total estimated robberies to recorded robberies (3.7)[70]. Hence the expected prison service cost *per robbery that is recorded* is equal to £851*3.7 = £3,148.70.

The insight from the discussion above is that, to investigate the costs of crime at different stages of the CJS using the Home Office cost of crime estimates, for compatibility of data purposes we needed to consider the reduction in the *total* amount of crime from reducing Black male representation in the CJS, not just the reduction in *recorded* crime. Our approach to calculate the total costs of crime per CJS stage was as follows:

- We identified crime categories for which CJS costs are estimated from Home Office cost of crime estimates[71];
- Calculated total *recorded* crime in England and Wales in 2005/06 for each crime category from Home Office crime statistics;
- Used Home Office crime multiplier estimates (these figures relate the estimated total volume of crime to the number of recorded offences) to estimate the *total* number of crimes committed, per crime category, in 2005/06;

[70] It should be noted that this figure implicitly takes into account the probabilities that a recorded crime will lead to an arrest, then a trial, then a conviction, and finally the imposition of a prison sentence.

[71] The Home Office cost of crime estimates cover the costs of notifiable offences, that is, the types of offences that police forces record and are required to report to the Home Office. Also included are a small number of non-notifiable offences which may sometimes have grave consequences, e.g. driving above the speed limit. Offences not included in these estimates include offences related to the possession or trafficking of drugs, low-level disorder, fare evasion and "breaches of the peace", amongst others.

- Multiplied the estimated total numbers of crimes committed in each crime category in 2005/06 by the CJS costs per crime for each category. The CJS costs are split by CJS cost category and hence we calculated a total cost, per crime category, for each cost category of the CJS;

- Summed the costs for each CJS cost category across the crime categories to calculate an estimate of the total costs of all crimes for each CJS cost category (e.g. the total costs of the prison service relating to all crime categories); and

- Combined the CJS cost categories into four broader CJS stages (detection; prosecution and conviction; probation; and prison) by summing individual CJS cost category costs. The outputs from these calculations were four figures, estimating the total cost of crime at each stage of the CJS. The reason for doing this last step is set out below.

### 6.3.2 Calculated number of CJS events at each stage of the CJS by ethnic group

- The data on ethnicity representation in the CJS does not match exactly to the CJS cost data. We resolved this difficulty by aggregating the CJS cost categories into the four broader CJS stages mentioned above, and then matched ethnicity representation at each of these stages, as shown in Table 20:

**Table 23: Matching cost and ethnicity data**

| CJS cost categories | CJS cost stage | CJS ethnicity representation stage |
|---|---|---|
| Police activity | Detection | Stops and searches[72], arrests, persons cautioned |
| Prosecution, magistrates' courts, Crown Court, jury service, legal aid, non-legal aid defence | Prosecution and conviction | Prosecutions at magistrates' courts, persons tried at the Crown Court |
| Probation service | Probation | Persons under court order supervision by probation service |
| Prison service | Prison | Sentenced prison receptions |
| Other CJS costs, CJS overhead, criminal injuries compensation | Not considered | Not considered |

- We focussed on data on ethnicity representation in the form of events (e.g. number of arrests) per head of population, rather than representation in terms of the number of *people* associated with an event (e.g. persons tried at the Crown Court). This was advantageous because we did not need to address possible differences between ethnic groups with respect to the number of offences per individual coming into contact with the CJS. Rather, we concentrated on actual differences in relative representation in the CJS between Black males and non-Black males in terms of events, whether these were the result of more individuals being involved and/or certain individuals being involved more frequently. We calculated the reduction in costs that would be achieved if the Black male representation came into line with non-Black representation, whatever the balance between numbers of individuals involved and the number of events per individual; and

- Hence, we calculated the number of events at each stage of the CJS, by ethnic group, by aggregating data relating to the CJS ethnicity representation stages as set out in the last column of Table 20 above. For instance, the number of events in the prosecution and

[72] Stops and searches are relevant, despite often not being linked with specific crimes, because they contribute to CJS costs and a disproportionate number of stops and searches are of Black males.

conviction stage was calculated as the number of prosecutions at magistrates' courts plus the number of persons tried at the Crown Court.

### 6.3.3 Calculated Black and non-Black male representation rate at each CJS stage

- Estimated the number of Black and non-Black *male* events at each stage of the CJS by scaling down the figures by the ratio of male events to all events at each stage of the CJS; and
- Calculated the Black male representation rate by calculating the number of Black male events in the CJS per thousand Black males in the population of England and Wales, and calculated the corresponding non-Black male representation rate similarly.

### 6.3.4 Calculated total cost of over-representation of Black males in the CJS

- Divided total costs for each CJS cost stage by the number of events per CJS cost stage to calculate the cost per event at each CJS cost stage;
- Multiplied this CJS cost per event at each CJS cost stage by the number of Black male events to calculate the total CJS cost associated with Black males at each CJS cost stage;
- Multiplied the CJS cost per event by the number of Black male events that there would be at each CJS cost stage if the representation rate for Black males equalled that of non-Black males to get the total CJS cost of Black males if they were not over-represented; and
- Subtracted the CJS cost of Black males under the assumption of no over-representation from the actual CJS cost to estimate the total cost of over-representation of Black males.

Note that it was not possible to take into account differences by ethnicity in patterns of types of crime. Our method assumed simply that CJS representation of Black males was reduced to match exactly the CJS representation of non-Black males.

## 6.4 Data availability and issues

Prior to providing our estimates of the costs of CJS over-representation of Black males, it is important to highlight a number of issues with respect to the data – its availability, its definition and how we made the best use of the data available.

### 6.4.1 Ethnic classification

Most ethnic classifications in crime data are based on a visual identification, rather than by self-identification. Also, most data are classified into: White, Black, Asian[73], Other and Unknown. Hence, the Mixed race population is undefined, and thus a significant number of persons of Mixed ethnicity may have been assigned into the Black category.

Prison data, however, report ethnicity according to standard, self-identified, categories: White, Black, Asian, Mixed, Chinese and Other, and Unknown. These categories are further split, with Mixed split into White and Black Caribbean, White and Black African, White and Asian, and Other Mixed. We used these data to estimate the proportion of "Blacks" (as reported in the other crime data) that are actually of Mixed race. We made the assumption that everybody who is actually White and Black Caribbean, White and Black African, or Other Mixed is classified as "Black" in the visual identification

[73] Asian in this context covers those of Indian, Pakistani or Bangladeshi origin (Home Office, "Statistics on Race and the Criminal Justice System – 2005").

crime data and removed a proportion of people from the "Black" category consistent with the proportion of these ethnicities in the prison population.

This was a conservative adjustment – it is unlikely that all people of White and Black Caribbean, White and Black African, or Other Mixed ethnicity were grouped under the "Black" classification. Hence, it is likely that we subtracted from the "Black" figures a larger number of Mixed ethnicity persons than was actually the case, leaving a smaller residual Black (excluding Mixed) population – and hence smaller total cost figures.

### 6.4.2 Crime classification

CJS costs have only been updated for crimes against individuals and households – estimates of the costs of crimes against the commercial and public sectors are outdated. Hence we estimated the cost of removing the difference in participation rates in household and individual crimes, and uprated the result by the ratio of total CJS costs to CJS costs associated with crimes against individuals and households.

### 6.4.3 Types of costs excluded from the calculation

A number of CJS costs were excluded from our calculation. Some of these costs are defined under the CJS headings "Other CJS costs", "Criminal injuries compensation" and "CJS overhead". We excluded these costs from the calculation because they cannot be assigned to a stage of the CJS, and hence we were not able to match the cost data to Black male over-representation data. Youth Justice Board costs and Youth Offending Team costs were excluded from the calculation also because the counterfactual (what the costs would be if Black male representation was reduced) was not clear. This is because, if Black male representation was reduced, some of the costs, such as health, education and social services, may well be transferred away from the youth programmes to mainstream government services, and hence the cost would be moved (at least partially), rather than the cost being eliminated. For a conservative approach, therefore, these costs were excluded from the calculation.

## 6.5 Our approach

In Table 24, Table 25 and Table 26 we provide a summary of our approach to estimating the cost of the over-representation of Black males in the CJS in England and Wales. Where necessary, we have inflated prices to 2006 prices (using the GDP deflator). For the purposes of estimating the cost of over-representation, we consider that the best comparator group is non-Black males.

**Table 24: Approach to calculating the total cost of crime per CJS stage**

| | Cost element | Assumption/Data | Source |
|---|---|---|---|
| 1 | Crime categories for which CJS costs are estimated | Homicide, wounding, sexual offences, common assault, robbery, burglary in a dwelling, theft, criminal damage, robbery of a business property, burglary not in a dwelling and theft from a shop | Home Office, "The Economic and Social Costs of Crime against Individuals and Households 2003/04" (2005) and Home Office, "The Economic and Social Costs of Crime" (2000) |
| 2 | Number of 2005/06 recorded crimes per crime category in England and Wales | e.g. 91,000 recorded robberies of personal property | Home Office, "Crime in England and Wales" (2006) |
| 3 | Calculate total crimes per crime category in 2005/06 | e.g. 91,000*3.7 = 336,700 estimated total robberies of personal property | Multiply cost element 2 by crime multiplier estimates from Home Office, "The Economic and Social Costs of Crime against Individuals and Households 2003/04" (2005) and Home Office and "The |

| | | | |
|---|---|---|---|
| | | | Economic and Social Costs of Crime" (2000). Each multiplier is specific to a crime-type |
| 4 | Calculate cost of all crimes per CJS cost category | e.g. total cost of prosecutions = £209.8 million | Multiply cost element 3 by average CJS costs per crime, split by CJS cost categories |
| 5 | Sum CJS cost categories into CJS cost stages | e.g. total cost of prosecution and conviction = £1.5 billion | Sum elements from cost element 4 |

**Table 25: Approach to calculating number of events and representation rate at each CJS stage**

| | | | |
|---|---|---|---|
| 6 | Representation of ethnic groups at each stage of the CJS | e.g. 97,031 arrests of Black people and 1,244,263 arrests of non-Black people | Home Office, "Statistics on Race and the Criminal Justice System – 2005" |
| 7 | Representation of males in ethnic groups at each stage of the CJS | e.g. 97,031*94.7% = 91,842 arrests of Black males and 1,176,951 arrests of non-Black males | Multiply cost element 6 by proportion of events at that CJS stage relating to males |
| 8 | Calculate numbers of male events in each CJS cost stage, by ethnicity. | e.g. total number of Black male events in prosecution and conviction stage = 37,273<br>Total number of non-Black male events in prosecution and conviction stage = 347,924 | Sum items from cost element 7 |
| 9 | Total number of events in each CJS cost category | e.g. 1,349,427 arrests | Home Office, "Statistics on Race and the Criminal Justice System – 2005" |
| 10 | Calculate total number of events in each CJS cost stage | e.g. total number of events in prosecution and conviction stage = 462,946 | Sum items from cost element 9 |
| 11 | Estimate 2006 total population of Black and non-Black males in England and Wales | Based on Government Actuary's Department projections<br>Black male = 385,795<br>Non-Black male = 16,303,658 | Population calculations described above in Section 2.5.1 |
| 12 | Calculate representation rate – number of events for each ethnic group at each stage of CJS per thousand males in ethnic group population | e.g. Black male prosecution and conviction events per thousand population = 97<br>Non-Black male prosecution and conviction events per thousand population = 21 | Cost element 8 divided by cost element 11 |

**Table 26: Approach to calculating cost of over-representation of Black males in the CJS**

| | | | |
|---|---|---|---|
| 13 | Calculate CJS cost per event at each CJS stage | e.g. cost per event in prosecution and conviction stage = £1.5bn/462,946 = £3,142[(i)] | Cost element 5 divided by cost element 10 |
| 14 | Calculate number of Black male events at each CJS stage using the non-Black representation rate | e.g. number of Blacks events at prosecution and conviction stage would be 385,795*2.1% = 8,233 | Cost element 11 (Black males) multiplied by cost element 12 (non-Black males) |
| 15 | Calculate cost of Black male events at each CJS stage | e.g. cost of Black male events in prosecution and conviction stage = 37,273*£3,142 = £117 million | Cost element 8 (Black) multiplied by cost element 13 |
| 16 | Calculate cost of Black male events at each CJS stage using the non-Black representation rate | e.g. cost of Black male events using lower representation in prosecution and conviction stage = | Cost element 14 multiplied by cost element 13 |

| | | | |
|---|---|---|---|
| | | 8,233*£3,142 = £26 million | |
| 17 | Calculate cost of higher Black male representation at each CJS stage. | e.g. benefit from lowering Black male representation in prosecution and conviction stage = £117m - £26m = £91 million | Cost element 15 minus cost element 16 |
| 18 | Sum costs in 2006 of higher representation rates across CJS stages, crimes against households and individuals | £468 million | Cost element 17, summed across CJS stages (detection; prosecution and conviction; probation; and prisons) |
| 19 | Calculate ratio of total CJS costs to CJS costs for crimes against individuals and households | 1.25 | Source: Home Office, "The Economic and Social Costs of Crime" |
| 20 | Costs in 2006 of higher representation rates across CJS stages, all crimes excluding motoring offences, fraud and forgery | £583 million | Cost element 18*cost element 19 |
| 21 | Present value of costs of higher representation rates across CJS stages, all crimes excluding motoring offences, fraud and forgery | £22.5 billion | Cost element 20, grown by population growth and projected forward into perpetuity, discounted back to 2006 |

(i) Note that this is not the average cost of a crime that has reached the prosecution and conviction stage, instead it is averaged across all crimes that are estimated to have been committed.

## 6.6 Estimated costs of CJS over-representation

### 6.6.1 Total costs of CJS over-representation

Based on the assumptions set out in the preceding sections together with the methods we proposed, we estimated that the costs associated with higher CJS participation rate for Black males than for non-Black males are £583 million per annum.

Using population growth assumptions as outlined elsewhere, and applying the Treasury's approach to discounting future cash streams, this cost is equivalent to a present value into perpetuity of £22.5 billion.

### 6.6.2 Reasonableness check

We conducted two high level reasonableness checks on this estimate:

- The per annum cost we estimate is equivalent to 18% of the total funding of the Metropolitan police force in 2005/06[74].
- Black persons are associated with approximately 10% of events in the CJS[75], but only represent approximately 2.4% of the population. Hence, the reduction in costs should be roughly 7.6 per cent of CJS costs. We estimate total CJS costs as approximately £10 billion per annum. Our estimate of the cost of the CJS gap is equal to 5.6% of estimated total CJS costs, suggesting that our estimate is conservative.

[74] "Metropolitan Police Annual Report 2005/06" – total funding = £3.198 billion.

[75] Home Office, "Statistics on Race and the Criminal Justice System – 2005".

## 6.7 Other and non-measurable costs

Home Office (2005)[76] describes a number of costs associated with crime, other than the CJS costs. Higher crime levels tend to increase all of these costs, which impact on victims, society, and the offenders themselves:

- Victims may incur costs from the physical and psychological impact of crime and the value of property stolen, amongst others;
- Costs of higher crime that impact on society include the costs of defensive expenditure (although some of this is a gain to other people, e.g. burglar alarm salesmen), the costs of insurance administration, the cost of victim services (to help those who have been victims of crime), lower output (due to offenders spending time in the CJS rather than working, and for victims because of time out of work or reduced productivity from physical or psychological injury) and the increased cost of health services; and
- The offender may also experience costs of their own crime, including being punished if convicted and reduced expected lifetime earnings if their crime leads to a criminal record.

## 6.8 Potential benefits of closing the gap

The potential benefits of closing the gap between the CJS representation rate of Black males and non-Black males are the sum of the potential benefits from reducing CJS costs we have estimated and the potential benefits of reducing the other costs of crime to victims, society and offenders. We estimate the potential benefits from reducing CJS costs associated with over-representation of Black males in the CJS as £583 million per annum, equivalent to £22.5 billion in present value terms. In addition, there are various other potential benefits (associated with costs of crime) if the reduction in CJS is associated with a reduction in crime.

[76] "The Economic and Social Costs of Crime Against Individuals and Households 2003/04".

# 7 Conclusion

## 7.1 Summary costs

### 7.1.1 Cost estimates

In this section we provide a summary of our estimates of each of the main cost categories. These costs are for the annual cost, the present value over the next 50 years and the present value into the future indefinitely comparing Black males to their non-Black male counterparts.

**Table 27: Summary of the current annual cost and present value into perpetuity of costs to the UK economy as a result of the underachievement of Black boys and young men (£ million, 2006 prices)**

| Comparison with non-Black boys and young men | | | | | |
|---|---|---|---|---|---|
| **£ million (2006 prices)** | **Cost per annum** | **Present value of costs for the next 50 years** | | **Present value of costs into perpetuity** | |
| | | **Total present value of future costs** | **Present value of costs of future cohorts** | **Total present value of future costs** | **Present value of costs of future cohorts** |
| **Gross earnings** | **215** | **7,137** | **3,969** | **8,469** | **5,300** |
| Total fiscal cost | 39 | 1,311 | 745 | 1,561 | 996 |
| *Benefits* | *6* | *214* | *118* | *253* | *157* |
| *Taxes* | *33* | *1,097* | *628* | *1,307* | *838* |
| Earnings net of tax and benefits | 176 | 5,827 | 3,223 | 6,908 | 4,305 |
| **Job broking and benefit provision** | **8** | **286** | **157** | **338** | **210** |
| **School exclusions** | **2** | **46** | | **62** | |
| **CJS** | **583** | **16,854** | | **22,507** | |
| **Total** | **808** | **24,323** | | **31,376** | |

Note: totals may not sum exactly due to rounding

## 7.2 Explanatory notes to the summary table

*Cost categories*

- Gross earnings – this is the total cost to the UK economy of lower earnings associated with the relative educational underachievement of Black Boys and young men. This cost comprises higher benefits and lower tax revenues (together forming the total fiscal cost) as well as the cost of lower net earnings of Black males themselves (i.e. the earnings they actually receive after taxes and benefits).

- Job broking and benefit provision – this is the cost associated with providing job broking and benefit provision services to the extra Black male JSA claimants.

- School exclusions – this is the extra cost associated with dealing with Black boys' higher school exclusion rate as compared to other boys.

- CJS – this is the cost associated with the over-representation of Black males at all stages of the CJS.

*Cost measures*

- Cost per annum – these are estimates of the magnitude of the current annual costs, as of 2006.

- Total present value of future costs – this is the estimated total cost (calculated at 2006 prices) of discounted costs projected from today, using the Treasury's recommended discount rates.

- Present value of costs of future cohorts – these are estimates of the present value of costs associated with those Black males who are yet to leave education. This represents the potential cost that a new policy raising educational achievement could hope to address, based on estimates of the impact of educational achievement on earnings and job broking costs. Summing the gross earnings cost and the job broking and benefit provision cost gives a figure of £5.510 million for the present value into perpetuity (£4,126 million for the present value over 50 years) of the total cost that policy raising educational achievement could aim at addressing. Raising educational achievement might also affect school exclusions and CJS costs but we were unable to model this directly.

For the present value estimates we present two figures:

- Present value of costs for the next 50 years; and

- Present value of costs into perpetuity (i.e. into the future indefinitely).

*Basis of cost calculations*

- We assumed no multiplier effects. A multiplier effect results where increased spending in one part of the economy (e.g. due to increased earnings) leads to a larger overall effect on the economy. Including a multiplier effect would have increased our cost estimates.

- We assumed no displaced worker effects. We assumed that if Black male achievement were improved, and thus Black men were more likely to be employed, and more likely to be in better paid jobs, then this would not result in lower employment or wages for other workers. We believe that this is a reasonable assumption to adopt, certainly in the longer run, since it would be a relatively small proportion of the workforce added gradually over time.

- We did not examine the impact on firms' profits (including the fiscal impact from employers National Insurance contributions). We assumed that the extent to which firms are constrained by access to a supply of quality-adjusted labour would not change as a result of a relatively small proportion of the workforce being added gradually over time. .

- We assumed that resources used in the CJS and in the administrative costs of job broking, benefit provision and school exclusions would otherwise be used productively for other purposes.

- We estimated the impact to the formal economy only, and did not consider the "hidden" economy.

## 7.3 Conclusions from summary table

The key conclusions from Table 27 are:

- The total economic cost of Black male underachievement in education and hence the labour force, and over-representation in exclusions and in the CJS, is in the order of magnitude of £800 million in per annum terms; £24 billion in present value terms over the next 50 years; and £31 billion in present value terms to perpetuity; and

- The major components of these costs are the costs associated with CJS over-representation and reduced earnings and taxes resulting from educational underachievement.

One possibility we were asked to consider was whether the costs estimated might have resulted from the effects on achievement of the generally lower socioeconomic status of Black boys and young men compared with their non-Black counterparts, rather than being related to issues associated with Black boys and young men specifically. To test for this, we repeated our calculations using Black girls and young women as the main basis for comparison (this should have controlled for the effects of socioeconomic status, as this group should have the same socioeconomic characteristics as Black boys and young men). These calculations suggested that socioeconomic status alone could not explain our findings.

## 7.4 Private and social costs

Table 27 shows the estimated total costs to the UK economy resulting from poor Black male outcomes in education, exclusions and the CJS. These economic costs can be separated into private costs (i.e. those costs borne by the Black males themselves) and social costs (those borne by society at large). This is shown in Table 28 below which presents this breakdown for the current annual cost figures.

**Table 28: Annual costs to the UK economy as a result of the underachievement of Black boys and young men, split between private and social (£ million, 2006 prices)**

| **Private** | | **Social** | | **Economic** | |
|---|---|---|---|---|---|
| + Lower expected post-tax lifetime earnings | 182 | + Lower tax revenues (including employers taxes) | 33 | = Lower gross earnings and GDP | 215 |
| - Net tax credits and JSA received | -6 | + Net tax credits and JSA paid | 6 | = 0 (transfer payments are not an economic cost) | 0 |
| | | + Costs associated with job broking and benefit provision | 8 | = Costs associated with job broking and benefit provision | 8 |
| | | + Costs associated with school exclusions | 2 | = Costs associated with school exclusions | 2 |
| | | + Costs associated with Criminal Justice System overrepresentation | 583 | = Costs associated with Criminal Justice System overrepresentation | 583 |
| **Total private costs** | **176** | **Total social costs** | **632** | **Total economic costs** | **808** |

Note: totals may not sum exactly due to rounding

Table 28 shows that more than three quarters of the estimated annual economic costs of Black male underachievement are social costs, being borne by society as a whole rather than the Black men themselves.

Table 29 below shows the equivalent figures for the present value of the costs over the next 50 years.

**Table 29: Present value of costs over the next 50 years to the UK economy as a result of the underachievement of young Black males, split between private and social (£ million, 2006 prices)**

| **Private** | | **Social** | | **Economic** | |
|---|---|---|---|---|---|
| + Lower expected post-tax lifetime earnings | 6,041 | + Lower tax revenues (including employers taxes) | 1,097 | = Lower gross earnings and GDP | 7,137 |
| - Net tax credits and JSA received | -214 | + Net tax credits and JSA paid | 214 | = 0 (transfer payments are not an economic cost) | 0 |
| | | + Costs associated with job broking and benefit provision | 286 | = Costs associated with job broking and benefit provision | 286 |
| | | + Costs associated with school exclusions | 46 | = Costs associated with school exclusions | 46 |
| | | + Costs associated with Criminal Justice System overrepresentation | 16,854 | = Costs associated with Criminal Justice System overrepresentation | 16,854 |
| **Total private costs** | 5,827 | **Total social costs** | **18,496** | **Total economic costs** | **24,323** |

Note: totals may not sum exactly due to rounding

Table 30 below shows the equivalent figures for the present value of the costs into perpetuity.

**Table 30: Present value into perpetuity of costs to the UK economy as a result of the underachievement of young Black males, split between private and social (£ million, 2006 prices)**

| **Private** | | **Social** | | **Economic** | |
|---|---|---|---|---|---|
| + Lower expected post-tax lifetime earnings | 7,161 | + Lower tax revenues (including employers taxes) | 1,307 | = Lower gross earnings and GDP | 8,469 |
| - Net tax credits and JSA received | -253 | + Net tax credits and JSA paid | 253 | = 0 (transfer payments are not an economic cost) | 0 |
| | | + Costs associated with job broking and benefit provision | 338 | = Costs associated with job broking and benefit provision | 338 |
| | | + Costs associated with school exclusions | 62 | = Costs associated with school exclusions | 62 |
| | | + Costs associated with Criminal Justice System overrepresentation | 22,507 | = Costs associated with Criminal Justice System overrepresentation | 22,507 |
| **Total private costs** | **6,908** | **Total social costs** | **24,468** | **Total economic costs** | **31,376** |

Note: totals may not sum exactly due to rounding

# Bibliography

## Labour market

Berthoud, “Ethnic employment penalties in Britain”, Journal of Ethnic and Migration Studies, Vol 26 No 3, 2000.

DfES, “LEA achievement at Key Stage 1 and 2, GCSE and Equivalent, Post-16 and Value Added Measures in 2004 by ethnicity and gender”, 2004.

Heath and Cheung, “Ethnic penalties in the labour market: employers and discrimination”, DWP research report no. 341, 2006.

HM Treasury, “The Green Book: Appraisal and Evaluation in Central Government”.

“Jobcentre Plus Annual Report and Accounts 2005-6”

Koning, Layard, Nickell and Westergaard-Nielson, “Policies for Full Employment”, October 2002.

Manpower Economics, “PNB circular 05/2”, 2005.

McIntosh, “Further Analysis of the Returns to Academic and Vocational Qualifications”, CEE, 2004.

National Union of Teachers, “Teacher’s Pay 2005-8”.

PricewaterhouseCoopers, “Universal childcare provision in the UK – towards a cost-benefit analysis”, PwC Discussion Paper, 2003.

Simpson, Purdam, Tajar, Fieldhouse, Gavalas, Tranmer, Pritchard and Dorling, “Ethnic minority populations and the labour market: an analysis of the 1991 and 2001 Census”, DWP, 2006.

Walker and Zhu, “Education, Earnings and Productivity: Recent UK Evidence”, 2003.

Women and Work Commission, “Shaping a Fairer Future”, 2006.

## Exclusions

Daniels, H., Cole, T., Sellman, E., Sutton, J., Visser, J., Bedward, J., “Study of Young People Permanently Excluded from School”, DfES, 2004.

DfES, “Permanent and Fixed Period Exclusions from Schools and Exclusion Appeals in England, 2004/05, First Release”.

DfES, “Getting it. Getting it right – Exclusion of Black Pupils Priority Review”, 2006.

DfES, “Providing Full-Time Education from the Sixth Day of any Fixed Period Exclusion: Implementation and Good Practice Guidance for Schools, including PRUs”.

“Exclusion from school: an overview of the issues” in “Second Chances: Exclusion from School and Equality of Opportunity”, Edited by Nick Donavan, New Policy Institute, April 1998.

Godfrey *et al.,* "Estimating the Cost of Being 'Not in Education, Employment or Training' at Age 16-18", DfES, 2002.

Hammond, "Learning to be healthy", Wider Benefits of Learning Monograph No. 3, London Institute of Education, 2002.

Jackson and Martin, "Surviving the care system: education and resilience", Journal of Adolescence, 21, 569-583, 1998.

"MORI Youth Survey 2004", a MORI report for the Youth Justice Board, 2004.

"Second Chances: Exclusion from School and Equality of Opportunity", Edited by Nick Donavan, New Policy Institute, April 1998. Reed, "Toward Zero Exclusion: An action plan for schools and policy makers", IPPR and CfBT Research & Development, 2005.

"UK school exclusions", The Poverty Site. www.poverty.org.uk/16/index.shtml. Accessed on 07/03/2007.

## Criminal Justice System

Home Office, "Focus into the Relationship between Young Black People and the CJS – Annex B", 2006.

Home Office, "Crime in England and Wales 2005/06", 2006.

Home Office, "Statistics on Race and the Criminal Justice System – 2005", 2006.

Home Office, "The Economic and Social cost of Crime against Individuals and Households 2003/04", 2005.

Home Office, "The Economic and Social Costs of Crime", 2000.

House of Commons Hansard Written Answers for 23 Nov 2006 (pt 0017) "Home Department".

"Metropolitan Police Annual Report 2005/06".

Youth Justice Board "Annual Report and Accounts 2005/6".

Youth Justice Board, "Youth Justice Annual Statistics 2005/06".

# Annex I – Education and earnings literature review

## Introduction

We have identified a large number of studies linking educational achievement to earnings. Key aspects to these studies are the use of most the most recent data possible, the use of rigorous econometric methods and the measurement of educational achievement, in terms of qualifications, rather than number of years of education attended. The most relevant papers we have identified include:

- Blundell, Dearden and Sianesi (2004), *"Evaluating the Impact of Education on Earnings in the UK: Models, Methods and Results from the NCDS"*, Centre for the Economics of Education/LSE.
- McIntosh (2004), *"Further Analysis of the Returns to Academic and Vocational Qualifications"*, Centre for the Economics of Education/LSE.
- Walker and Zhu (2001), *"The Returns to Education: Evidence from the Labour Force Surveys"*, DfES / Walker and Zhu (2003), *"Education, earnings and productivity; recent UK evidence"*, Labour Market Trends.
- Booth and Coles (2005), "Increasing Returns to Education and the Skills Under-Investment Trap", IZA Discussion Paper No. 1657.

## Blundell, Dearden and Sianesi (2004)

Blundell et al. (2004) is predominantly a methodological review paper that compares various approaches to estimating the return to education. However it also provides estimates, using methodologies informed by the preceding discussion, of the average return to obtaining qualifications (obtaining O-level, obtaining A-level qualifications or attending higher education). The authors do not provide a general measure of "the return", instead concentrating on the return for different groups (e.g. return on O-levels for those that did O-levels versus potential return on O-levels for those that did not do A-levels).

The key problem with using this paper's findings is that whilst they do consider attainment versus non-attainment, they do not consider achievement at each grade. Hence information on underachievement at each qualification level is not available.

## Walker and Zhu (2001/2003)

Walker and Zhu (2003) provides a useful summary of findings from existing literature but does not provide detailed estimates itself. It reports that according to the literature, returns do not appear to have fallen over the period 1993 to 2001, suggesting that using papers with return estimates based on data over the 1990s is unlikely to damage substantially the accuracy of our findings.

Walker and Zhu (2001) does provide estimates based on 1 A-level or 2+ A-levels, but at O-level they only consider whether these were obtained or not – thus this does not provide the information we need to understand underachievement at GCSE level.

## Booth and Coles (2005)

Booth and Coles (2005) analyses a variety of aspects of human capital investment, particularly the distorting effect of taxation. For the purposes of this study, the report is potentially useful because, instead of estimating "returns to education", it provides estimates of wages and (uniquely among this literature) hours worked based on the highest educational qualification. For our purposes the paper does not analyse differential performance at each level of qualification so its main purpose is likely to be as an important comparison on the magnitude of effects per person that we calculate from our chosen paper.

## McIntosh (2004)

McIntosh (2004) is probably the most comprehensive of the papers reviewed. It estimates wage returns to a detailed list of academic and vocational qualifications in Britain, using data from the Labour Force Survey (LFS) over the period 1993-2002, investigating how returns have changed over time, how they differ across the public and private sectors, and how returns vary by age (and gender).

The qualifications considered include: possession of a higher degree, possession of a first degree, achievement of 2+ A-levels, achievement of 1 A-level, 5+ GCSEs A*-C, 1-4 GCSEs A*-C, GCSEs D-F, and a variety of other higher education, professional and vocational qualifications. Because of the consideration of different achievement at GCSE (in particular) and A-levels, we base our estimates of total cost on this paper.

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