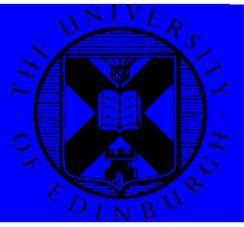


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## Social-Class Inequalities in Education in England and Scotland

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# Social-Class Inequalities in Education in England and Scotland

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## Introduction

Governments across the UK aim to 'narrow the attainment gap' or 'close the opportunity gap' in education. One indicator of this gap is the inequality in levels of participation and attainment of young people from different social classes. The ESRC-funded *Education and Youth Transitions* project examined the changing experiences of 14-18 year olds in England, Wales and Scotland between the mid 1980s and the end of the 1990s. This background paper summarises its findings on social-class inequalities in educational attainment and participation in England and Scotland.

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## Key findings

- ❑ Studying inequality over a period of expansion raises a question of values: is the value of education intrinsic, such that everyone may benefit from its expansion, or is it a positional good whose value declines if others possess more of it?
- ❑ Inequalities in attainment at age 16 were similar in England and Scotland, and narrowed slightly in Scotland relative to England during the late 1980s and 1990s.
- ❑ Inequalities in attainment at age 18 narrowed slightly between the 1980s and the 1990s in England but not in Scotland. Within each Scottish cohort the class gap was wider at 18 than at 16 years. By the late 1990s inequalities at age 18 were substantially wider in Scotland than in England.
- ❑ Inequalities in participation in higher education (HE) initially rose as HE expanded in the early 1990s but then fell to a level lower than in the 1980s. They were consistently higher in Scotland than in England.
- ❑ The 'overall' level of inequality, across different levels of attainment, fell slightly in England and remained stable in Scotland.
- ❑ In both countries social-class differences in entry to HE could largely be attributed to class differences in achieving the qualifications for entry to HE. Inequalities in entry to degree courses were wider than for HE as a whole.
- ❑ General levels of attainment and participation were higher in Scotland. Despite greater inequalities working-class Scots outperformed their English peers.

## Measuring changing inequalities

Any study of trends in the level of social-class inequality in education faces at least three challenges:

- ❑ *The underlying stability of inequalities.* Research in Britain and elsewhere finds that class inequalities in education tend to be remarkably stable over time. Any changes tend to be small, to take place over a long period and to reflect longer-term social and economic changes rather than specific educational reforms. A study of change must therefore cover a long time period and it must use consistent, reliable data that are sensitive to relatively small changes.
- ❑ *Inconsistent data.* Available data sources, including the cohort surveys used in this project, provide poor data on trends because of changes and inconsistencies in survey design and organisation, sampling, attrition rates and the measurement of social class (Croxford 2006). Apparent changes over time may reflect varying biases and 'noise' in the data rather than genuine change.
- ❑ *Educational expansion.* Levels of educational participation and attainment have increased across all classes. This trend raises *measurement* issues: it calls for concepts and measures that can identify stability or change in inequality even when there are changes in the social class composition of the age group or in the total proportions achieving given educational levels. It also raises *substantive* issues, of whether educational expansion leads to changes in inequality. It calls for a perspective which looks across different stages or levels of education to see, for example, whether increasing levels of attainment or staying-on at 16 push the critical period for educational inequalities up to attainment at 18 or entry to HE. Finally, it raises issues of *value*: is education primarily of intrinsic value, in which case everyone may benefit from expansion, or is it essentially a positional good, whose value declines if other people possess more of it?

## Our approach

Our research addresses these challenges as far as the data allow. We analyse data from selected cohorts of the England and Wales Youth Cohort Study (YCS) and the Scottish School Leavers Survey (SSLS). Each cohort was surveyed two or three times between the ages of 16-plus and 18-plus, and we use the survey data on young people's family background and their educational and labour-market experiences up to age 18/19.

We have defined key variables to make them as consistent as possible over time and comparable between the home countries, and we have converted changing social-class classifications to a single three-class schema, based on the current National Statistics Socio-Economic Classes, of managerial/professional, intermediate and working classes (Croxford 2004). Social class is measured by the higher of mother's and father's occupation.<sup>1</sup>

We cover the longest time period for which survey data were available when we started the project, stretching from the mid 1980s to the end of the 1990s. However, we have excluded some cohorts from our analyses of inequality because of problems of comparability or consistency. The selected cohorts are shown in Table 1. Each cohort is labelled by the date of completing compulsory education at age 16 and the date of the final survey at age 18-plus. For example, the 1986-89 cohort completed compulsory

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<sup>1</sup> The social class distributions changed across cohorts. In England the proportion from managerial/professional backgrounds rose from 35% of the 1986-89 cohort to 38% of the 1999-2002 cohort, and the proportion from working-class backgrounds fell from 28% to 22%. Scotland showed more change: the managerial/professional-class percentage rose from 23% in the 1984-87 cohort to 36% in the 1998-2001 cohort, and the working-class percentage fell from 38% to 23%. Most of the remainder in each country were from intermediate-class backgrounds, but a proportion - typically just over one in ten year-group members - was unclassified (Croxford 2004)

education in 1986 and was last surveyed in spring 1989. The cohorts studied differ between England and Scotland, especially in the mid-1990s for which the Scottish data are inadequate. We place more emphasis on trends that are sustained over several cohorts than on trends which rest on a single survey observation. We focus on England and Scotland, as the sample numbers for Wales are too small for reliable analysis.

## Class inequality in four outcomes

Studies within the project have examined social-class inequalities in attainment at 16 (Croxford and Raffe 2005), in participation in full-time education beyond 16 (Shapira and Howieson 2006), in participation in HE (Iannelli 2005) and in 'overall' attainment (Iannelli 2006). These studies examine their respective topics in detail and use statistical techniques to test the significance of trends and differences. In this paper we bring together their main conclusions. We present a descriptive overview of trends in equalities in the achievement of four educational outcomes: attainment at 16, staying-on beyond 16, attainment at 18 and participation in HE at 18-plus. For each outcome we describe inequalities between managerial/professional and working-class youngsters, based on the whole cohort rather than on those who reached the relevant stage or attempted the relevant qualification.

### Outcome 1: attainment at 16

To explain our approach in this paper we discuss our first outcome in more detail. This is achieving at least five A\*-C or 1-3 awards at GCSE or Standard grade at age 16. In England this corresponds to level 2 of the National Qualifications Framework (NQF). Figure 1 shows the percentages of managerial/professional and working-class youngsters in each English and Scottish cohort who achieved this outcome. Attainment levels rose among both classes in both countries, but they continued to be considerably higher among the managerial/professional class than among the working class.

Attainment rose at a similar rate in each class: the lines are roughly parallel. However, we must take account of the rise in average achievement levels before deciding whether levels of inequality rose or fell over the period. We might expect (for example) the lines to diverge as the overall achievement levels approach 50% and converge again as overall achievement rises towards 100%. We use the odds ratio as a measure of inequality that allows for educational expansion.<sup>2</sup> The odds ratios corresponding to Figure 1 are shown in Table 1 (in the first row of each panel). An odds ratio of 1.0 indicates equality; values below 1.0 indicate inequality in favour of working-class children and values above 1.0 indicate inequality in favour of managerial/professional-class children.

Table 1 shows similar levels of inequality in attainment at 16 in England and Scotland, with no clear trend over time. Croxford and Raffe (2006), using a more detailed measure of attainment at 16, found a stable level of inequality in England but a slight narrowing in Scotland.<sup>3</sup> Inequality appeared to narrow suddenly in England in the 1999-2002 cohort (this is visible in Table 1), but this may have been a

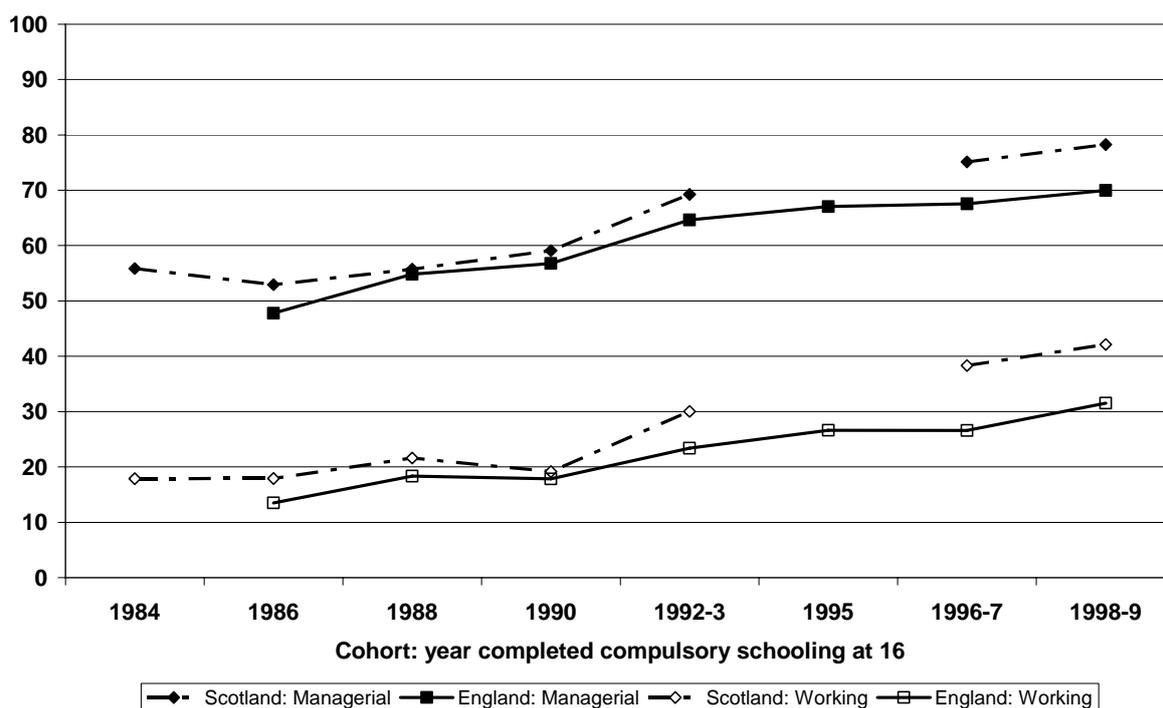
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<sup>2</sup> In a 2x2 table where the cells in row 1 are labelled a and b, and the cells in row 2 are labelled c and d, the odds ratio is  $ad/bc$ . It is the ratio of the odds of one group achieving the outcome rather than not achieving it ( $a/b$ ) to the odds of the other group achieving the outcome rather than not achieving it ( $c/d$ ). This ratio is  $(a/b)/(c/d) = ad/bc$ . It is regarded by sociologists as an appropriate measure of inequality during expansion because it takes account of the relative chances of not achieving an outcome as well as the relative chances of achieving it.

<sup>3</sup> Inequality increased in Wales but this was not statistically significant in all analyses.

survey effect associated with the change of YCS contractor and consequent changes in the coding of social class. Croxford and Raffe explored whether the divergence in levels of inequality between England and Scotland could be attributed to divergent policies, in particular whether the relative narrowing in Scotland reflected its commitment to a traditional concept of comprehensive schooling compared with the increased English emphasis on school choice and diversity. They concluded that any connection was probably indirect: the policy divergence and the divergence in inequalities were joint outcomes of a deeper set of forces.

Figure 1: % of managerial/professional and working class pupils who achieved 5+ awards at GCSE A-C or S Grade 1-3



## Outcome 2: staying on

The remaining rows of Table 1 show levels of inequality for the other outcomes, which we discuss more briefly. Levels of social-class inequality in staying on - participation in full-time education at 16-plus - were similar in England and Scotland; they may have been slightly higher in Scotland but our Scottish data are less satisfactory (Shapira and Howieson 2006).<sup>4</sup> In England, inequalities were slightly narrower in the mid-to-late 1990s than in the 1980s (the apparent steep decline in the 1999-2002 cohort may reflect the survey effect mentioned above). In Scotland, inequalities in staying-on appeared to fall, inconsistently, over the period, but we lack good data on trends during the 1990s.

<sup>4</sup> A flaw in the survey design meant that the SSLS did not collect adequate data on staying-on at 16 among the 1996-99 cohort. This means that we cannot draw strong conclusions about Scottish levels or trends in inequalities in staying-on the later 1990s, given our maxim that we should not place great reliance on trends based on a single survey observation.

**Table 1: Odds ratios: inequalities between managerial/professional and working classes**

<b>England</b>							
<b>Year aged 16</b>	<b>1986</b>	<b>1988</b>	<b>1990</b>	<b>1993</b>	<b>1995</b>	<b>1997</b>	<b>1999</b>
<i>Year of survey at age 18 plus</i>	<i>1989</i>	<i>1991</i>	<i>1993</i>	<i>1996</i>	<i>1998</i>	<i>2000</i>	<i>2002</i>
Attainment at 16							
5+ awards at A-C/1-3 at GCSE/SG	5.9	5.4	6.1	6.0	5.6	5.7	5.1
Staying on							
in full-time education at 16 plus	4.5	4.5	4.9	4.1	4.0	4.2	3.3
Attainment at 18							
any level 3 (ac or voc) at 18	6.6	5.7	4.5		4.1	4.7	4.7
two A-levels or three Highers at 18	8.0	6.8	7.2		6.0	6.8	6.1
Participation in HE							
in HE at 18 plus	6.6	5.6	7.0	5.2	4.9	5.2	3.7
on degree course at 18 plus	7.3	5.9	7.9	5.7	5.4	6.0	4.4
<b>Scotland</b>							
<b>Year aged 16</b>	<b>1984</b>	<b>1986</b>	<b>1988</b>	<b>1990</b>	<b>1992</b>	<b>1996</b>	<b>1998</b>
<i>Year of survey at age 18 plus</i>	<i>1987</i>	<i>1989</i>	<i>1991</i>	<i>1993</i>	<i>1995</i>	<i>1999</i>	<i>2001</i>
Attainment at 16							
5+ awards at A-C/1-3 at GCSE/SG	5.8	5.1	4.6	6.1	5.2	4.9	4.9
Staying on							
in full-time education at 16 plus	6.0	4.5	4.8	5.6	4.7		3.9
Attainment at 18							
any level 3 (ac or voc) at 18	6.7	5.4	5.9	7.6		6.2	6.4
two A-levels or three Highers at 18	7.6	7.1	6.5	9.2		8.4	7.0
Participation in HE							
in HE at 18 plus	7.7	7.5	6.9	9.8		6.5	5.5
on degree course at 18 plus	9.3	8.3	7.4	11.6		8.5	7.3

### Outcome 3: attainment at 18

Our next outcome, attainment at 18, is represented by two measures in Table 1. The first measure refers to the achievement of any 'level 3' qualification (A level, Higher or vocational equivalent) by 18-plus. This measure must be treated with some caution as levels of vocational qualifications were not recorded consistently over time. Table 1 suggests that levels of inequality in England fell between the 1980s and the 1990s but remained relatively stable during the 1990s. Levels of inequality remained relatively stable in Scotland. Inequalities were narrower in England than in Scotland in the 1990s.

The second measure of attainment at 18 refers to the achievement of at least two A levels or three Highers, the notional academic qualifications for HE entrance. In England there was a slight narrowing; the average level of inequality over the last three cohorts was slightly lower than the average over the first three cohorts. There was no clear trend in Scotland, with the result that inequalities were somewhat narrower in England than in Scotland by the late 1990s.

### Outcome 4: participation in higher education

Our final outcome, participation in HE, is represented by two measures. The first refers to all HE, including non-degree courses such as HNDs; the second refers to degree courses only. Participation is measured in the spring of the third post-compulsory year. Young people who entered after a gap year

or more than two post-compulsory years are not included.<sup>5</sup> Once again, participation is measured in relation to the whole cohort.

In both countries inequalities in participation in degree courses were consistently larger than inequalities in the HE sector as a whole. This was particularly true in Scotland where the scale of sub-degree provision was substantially higher. For both measures, inequalities were consistently higher in Scotland than in England. In England class inequalities on both measures tended to be narrower in the late 1990s and early 2000s than a decade earlier. The Scottish figures show a narrowing of inequalities in entry to HE as a whole, but the trend for degree courses is less consistent.

In England and Scotland the level of inequality reached a peak among the 1990-93 cohort, during the fastest period of HE expansion. Iannelli's (2005) more detailed analysis suggests that managerial/professional children were quickest to take advantage of the expansion, and working-class children caught up later. However, any conclusion based on a single cohort is tentative. In Scotland Tinklin and Raffe (1999) found a decline in inequality at the time of expansion; their analysis was based on different SSLS samples and on a different (and probably cruder) measure of social class.

### Related analyses

Inequalities in school attainment may be affected by social segregation - that is, by the variation in social-class composition across schools. Croxford and Paterson (2006) used alternative measures of segregation to explore trends over time and differences across the home countries. Schools were less socially segregated in Scotland than in England. The observed trend varied across the different measures (and concepts) of segregation, partly reflecting the different ways they took account of the changing class composition of the school population. For most of the measures there was no clear link between policy changes and the level of segregation.

## Inequalities across stages and levels of education

The four outcomes reviewed above correspond to different stages and levels of education. We now examine patterns of inequality across these different levels in order to take a more holistic view. The overall proportion of young people achieving each outcome increased over time, and we consider the implications of this expansion for class inequalities.

Figures 2 and 3 plot, for England and Scotland, the levels of inequality (odds ratios) for each outcome measure, using the same data as Table 1. (To keep the Figures relatively simple, we exclude the measures of inequality in 'any level 3' and 'any HE'.) Each odds ratio is plotted against the proportion of the relevant cohort who achieved the outcome. Figures 2 and 3 thus show the link between expansion and inequality, within and across the different outcome measures. They help us to address three questions:

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<sup>5</sup> In the 1990s around 5-6% of each year group in England and Wales, and 1% in Scotland, were still studying for HE entry qualifications such as A levels in the third post-compulsory year (Iannelli 2005). We do not have information on gap years for Scotland and information for England is limited.

Figure 2: England: Inequality related to the proportion of the cohort achieving each outcome

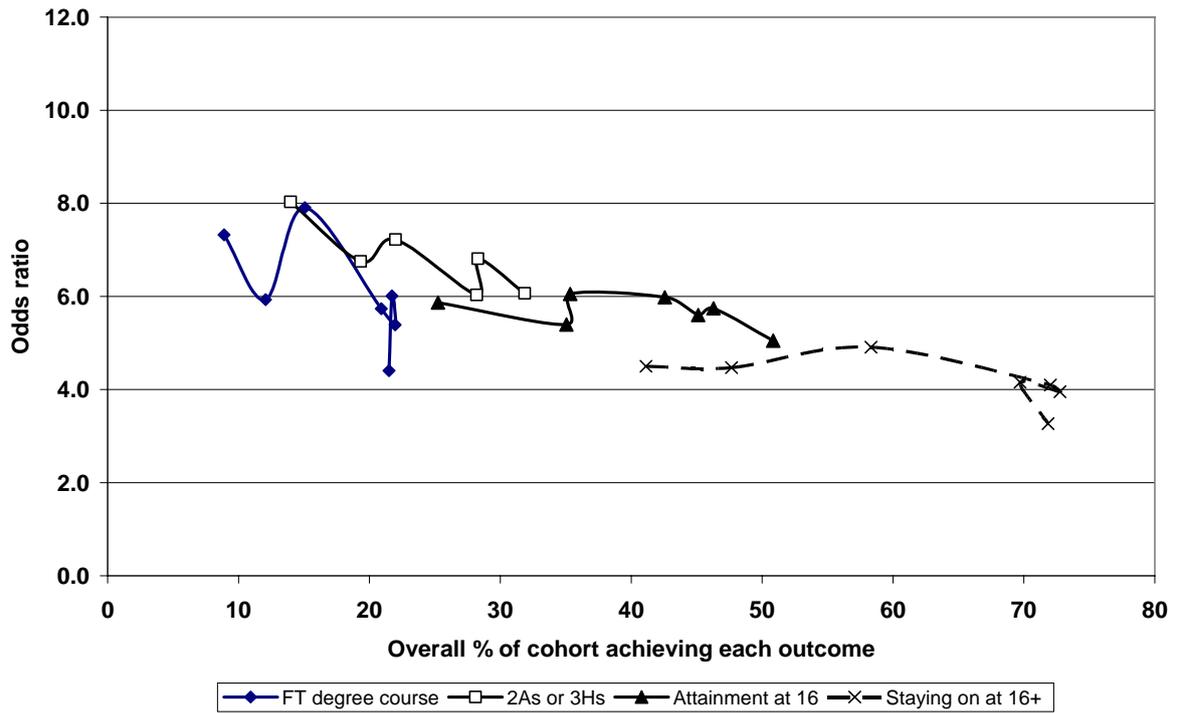
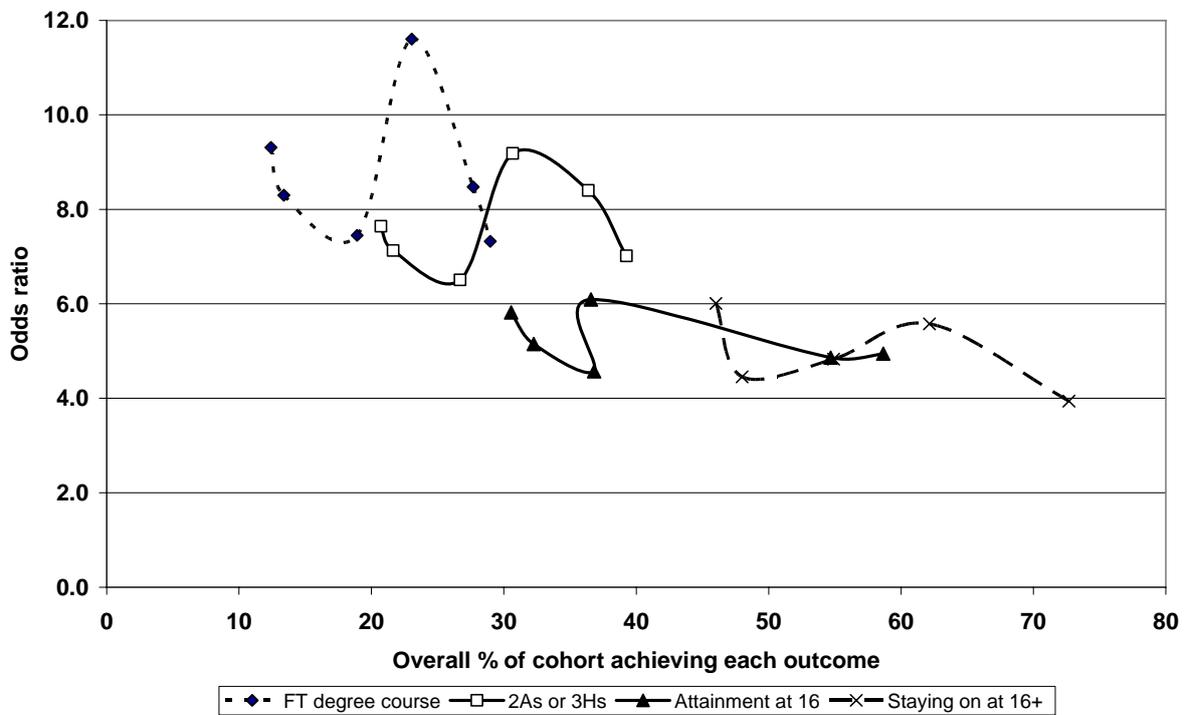


Figure 3: Scotland: Inequality related to the proportion of the cohort achieving each outcome



### **(1) For a given outcome, did expansion lead to lower inequalities?**

In both charts the observations tend to slope downwards from left to right. That is, levels of inequality tend to be lower, the larger the proportion achieving the relevant outcome. However, when we look at levels of inequality for particular outcome measures the picture is less clear. Most of the lines tend to fall from left to right but they do so erratically: for example, in both countries inequalities in degree-course participation fell, then rose, then fell again as the sector grew. This may reflect the dynamics of social inequality over a period of expansion, with some classes quicker than others take advantage of increased educational opportunities (Iannelli 2005, Paterson and Iannelli 2005). However we cannot be certain that it does not reflect variable biases and 'noise' caused by inconsistencies in our data.

### **(2) Were some levels or stages of education 'more unequal' than others?**

The later stages and higher levels of education tended to be most socially selective. However, this largely reflects the smaller proportions of each cohort who achieved these levels. We find less variation across stages and levels once we allow for these varying proportions. However, there were three main exceptions.

The first exception concerns participation at 16-plus in England, which was associated with somewhat lower levels of inequality than attainment at 16. This may reflect the diversity of provision in full-time education beyond 16.

The second exception concerns attainment at 18, especially in Scotland, which was associated with higher levels of inequality than attainment at 16. Within each Scottish cohort inequalities became wider between achieving 'level 2' at Standard grade and achieving the three Highers notionally required for entry to HE. This finding pre-dates Higher Still: we need further research to find out whether the more unified system of new National Qualifications reduced inequalities in upper-secondary attainment.

The third exception concerns entry to degree courses, which in both countries was more socially selective than entry to the HE sector as a whole (see Table 1). However, inequalities in entry to the whole HE sector in England were generally lower than inequalities in achieving two A levels; in Scotland, inequalities in entry to HE were similar to inequalities in achieving three Highers. This is consistent with other studies (eg Tinklin and Raffe 1999, for Scotland) which find that class inequalities in school-leaver entry to HE largely reflect inequalities in school attainments, rather than the immediate impact of the HE selection process.

### **(3) Did levels of inequality differ between England and Scotland?**

Levels of class inequality in attainment at 16 and participation at 16-plus were similar in England and Scotland. However, for much of the period Scotland had higher levels of inequality for the later outcomes - attainment at 18 and participation in HE. This was in spite of the higher average levels of attainment and participation in Scotland. As we have seen, inequality tended to fall slightly with expansion. But in Scotland, where expansion was more advanced, levels of inequality at 18-plus were nevertheless higher.

One consequence is that working-class young people in Scotland enjoyed higher absolute levels of attainment and participation than their English peers, even though inequalities relative to managerial/professional-class youngsters were greater. Paterson and Iannelli (2005), using different

data on successive cohorts in the late 20th century, similarly found that working-class Scots were advantaged in absolute but not relative terms, compared with working-class people in England, with respect to upper-secondary and higher education.

#### (4) Have 'overall' levels of inequality changed?

An analysis by Iannelli (2006) examined trends in 'overall' inequality. Rather than examine inequality in relation to each outcome, as above, she examined inequality in relation to a single dimension of educational attainment across different outcome levels.<sup>6</sup> These levels were based on the NQF levels and similar to the outcomes used here. The association between social class and this dimension declined slightly across cohorts in England and remained stable in Scotland. In other words, 'overall' inequalities narrowed in England but not in Scotland.<sup>7</sup> Our analyses of Table 1 (above) suggest that inequalities in attainment at 18 and subsequent entry to HE account for much of this trend, and for the difference between countries.

## Discussion

Any conclusions based on these data must note two points of caution. First, these are historical data. They pre-date important reforms such as Curriculum 2000 in England and Higher Still in Scotland, as well as further policy innovations since 2000. Second, most of the trends revealed by the study were relatively small and difficult to distinguish from the 'noise' introduced by inconsistencies in the surveys' design, organisation and measurement, and by rising attrition rates.

Subject to these caveats, our study suggests that social-class inequalities tended to narrow in England over the late 1980s and 1990s, especially in post-compulsory education and in entry to HE. This conclusion contrasts with the picture of stable or even widening inequalities painted by other recent research (Breen 2005). Some of this research refers to an earlier period than our study, notably the analyses of the 1958 and 1970 birth cohort studies (Bynner and Joshi 2002). However, several studies find stable or widening inequalities over a similar period to ours (Blanden and Machin 2004), including other analyses of the YCS itself (Gillborn and Mirza 2000, Galindo-Rueda *et al.* 2004, Jackson *et al.* 2005). It is possible that our contrasting findings reflect the preliminary work within our project to iron out some of the inconsistencies in survey design and measurement over time. Moreover, unlike some earlier studies we use a measure of inequality designed to cover periods of expansion, and we measure inequality in relation to the whole cohort rather than young people who have 'survived' to the relevant stage. And unlike some studies we have examined inequalities across a relatively long time period on the basis of several survey observations. As we have seen, survey-based measures of inequality can fluctuate erratically across cohorts, so studies based on just two cohorts are an unreliable guide to underlying trends.

If the narrowing trend in inequalities in England is indeed genuine, what factors explain it? Not the market-based policies for school choice and diversity, because these policies would have affected attainment at 16 more than the later outcomes; attainment at 16 was the one outcome where

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<sup>6</sup> This was achieved through an ordinal logistic regression analysis.

<sup>7</sup> The narrowing trend was similar in the north and south of England. It could not be attributed to changing ethnic inequalities: the same trend was found when ethnic minorities were excluded from the analysis.

inequalities did not narrow in England, but did narrow slightly in Scotland with its more traditional model of comprehensive schooling. The narrowing inequalities in England occurred mainly at the post-compulsory and HE stages, and may reflect the relative diversity of post-compulsory education, the greater role of colleges and the construction of a full-time vocational pathway over this period; these features contrast with Scotland where inequalities in post-compulsory education remained high. Or the narrowing inequalities may reflect universities' attempts to widen access, or they may reflect wider social trends.

Our finding that inequalities based on social class have diminished contrasts with the finding of economists that inequalities based on parental income have widened. It is possible that the main basis of inequality has shifted from social and cultural to economic factors, perhaps reflecting the increasing costs (including opportunity costs) of maintaining a given level of relative attainment in an expanding education system. However, we cannot test this with our data.

In Scotland, levels of inequality at 16 were similar to those in England, and they showed a relative tendency to become narrower. This may reflect Scottish schools' stronger comprehensive ethos and their lower social segregation. The picture beyond 16 was less encouraging. Inequalities within each Scottish cohort grew wider between the ages of 16 and 18. Overall levels of attainment at 18 and entry to HE were higher than in England, but so too were levels of inequality. And there was little sign in Scotland of the slow trend towards greater equality in attainment at 18-plus that we observed in England. The Scottish upper-secondary system encouraged higher participation and attainment but the most advantaged social classes responded most to this encouragement. Again, our findings contrast with other evidence, notably the Higher Education Statistics Agency (HESA) indicators which tend to show that similar proportions of students come from lower-class backgrounds in England and in Scotland. Our evidence suggests that the social composition of students (as used by HESA) is an inadequate indicator of inequality because it does not allow either for the different proportions of working-class people in the populations 'at risk' or for differences in the overall scale of HE. As HE expands, we might expect the working-class proportion in the student body to expand towards the proportion in the population. In our data, working-class students comprised a larger proportion of Scottish students than of English students (12% and 13% compared with 11% in the two latest cohorts). If the social composition of students were an adequate indicator, this would suggest lower levels of inequality in Scotland than in England; however, as we have seen, odds ratios reveal substantially higher inequalities in Scotland.

We can only speculate on the reasons for higher inequalities in Scotland. A possible explanation refers to the greater uniformity of post-compulsory education in Scotland: its strong 'academic' emphasis, its failure to develop a strong vocational route, and the limited role of colleges compared with England. These issues have been addressed by recent reforms, including Higher Still which aimed, among other things, to facilitate progression, to enhance the status of vocational learning and to encourage school-college collaboration. Our study pre-dates Higher Still, and further research is needed to show whether it has reduced levels of class inequality in post-compulsory education. Other CES research on Higher Still was not able to address the issue of class inequality (Raffe *et al.* 2005).

For both countries, our results present a less alarming picture of HE access than other recent analyses. Over a period when state support for student maintenance was severely reduced and student fees introduced for the final cohorts, class inequalities in HE participation tended to decline, at least after an initial period when the managerial and professional class was quicker to benefit from expansion. Our

longer time perspective may provide a more balanced view than analyses covering a shorter period, and it reminds us that by far the most important explanation of inequality in school-leaver entrance to HE continues to be inequality in school leavers' entrance qualifications. However, inequalities in degree-course entrance are wider than in relation to the sector as a whole. There are further inequalities within the HE sector, for example between different institutions or subjects, although these were not the focus of our study.

Finally, if our emphasis on social-class inequality leads to an impression of relative English success and Scottish failure, this must be qualified. Across all cohorts and all classes, levels of attainment and participation were higher in Scotland. Despite wider inequalities Scottish working-class youngsters consistently outperformed their English peers. The implications may depend on how we value education. If education is seen to have value in its own right, the working class has been better off in Scotland. If education is seen as a positional good, whose value depends on the amount that is possessed by others, the working class has been better off in England

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