

EMPLOYMENT APPEAL TRIBUNAL

FLEETBANK HOUSE, 2-6 SALISBURY SQUARE, LONDON EC4Y 8AE

At the Tribunal

On 23 & 24 January 2018

Handed down 27 February 2018

Before

MRS JUSTICE SIMLER DBE

PRESIDENT

MRS D McNEIL & OTHERS

APPELLANTS

COMMISSIONERS FOR HM REVENUE & CUSTOMS

RESPONDENT

Transcript of Proceedings

JUDGMENT

APPEARANCES

For the Appellants

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For the Respondent

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SUMMARY

EQUAL PAY ACT - Indirect discrimination

1. Having abandoned a previously pleaded allegation that median average pay statistics showed a significant and persistent disparity favouring men in two particular grades (both in London and nationally), and having expressly accepted that since 2008 mean average pay differences between men and women in Grade 7 and 6 did not reflect long-term and persistent differences that are statistically significant, the focus of the Claimants' case in the Employment Tribunal was the 'core allegation' that the Employment Judge should determine whether particular disadvantage had been established simply on the basis of an analysis of the differential distribution of men and women within the pay scale that showed "clustering of women towards the lower end of the pay scales and men towards the upper end ...", rather than on the basis of an analysis of differences in the basic pay of men and women in the relevant grades. The Employment Judge concluded that particular disadvantage was not established, and the Claimants appealed.

2. The issues that arose on appeal were:
 - (i) what is the appropriate method for testing or establishing particular disadvantage in this case and whether as a matter of law, the Employment Judge was correct to exclude (to the extent he did) the distribution analysis as establishing particular disadvantage.
 - (ii) Whether, if correct in relation to the first issue, there is no need to remit to the Employment Tribunal because the evidence demonstrates that the only possible conclusion is that particular disadvantage has been established.
 - (iii) Whether the 'Armstrong' line of cases survives Essop/Naeem.
 - (iv) In relation to individual disadvantage whether the Respondent is right that some further individual connection is required in order to demonstrate individual disadvantage.

3. There was no error of law or principle by EJ Snelson, and grounds 1 & 2 failed.

4. EJ Snelson did not exclude a distribution analysis entirely from his consideration; nor did he focus exclusively on an inappropriate comparison of average total basic pay. Rather at paragraph 43, in the context of the Claimants' concession that the average basic pay figures showed no significant long-term differences between the basic pay of men and women in either of the two grades, the Employment Judge held that distribution could not be equated with, or allowed to supplant pay. In other words, a distribution analysis on its own said nothing about pay. It might indicate a problem to be investigated, but on its own, it said nothing about actual differences in pay. More fundamentally, the distribution analysis ignored what EJ Snelson described as the "undisputed reality" that the average basic pay figures showed no significant long-term differences between the basic pay of men and women in either of the two grades, and

was therefore not reliable and did not substantiate the case on particular disadvantage. That conclusion disposed of the appeal.

5. As to (iii) to the extent that the line of authority based on Armstrong v Newcastle upon Tyne NHS Hospital Trust [2006] IRLR 124, CA, has been understood as holding that it is open to a respondent to rebut a finding made of particular disadvantage by showing that the underlying reason for the particular disadvantage was not itself related to the protected characteristic in issue, it is inconsistent with the ratio of Essop/Naeem and can no longer be regarded as good law.
6. As to (iv) no further connection would have had to be shown if it was established that length of service as a determinant of pay caused women disproportionately to be paid less than their male comparators and caused each claimant that disadvantage.

A **THE HONOURABLE MRS JUSTICE SIMLER**

B **Introduction**

1. This is an appeal by a group of female employees (referred to as the Claimants as they were below) of the Commissioners for Her Majesty's Revenue and Customs, the Respondent. The Claimants are (or were) employed by the Respondent in roles within Grades 7 or 6 (Grade 7 being the lower of the two grades) of the pay scale, and claim equal pay with their longer-serving, higher-paid male comparators in the same grade. It is not in issue that they do work that has been rated as equivalent with their comparators (for the purposes of s.65(1)(b) and (4) of the Equality Act 2010 (the "EA 2010")) and their claims therefore turn on the material factor defence pursuant to s.69 EA 2010.

C 2. The appeal is from a judgment with reasons promulgated on 17 June 2016 ("the Judgment") of the London Central Employment Tribunal (EJ Snelson sitting alone) following a preliminary hearing to determine two agreed issues as follows:

D "(i) What is or are the "factors" within s.69(1) of the Equality Act 2010 causing the difference in basic pay between any Claimant and comparator who has a higher basic pay?

(This issue will include resolution of the parties' respective positions as to the correct definition of the relevant "factors" and whether, or to what extent, the precise definition has a material bearing on the correct overall analysis under s.69)

E (ii) Whether in light of the proper definition of the factor or factors, that factor or factors put the Claimants and women at a particular disadvantage when compared with men in Grades 6 and/or 7 (respectively) for the purposes of s.69(2) of the Equality Act 2010?

(This issue will include resolution of the parties' respective positions as to the appropriate pool(s) of comparison and whether the statistical and/or other evidence demonstrates a relevant particular disadvantage within the appropriate pool(s))."

F 3. In respect of the first issue, although a number of factors accounted for the pay differences, EJ Snelson held that the relevant "factor" for the purpose of this case was length of service (see paragraphs 30-34 of the Judgment).

G 4. As to the second issue (whether that factor, length of service, put women at a particular disadvantage when compared with men), the Claimants' case evolved significantly over time as EJ Snelson explained (at paragraphs 3 and 4 of the Judgment), and was limited by the date of the preliminary hearing. To what extent it was limited is a matter of dispute between the parties (and is discussed further below). It is common ground at least, as reflected by EJ Snelson that the Claimants:

H "3.abandoned pleaded allegations that the length of service criterion disadvantages women because they have had later career starts and/or career breaks to have children and that median average pay statistics show significant and persistent disparity favouring men in both grades, in London and nationally. That leaves the key assertion that the 'particular disadvantage' suffered by women lies in, or is evidenced by:

A ... ‘clustering’ of women towards the lower end of the pay scales and men towards the upper end...

4. In further particulars the Claimants have been admirably clear in spelling out the narrow and specific nature of their claims. The following clarification has been supplied.

(1) They disavow any complaint that either of the other determinants of basic pay (starting salary and performance) is discriminatory.

B (2) They eschew an ‘Enderby’ claim (based on gender segregation between different jobs of equal value attracting different pay rates) or a ‘*Seymour-Smith*’ claim (involving the application of a provision, criterion or practice (‘PCP’) which divides employees into ‘advantaged’ and ‘disadvantaged’ groups and with which a smaller proportion of women than men can comply).

(3) They accept that average pay statistics (not limited to median figures) do not show significant long-term differences between the pay of men and women.

(4) They focus their case on this ‘core allegation’.

C It is the Claimants’ case that the Respondent’s use of length of service as a determinant of pay in both Grades 6 and 7 places, and has at all material times placed, women at a particular disadvantage compared with men because those grades are historically male-dominated and women have only more recently begun to be recruited or promoted into those grades in greater numbers, with the result that women tend to be disproportionately over-represented at the lower end of the pay scale for each grade and disproportionately under-represented at the upper end of the pay scale for each grade. That effect has been exacerbated by the Respondent’s failure over the years to reduce the length of the pay scales and the period taken to move from minimum to maximum for the two grades in question and by the imposition of the public sector ‘pay freeze’ in 2010, which has had the effect of protecting the higher pay of longer-serving employees and precluding any narrowing of the gap for employees with shorter service.

(5) They further contend that:

E The most appropriate method for testing the core allegation... is to analyse whether the proportion of women within the lower part (e.g. the bottom quartile or decile) of the pay scale for each grade is significantly greater than the proportion of men in the same part of the pay scale and, conversely, whether the proportion of women within the upper part (e.g. the top quartile or decile) of the pay scale for each grade is significantly lower than the proportion of men in the same part of the pay scale.”

F 5. In other words, having abandoned a previously pleaded allegation that median average pay statistics showed a significant and persistent disparity favouring men in both grades both in London and nationally, and having expressly accepted that since 2008 mean average pay differences between men and women in Grade 7 and 6 did not reflect long-term and persistent differences that are statistically significant, the focus of the Claimants’ case was the ‘core allegation’ that the Employment Judge should determine whether particular disadvantage had been established simply on the basis of an analysis of the differential distribution of men and women within the pay scale that showed “clustering of women towards the lower end of the pay scales and men towards the upper end ...”, rather than on the basis of an analysis of differences in the basic pay of men and women in the relevant grades.

G 6. EJ Snelson concluded that the Claimants failed to establish that length of service put them and women at a particular disadvantage on that basis (see paragraphs 40-50 of the Judgment, set out below at paragraph 37).

H 7. The Claimants challenge the Employment Judge’s conclusions (and reasoning) in relation to the second issue. In summary they argue:

- A** (i) EJ Snelson held that it is *impermissible* to have regard to, and excluded from his consideration, evidence of differential distribution. He held instead that the issue of particular disadvantage must in these circumstances be tested exclusively by reference to mean average total basic pay. This was an error of law because differential distribution is the correct method for determining ‘particular disadvantage’ in a case such as this and the Employment Judge’s erroneous exclusion of the evidence of differential distribution is sufficient to vitiate the Judgment (ground 1).
- B**
- C** (ii) EJ Snelson held that, although the evidence relied on by the Claimants confirmed ‘clustering’ of women towards the bottom of the pay-scales and men towards the top this was not sufficient to establish that women were collectively disadvantaged, or was otherwise not statistically significant. Those findings reveal a fundamental misunderstanding of the statistical evidence and are contradicted by the oral evidence of the Respondent’s own expert statistician, Dr Brown, and perverse. The only permissible conclusion is that the evidence of differential distribution demonstrates that women are placed at a particular disadvantage (ground 2).
- D** (iii) EJ Snelson held, relying on Armstrong v Newcastle upon Tyne NHS Hospital Trust, (which was binding on him) that it was open to the Respondent to avoid any finding of particular disadvantage by demonstrating that the underlying reason for any disparate impact was not itself related to sex and that, relying on Naeem in the Court of Appeal ([2016] ICR 289), the fact that women have only more recently been recruited in greater numbers to these historically male-dominated grades was not a reason ‘tainted’ by sex, such that the Respondent had established a non-sex-related reason for any disparity. Following Essop/Naeem in the Supreme Court, it is not open to a respondent to avoid a finding of particular disadvantage by showing that the underlying reason for a disparate impact is not itself related to sex. In any event, the reliance on the Court of Appeal’s judgment in Naeem, means that his reasons on this issue cannot stand following the reversal of that judgment by the Supreme Court (grounds 3 and 4).
- E**
- F** (iv) Finally, EJ Snelson correctly held that if (contrary to his primary conclusions) group disadvantage had been established, it would only be necessary for each individual Claimant to show that she was a member of the disadvantaged group. The Respondent’s argument, as an additional reason for dismissing the claims, that he was wrong in this regard and that each individual Claimant must show that she shared some additional feature, such as having shorter service as a result of child-caring responsibilities, with other disadvantaged women, is based on a fundamental misreading of the Supreme Court’s judgment in Essop/Naeem, which makes it clear that all that is required is that the individual shares the same disadvantage as the group (i.e. being lower down the pay range than her longer-serving male comparators) and that this was caused by the same impugned factor (i.e. length of service and not, for instance, poor performance) (Essop/Naeem, paragraphs 31-35 *per* Baroness Hale DPSC).
- G**
8. The appeal is resisted by the Respondent, in summary, as follows:
- H** (i) The Employment Tribunal found, for a number of reasons, that the role of length of service in determining pay had not caused any particular disadvantage to women. Such impact as it had was not significant: the pay differential had been consistently marginal, had diminished over time and would diminish further as the Claimants

A accepted. That must inevitably lead to the failure of the Claimants' appeal, the determination of particular disadvantage being a matter of fact for the Employment Tribunal.

B (ii) Further and in any event, the Employment Tribunal was entitled to reject the case based on statistics relating to pay distribution advanced by the Claimants for the reasons set out in its judgment. This included the Employment Tribunal rejecting the Claimants' expert evidence, which it was entitled to do, and accepting the evidence of the Respondent's expert. That was a matter for the Employment Tribunal, upon consideration of the evidence before it, and cannot be interfered with by the Employment Appeal Tribunal. No error of law can be identified and the decision was not perverse.

C (iii) Those points dispose of the Claimants' appeal, and Grounds 3 and 4 are therefore academic.

(iv) In any event, in respect of Grounds 3 and 4, the Employment Tribunal was, and the Employment Appeal Tribunal remains, bound by the decision in Armstrong v Newcastle Upon Tyne NHS Trust and the Employment Tribunal did not err in law in its conclusion that, even if the statistics had given the appearance of discrimination, the Respondent had shown that they were in fact not the result of any discrimination.

D (v) Further and in any event, the Respondent contends by way of Respondent's Notice, that EJ Snelson erred in finding that any individual disadvantage had been established in this case.

9. The issues that arise are accordingly:

E (i) What is the appropriate method for testing or establishing particular disadvantage in this case and whether as a matter of law, the Employment Judge was correct to exclude (to the extent he did) the distribution analysis as establishing particular disadvantage.

(ii) Whether, if correct in relation to the first issue, there is no need to remit to the Employment Tribunal because the evidence demonstrates that the only possible conclusion is that particular disadvantage has been established.

F (iii) Whether the 'Armstrong' line of cases survives Essop/Naeem.

(iv) In relation to individual disadvantage whether the Respondent is right that some further individual connection is required in order to demonstrate individual disadvantage.

G 10. Mr Ben Cooper QC appears for the Claimants as he did below. Mr Thomas Linden QC and Mr Robert Moretto appear for the Respondent, again, as they did below. I have been assisted by excellent written and oral submissions on both sides.

The legal framework

H 11. The claims span the period before and after the introduction of the EA 2010 and are therefore made pursuant to both the Equal Pay Act 1970 and the EA 2010. However, it is common ground that nothing turns on the different provisions of these Acts, and the appeal was argued by reference only to the relevant provisions of the EA 2010. I therefore start with the

A relevant provisions of the EA 2010 and a summary of the undisputed principles that apply to equal pay.

B 12. The provisions of Chapter 3 (which deals with Equality of Terms) of Part 5 of the EA 2010 apply where it is established that the work of a person (A) is equal to that of a comparator of the opposite sex (B) (see s.64). The different ways equal work can be established are set out at s.65 EA 2010, and it is common ground that equal work is established here so that all those Claimants in Grade 6 are doing equal work with their male comparators in Grade 6, and the same is true of Grade 7.

C 13. By s.66(1) EA 2010, once equal work is established, a sex equality clause is implied into A's contract by operation of law, if not already included. The effect of the inclusion of the sex equality clause is that A's contract is treated as modified so that any term of A's contract that is less favourable is equalised so as not to be less favourable, or where A does not have a term that corresponds to a term of B's that benefits him, A's term is modified to include that term, unless in either case, the employer can prove that the difference in pay or other terms is attributable to a "material factor" that is not directly or indirectly discriminatory pursuant to s.69.

D 14. These are the critical provisions on this appeal. Section 66(2) sets out the effect of a sex equality clause as follows:

"66(2) A sex equality clause is a provision that has the following effect –

(a) if a term of A's is less favourable to A than a corresponding term of B's is to B, A's term is modified so as not to be less favourable;

(b) if A does not have a term which corresponds to a term of B's that benefits B, A's terms are modified so as to include such a term."

E 15. So far as relevant, the defence of material factor in s.69 (relied on by the Respondent to explain the difference in pay), is as follows:

"69(1) The sex equality clause in A's terms has no effect in relation to a difference between A's terms and B's terms if the responsible person shows that the difference is because of a material factor reliance on which –

(a) does not involve treating A less favourably because of A's sex than the responsible person treats B, and

(b) if the factor is within subsection (2), is a proportionate means of achieving a legitimate aim.

(2) A factor is within this subsection if A shows that, as a result of the factor, A and persons of the same sex doing work equal to A's are put at a particular disadvantage when compared with persons of the opposite sex doing work equal to A's."

G 16. Section 69(1)(a) mirrors the definition of direct discrimination in s.13 EA 2010 and subsections 69(1)(b) and (2) together mirror the definition of indirect discrimination in s.19 EA 2010. It is clear that they must be construed consistently (as was well-established in relation to the predecessor legislation, and as emphasised recently by the Supreme Court in Essop/Naeem).

A

17. Direct discrimination is not relied on by the Claimants in this case. They say (here and below) that the material factor relied on by the Respondent to explain the variation in pay between them and their comparators is indirectly discriminatory, and must therefore be objectively justified as a proportionate means of achieving a legitimate aim if it is not to be unlawful. In other words, they say that the factor which explains the difference – length of service – puts women at a particular disadvantage compared with men, and cannot be justified.

B

18. The burden of establishing the particular disadvantage (or disparate impact as it is referred to in some of the authorities) necessary to raise a prima facie case of indirect discrimination is on a claimant.

C

19. It is common ground that the judgment of the Supreme Court in Essop v Home Office; Naeem v Secretary of State for Justice [2017] UKSC 27, [2017] 1 WLR 1343 highlights a number of important principles relating to indirect discrimination, and restates the essential difference between direct and indirect discrimination.

D

20. First, the difference between direct discrimination and indirect discrimination was explained at [25] by Baroness Hale DPSC as follows:

“ ... Direct discrimination expressly requires a causal link between the less favourable treatment and the protected characteristic. Indirect discrimination does not. Instead it requires a causal link between the PCP and the particular disadvantage suffered by the group and the individual. The reason for this is that the prohibition of direct discrimination aims to achieve equality of treatment. Indirect discrimination assumes equality of treatment... but aims to achieve a level playing field where people sharing a particular protected characteristic are not subject to requirements which many of them cannot meet but which cannot be shown to be justified.”

E

21. Secondly, there is no requirement in the EA 2010 or the predecessor legislation that the claimant show why the PCP puts one group sharing a particular protected characteristic at a particular disadvantage when compared with others. It is enough that it does. (See [24]).

F

22. Thirdly, at [28] Baroness Hale explained:

“... it is commonplace for the disparate impact, or particular disadvantage, to be established on the basis of statistical evidence.... Statistical evidence is designed to show correlations between particular variables and particular outcomes and to assess the significance of those correlations. But a correlation is not the same as a causal link.”

G

23. Having dealt with the arguments advanced by the respondents in Essop to counter the argument that there is no obligation to prove the reason why the PCP in question puts or would put the affected group at a particular disadvantage (at [31-32]) at [33] Baroness Hale held:

“ ... In order to succeed in an indirect discrimination claim, it is not necessary to establish the reason for the particular disadvantage to which the group is put. The essential element is a causal connection between the PCP and the disadvantage suffered, not only by the group but also by the individual. This may be easier to prove if the reason for the group disadvantage is known but that is a matter of fact, not law.”

H

A

24. In this case, the issue was whether the Claimants established that women were put at a particular disadvantage when compared with men in the same grades, as a result of the factor of length of service, within the meaning of s. 69(2) EA 2010. They relied on statistical evidence to demonstrate particular disadvantage. Two points arise. First, a causal connection must be established between the factor (or PCP) and the disadvantage suffered by the group and individual, as Baroness Hale made clear at [33]. Secondly, there are different ways in which particular disadvantage can be proved, depending on the facts of any particular case, and how the indirect discrimination is said to arise. It may be inferred from the nature of the measure itself, or proved by expert or statistical evidence (always bearing in mind the intention of the new formulation was to “do away with complexities involved in identifying those who could comply and those who could not and how great the disparity had to be. Now all that is needed is a particular disadvantage when compared with other people who do not share the characteristic in question. ...” Homer v Chief Constable of West Yorkshire [2012] UKSC 15 at [14] Baroness Hale JSC).

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25. Whichever approach is adopted, the function of establishing particular disadvantage is to determine whether the impact of the factor is discriminatory, in other words, impacts more harshly on one group than another. Where statistical evidence is relied on to establish that the factor in issue particularly disadvantages one protected group compared with the other, the critical question is whether and to what extent people in the protected group are differentially affected by it in comparison with those without the relevant protected characteristic. The concept of particular disadvantage does not refer to serious or particularly significant cases of inequality, but denotes that it is particularly a protected group that is at a disadvantage because of the factor in issue: Chez Razpredelenie Bulgaria AD v Komisia za Zashtita ot diskriminatsia Case C-83/14 [2015] IRLR 746 at [98-103] (a case about indirect discrimination in treatment rather than inequality in pay).

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26. I did not understand it to be contentious that where statistics are relied on to demonstrate particular disadvantage, a mere difference in the statistical outcome for men and women is not sufficient: the disparate effect must be “to such a degree as to amount to indirect discrimination”: see R v Secretary of State, ex p. Seymour-Smith [1999] ICR 447 (ECJ) at [60 – 65]. Different adjectives have been used by the courts to describe the extent of the difference that must be shown. For example in LU v Edwards [1999] ICR 494 at [22], the Court of Appeal held that there must be “a substantial and not merely marginal discriminatory effect (disparate impact) as between men and women, so that it can be clearly demonstrated that a prima facie case of (indirect) discrimination exists.” In Armstrong v Newcastle upon Tyne NHS Trust [2006] IRLR 124 at [37], applying Enderby and Seymour-Smith, the Court of Appeal held that it was not enough for a tribunal to receive statistics showing “an apparent difference in effect between men and women. It must form a view that the impact is considerable...” In Villalba v Merrill Lynch [2007] ICR 469 (Elias J at [113]) held that the statistics relied on must “demonstrate a sufficiently marked adverse impact to constitute a prima facie case requiring not merely an explanation that the difference is not caused directly by sex, but in addition an objective justification.”

27. Although not binding, guidance in the Equality and Human Rights Commission ‘Equal Pay Audit Toolkit’ (“the Toolkit”) classifies as “significant” any pay gap of 5% or more, or 3%

A if there is a consistent pattern of pay gaps favouring one sex. It follows that if a pay difference is marginal, although it can be relied on it may be harder to conclude that women are at a particular disadvantage in relation to pay or that length of service as a determinant of pay is putting women at a particular disadvantage.

B 28. Finally, and importantly on this appeal, it is for the Employment Tribunal as the tribunal of fact, to make the relevant assessment as to whether the statistics relied upon and any other evidence or inferences that arise from the evidence, demonstrate particular disadvantage. The Employment Appeal Tribunal only has jurisdiction to interfere with such a decision if an error of law arises or the decision is perverse in that it is one that no reasonable employment tribunal properly directing itself could properly have reached.

C **The material facts**

29. There was a large measure of agreement between the parties about the essential facts and a statement of agreed facts was produced for use by the Employment Judge. It appears at paragraph 19 of the Judgment and is reproduced at Annex 1 to this judgment.

D 30. Of particular relevance are the following facts referred to or found by EJ Snelson about certain features of the Respondent's post-merger pay system, that is, following the merger between the Commissioners of Inland Revenue and Her Majesty's Customs & Excise:

E (i) Prior to the merger, when employees were assimilated into the Respondent's new pay structure with effect from 1 June 2006, this was done on the basis of notional pay points based on number of years' service with satisfactory or better performance (subject to pay protection for those already on higher pay) (Judgment, paragraphs 19(29)-(31)).

F (ii) To ensure that the assimilation exercise did not disadvantage any particular group of staff, the Respondent included all service in the equivalent grade including periods of maternity leave, both paid and unpaid, and career breaks (whether male or female). The exercise was intended to ensure parity of pay according to length of service for men and women from the two former departments. Thus length of service directly applied to determine individuals' positions within the pay ranges at the point of assimilation.

(iii) There are seven grades below the level of senior civil service grades. Each of the seven grades has a London and a national pay band, with the London pay band being on average 15% higher. Each pay band has a minimum and a maximum rate of pay, with no set points (such as milestones, or incremental increases) in between.

G (iv) Movement up through the pay range for each grade is by annual pay awards, payable on 1 June each year. There is no contractual pay progression. The value of the annual pay awards is not guaranteed and varies each year, impacting on the rate at which a person's pay will increase during their time in grade.

H (v) Paragraphs 38 to 48 of the agreed facts dealt with the pay settlements for each relevant year. Significantly, in 2008 there was an overall pay settlement from 1 June 2008 to 31 May 2011 of a 2.4% increase for each of the three years. In the 2008 – 09 pay offer the Respondent announced that for the remaining two years' pay awards, greater priority would be given to pay progression and further pay range shortening. The

- A** result was that the minima for all grades (including 7 and 6) increased by 3% for 2008 – 09, by 4.1% on average for 2009 – 10, and by 4.6% on average for 2010 – 11.
- (vi) There was a two-year pay freeze for public sector workers from 2011 which affected Grade 7 and Grade 6. This took effect so far as the Respondent’s workforce was concerned from June 2011.
- B** (vii) The tables relied on by the Claimants showing the proportions of men and women distributed within each of the two relevant Grades confirmed the “clustering” relied on by them (see paragraph 20 of the Judgment). The quartile and decile statistics (at Annex M) to this effect are reproduced as an annex to this judgment.
- (viii) The Respondent also produced data tables. Of particular relevance is Annex G- Mean Base Pay Differentials (also reproduced as an annex to this judgment) for the years 2009-2015. EJ Snelson referred at paragraph 21 of the Judgment to the fact that the overall figures (for London and National combined) show falling differentials in total average basic pay between men and women over the seven year period: for Grade 7 from 2.3% to 1.2%; and for Grade 6 from 1.9% to 1.5%. As EJ Snelson observed, there was only one year where the differential exceeded 3% and this was for Grade 6 in London in 2009 where the differential is recorded as 3.3%.
- C**
- (ix) There was evidence in “age to grade” statistics (Annex D) which showed a consistent pattern since 2009 (and it was not suggested that 2009 marked a significant change from previous years) of women being appointed at each grade slightly younger than their male peers.
- D**
- (x) It was common ground that the Respondent sought to redress the gender imbalance at Grades 7 and 6 by recruiting more women. This had increased the proportion of women at Grade 7 between 2009 and 2015 from 39.3% of a total headcount of 1,939 to 42.9% of a total of 3,142. The corresponding figures for Grade 6 were 32.6% of a total of 862 increasing to 39.2% of a total headcount of 1,300.
- E**
- (xi) It was also common ground that the inevitable result of more men than women retiring over the next few years and women rising in larger numbers up the pay scales, with the pay scales becoming shorter, was that the gap in average basic pay between men and women would narrow over the next few years.
- F** (xii) Finally, although the Claimants argued that there was a historically male culture that explained why there were significantly more men than women employed at Grades 7 and 6, EJ Snelson found on the evidence presented that there was:
- G** “no basis for inferring that the historical gender imbalance in the two grades has been materially influenced by their working environment or by any perception that those employed in them performed “men’s work”. On the contrary, the Respondents have established to my satisfaction that the male/female ratios were not so influenced” (see paragraph 64 of the Judgment).

The expert evidence

H 31. The Claimants’ case relied on expert evidence from Dr Hall in relation to their core allegation. In her report dated September 2014 (subsequently corrected in February 2015), at sections 5 and 6, Dr Hall analysed the proportions of women and men in each quartile of Grade 7 and Grade 6. She used a chi-square analysis to determine whether the uneven pattern of distribution of men and women through the relevant pay grades that was identified was statistically significant. She concluded that in both grades and for each year in the period 2009

A to 2014, the proportion of women in the lowest quartile is higher than would be expected and the proportion of women in the upper quartile is lower than expected and that

“This would tend to support the hypothesis that women lag behind men in the pay scales.”

B She concluded that the analysis demonstrated that the uneven distribution of women across the quartiles of each grade is statistically significant. She carried out a similar examination by analysing the proportions of women and men by decile within the two pay grades, and having identified that in both grades and for each year in the period, the proportion of women in the lowest decile is higher than would be expected and the proportion of women in the upper decile is lower than expected, concluded, again, that *“This would tend to support the hypothesis that women lag behind men in the pay scales”* although she recognised that *“the increasing proportion of women in the lowest decile of grade 6 might also reflect the greater numbers that have been promoted to the grade in recent years.”*

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D 32. A supplemental report was also prepared by Dr Hall. It included some mean salary data but this was not relied on to support Dr Hall’s conclusions. The report repeated the quartile and decile distribution analysis using the chi-square analysis to test differences in the distribution of men and women through the pay range on the basis that gender is categorical even if pay is not.

E 33. The Respondent relied on expert evidence from Dr Brown in the form of reports dated November 2014 and April 2015. He disputed Dr Hall’s approach. He referred to the guidance in the Toolkit at step three which recommends use of the chi-square test when comparing access to different pay elements and where the question is whether one group or another is more likely to receive a particular pay element, rather than differences between mean basic pay or pay elements. For example, where the question is whether men are more likely than women to attract a car allowance, the comparison is between the proportions of the two groups who do and do not receive the allowance and the chi-square analysis is appropriate. In this case, he explained that the chi-square analysis is inappropriate because basic pay is not ‘categorical’ data but is ‘continuous’ data.

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H 34. In summary, he said that transforming basic pay into categorical data produces a large number of different observed salaries (there were approximately a hundred in each pay grade) in quartile or decile groups. In order to interpret the results of a chi-square analysis of basic pay, which could only be “the proportions of staff falling in quartiles is not independent of sex” required a test of what these different proportions mean in terms of total average basic pay. This was not done – the quartiles were interpreted as “low pay, low/medium pay, medium/high pay, high pay” without providing the associated numbers, and he therefore concluded that they were meaningless (see paragraph 18(iii)). He suggested that simple pay averages could be taken within each quartile to aid comparison but these would ignore the actual numbers of staff in each quartile contributing to the averages and therefore suggested that total pay could be calculated in each quartile, summed over quartiles and then divided by the total number of staff producing total average pay. Thus he said the analysis came full circle, with average basic pay being the required test even when the chi-square analysis was used. In relation to basic pay, he recommended using the mean to assess the significance of pay gaps, rather than the median.

A 35. EJ Snelson dealt fairly shortly with the expert evidence produced by the parties as follows:

“26 Dr Hall has a scientific background (she holds a doctorate in Virology) but has worked for the last 25 years or so in the field of human resources. She does not put herself forward as a statistician.

B 27 In her evidence Dr Hall confirmed the basic facts which underpin the Claimants’ claims, including in particular the ‘clustering’ which decile by decile or quartile by quartile analysis reveals. Some of her energies were also devoted to matters which no longer form part of the Claimants’ case (in particular, the question whether career breaks and/or later career starts had prejudiced women when compared with men). She relied on the somewhat abstruse ‘Chi-Square’ test for the proposition that the ‘clustering’ figures were statistically significant and said that she had been confirmed in that view by an unnamed statistician. She wrongly stated that the mean pay gap had not narrowed over time.

C 28. Dr Brown is a statistician. He holds a degree in Mathematics and a doctorate in Statistics. He has been a member of the Royal Statistical Society since 2002 and, as I have mentioned, holds the position of Principal Methodologist at the Office for National Statistics.

29. Dr Brown gave reasons in his evidence for his view that average figures were the best measure by which to assess the statistical significance of pay gaps. He explained that the basic pay data did not show signs of ‘outlier distortion’ (produced by infrequent values at one extreme or the other of the sample under consideration), that, on Dr Hall’s figures, the median figures were more volatile than the mean figures, and that accordingly, in line with EHRC guidance, he favoured using the mean to interpret and evaluate differences in basic pay. On those figures, a statistically significant pay gap was not established. Dr Brown also considered Dr Hall’s evidence on the ‘chi-squared’ test. He stated:

D The chi-squared test is designed for categorical data – which can take a limited number of possible values, for example the presence/absence of an attribute or one of a discrete number of options, such as colour of car driven. The aim of the chi-squared test is to assess whether the proportions of observed counts in each category are in line with expectations (from known proportions from a population, or comparative proportions (for example men in the categories). A significant chi-squared test means that the observed proportions differ, in some way, from the expected proportions.

E He went on to explain that since basic pay was not categorical but ‘continuous’ data, the chi-squared test was inappropriate and that, without numbers, its use based on distribution percentages alone was meaningless.”

F 36. EJ Snelson accepted “*the entirety of Dr Brown’s evidence, including his remarks about the chi-squared test. It satisfies me that the statistics relied on by the Claimants are statistically insignificant.*” (see paragraph 45 of the Judgment, set out below). Mr Cooper contends that in fact, by the end of Dr Brown’s evidence (including during cross-examination), he was not saying that Dr Hall’s analysis was meaningless, and did in fact accept that a chi-square analysis could be applied to the distribution data producing a statistically significant result.

G 37. The notes of evidence given by Dr Brown have not been agreed between the parties, and the Employment Judge’s notes have not obtained (as they should have been if the point was to be pursued). In any event, reading the notes of cross-examination fairly and as a whole, I do not accept that Dr Brown accepted the appropriateness of applying the chi-square test propounded by Dr Hall in order properly to assess pay differentials between men and women. The thrust of his evidence was clear, even at the end of cross-examination, that he did not accept the validity of transforming continuous data from a known to an approximation, and data simply showing differential distribution of men and women across the quartiles is not enough – actual pay data within quartiles would be necessary (as per paragraph 18 of his report). Underlying his evidence, both in his reports and in cross-examination, was his point that if a gender gap in basic pay is being investigated and analysed, the analysis must focus on pay; distribution tells one nothing about pay differences.

A **The material conclusions in the Employment Judge’s Judgment**

38. Having found that the relevant factor was length of service in the context of this case, EJ Snelson addressed the question of particular disadvantage and at paragraphs 40 to 50 dealt with points relevant to the first two issues on this appeal. For convenience they are set out in full below:

B “40. Both sides produced statistics in support of their cases on substantial disadvantage but since they disagree profoundly as to the nature of the material apt to illuminate the dispute, the rival evidence does not meet head on. The Claimants’ statistics are said to demonstrate ‘bunching’ or ‘clustering’ of men in the upper quartiles or deciles of the pay ranges and women in the lower quartiles or deciles. The Respondents cite figures which, they say, show a narrow and steadily diminishing gap in average pay across both grades. There was no real dispute about the figures themselves; the contest was as to what they prove. The arguments were developed in considerable detail in the written submissions, which I will leave to speak for themselves. What follows is a bare summary of the main points advanced on both sides. Here it is convenient to begin with the Claimants’ case.

C 41. Mr Cooper submitted as follows.

(1) The methodology apt to test the factor relied upon under s.69(2) must be logically fitted to the Claimants’ case.

(2) The Claimants’ case is that the system of pay progression based on length of service produces a disparate distribution by gender across the pay scales.

D (3) Comparison of mean averages (as proposed by the Respondents) does not assist in a proper evaluation of the Claimants’ case because (a) it brings into account the large part of basic pay which is unaffected by the s.69(2) factor and (b) it masks differential distribution by smoothing it out.

(4) By contrast, an analysis of the proportions of men and women within each decile or quartile of the pay scales *will* serve to identify any disparity and demonstrate whether it is significant.

(5) Dr Hall’s Chi-square analysis lends further support to the Claimants’ case.

E (6) Application of the methodology referred to in (4) and (5) shows clearly that women are over-represented as the lower end of the pay scales and under-represented at the upper end.

(7) Accordingly, without prejudice to any objective justification defence, particular disadvantage is made out.

42. Mr Linden replied as follows.

(1) The Claimants’ statistical approach based on distribution is flawed because it ignores actual pay, replacing it with an approximation.

F (2) The Claimants’ figures also ignore distribution both within and outside any selected decile, quartile or other segment of the population.

(3) The Claimants’ case depends on impermissibly breaking down basic pay, which is indivisible, in order to isolate the notional sub-element referable to length of service.

(4) The Claimants’ approach is arbitrary in that the pools for comparison would have to depend (for the purposes, presumably, of the issue under s.69(2) of individual disadvantage, i.e. whether ‘A’ is put at a particular disadvantage), on the identity of the particular Claimant under consideration.

G (5) The Claimants’ approach is also crude, misleading and, in practical terms, unworkable.

(6) Dr Hall’s Chi-squared analysis is unsound and proves nothing.

(7) The only proper way to test the Claimants’ case on group disadvantage is through measuring mean average pay. On that approach, the undisputed figures conclude the particular disadvantage issue in favour of the Respondents.

H 43. Mr Cooper’s arguments were most persuasively presented, but I cannot accept them. I have several reasons. In the first place, I agree with Mr Lindon that distribution cannot be equated with, or allowed to supplant, pay. To state the obvious, the law is concerned with ensuring equal pay for equal work. Ascertaining the distribution of men and women within any particular segment of the overall sample may provide a partial picture of apparent advantage, but it says nothing about actual pay difference, within or outside the segment.

A 44. The second fundamental problem with the Claimants' argument is that it ignores the undisputed reality that, as the average figures show, there is no significant long-term difference between the basic pay of men and women in either of the two grades. Given that reality, it necessarily follows that, in so far as selective analysis based on deciles, quartiles or any other slice of the total grade population reveals a 'clustering' phenomenon apparently favouring men over women, there must be a (more or less) counter-balancing advantage the other way, within and/or outside the relevant decile, quartile or other slice. Otherwise, the mean figures would not tell the story they do. This being so, the methodology advanced on behalf of the Claimants cannot be regarded as a reliable instrument and certainly does not substantiate the assertion that women are collectively disadvantaged.

B 45. Thirdly, I am much more impressed by the evidence of Dr Brown than that of Dr Hall, whose qualifications and experience do not seem to me, with respect, to equip her fully for the task entrusted to her. I accept the entirety of Dr Brown's evidence, including his remarks about the chi-squared test. It satisfies me that the statistics relied on by the Claimants are statistically insignificant.

C 46. Fourthly, I agree with Mr Linden that it is not permissible to divide basic pay into separate elements in order to challenge the length of service criterion. The sex equality clause under s.66 modifies any 'term' shown to be less favourable than the corresponding 'term' of any comparator. The term relied on in this case is that which entitles the Claimants and their comparators to basic pay. Basic pay is indivisible, albeit that the figure in any particular case is explained by several factors of which length of service is one. Moreover, for the reasons already given, the Claimants' statistical evidence does not make good a theory of particular disadvantage attributable to any proposed 'sub-term', even if such were permissible.

D 47. Fifthly, I agree with Mr Linden that the distribution-based approach favoured by the Claimants would be unworkable in practice and liable to produce most undesirable results. If it was permissible, no employer could be sure of escaping liability under the equal pay provisions, or at least being put at risk in having to make out objective justification, since it would never be possible to guard against a complaint that, on this or that selective statistical analysis of a portion of the relevant population, one gender group appeared to enjoy an advantage over the other.

E 48. Sixthly, the logic of the Claimants' case does indeed, as Mr Linden pointed out, admit the possibility that distribution statistics could establish the 'particular disadvantage' of one gender group in respect of basic pay in a case where overall mean figures showed, by reference to the same term, that it was substantially advantaged. If the law contemplated a finding of particular disadvantage of gender group X as against gender group Y in circumstances where group X was the better paid of the two, Mr Bumble's celebrated remark would be entirely apposite. I do not, however, accept that view of the law.

F 49. Seventhly, although I accept that the categories of indirect discrimination are not closed and the law is constantly developing, it is a material fact that there is no authority to support the Claimants' case. I do not refer only to decisions of the higher courts. The Equality and Human Rights Commission ('EHRC') Code of Practice on Equal Pay (2011) says nothing about distribution-based analysis. It does refer (paragraph 177) to the need for employers to calculate average basic pay and total earnings. Likewise the guidance in the EHRC 'Equal Pay Audit Toolkit' ('the Toolkit'), which points out that 'significant' differences in pay (as referred to, for example, in the Code, paragraph 179) are to be reckoned in percentages of basic pay and total earnings.

G 50. For all of these reasons, I reject the Claimants' case on the statistics issue. The result is that they fail to establish particular disadvantage by their chosen route of distribution-based analysis. No alternative is advanced and, as I have noted, they do not dispute that average figures do not disclose significant, long-term differences between the basic pay of men and women in either of the two relevant grades. I am in no doubt that they are right to accept that those figures are against them. The Respondents have demonstrated (not that they bore any legal onus) that the differences in basic pay have been consistently marginal, have diminished over time, and will diminish further as time passes".

H 39. He dealt with the Armstrong point relevant to the third issue at paragraphs 51 to 70. For reasons that appear below it is unnecessary to set out his reasoning in full. In short, on the premise that disparate adverse impact was shown on the statistics, EJ Snelson concluded that it was nonetheless open to the Respondent to demonstrate that the disadvantage was not related in any way to sex and that the Respondent had clearly done so. He put the matter another way in saying that the Respondent had shown that neither the historic gender imbalance in the grades

A nor the fact that the imbalance had been redressed to a significant extent in recent years producing a consequential increase in the numbers of women in both grades, nor the length of service criterion itself, operated to the disadvantage of women when compared with men.

B 40. Finally, in relation to individual disadvantage, EJ Snelson accepted that if group disadvantage is shown, each individual Claimant need only show that she is a member of the group in order to establish individual disadvantage: see paragraph 71 of the Judgment.

The issues raised on this appeal

Issue 1: what is the proper method for testing ‘particular disadvantage’ in this case, and did the Employment Judge err in law in excluding the distribution based analysis

C 41. I start with Mr Cooper’s argument of principle as to the approach to particular disadvantage in this equal pay case based on differential distribution in Grades 7 and 6. Having considered those arguments, I will address the central errors of law he contends were made by the Employment Judge. In summary (and I hope without doing a disservice to the careful arguments he advanced) Mr Cooper’s analysis is as follows:

D (i) The factor causing disadvantage here is length of service, which operates so as to produce differences in pay by determining (along with starting salary and performance) each individual’s position between the minimum and maximum of the relevant pay range. It has no effect below the minimum of the pay range, but within the pay ranges, its operation as a determinant of pay causes women to be disproportionately lower down the pay ranges than men.

E (ii) The Claimants’ core allegation concerns differential distribution within a defined pay range. This is different from cases where there is a binary distinction between those who meet the criteria for a particular benefit and those who do not, in which case a single comparison of the respective proportions of men and women who meet the criteria can be performed (see for example Seymour-Smith, para 59). However, this case shares with such cases the feature of an identifiable criterion which determines access to a benefit within a defined range – the difference is that it determines both whether someone receives any benefit and the extent of the benefit received within the defined range.

F (iii) A single comparison of proportions is not possible, but an equivalent method of assessing *disparate impact* is required. As a matter of logic, what is required is a method which tests differential or uneven distribution within the defined range, not one which tests the relative size or value of the pay differences produced.

G (iv) If there is a significant differential distribution with women clustered at or towards the bottom and men at or towards the top end of each grade, it can be assumed or expected to translate into women receiving lower pay than men.

H (v) The value of the difference in pay, whether in absolute or average terms, is irrelevant and on the primary argument advanced by the Claimants throughout, forms no part of the consideration. That is because the fundamental problem with comparing average total basic pay (which was and remains the Respondent’s approach) is that an

A 'average' is a 'central measure of location' that is simply not apt for assessing disparate impact in the distribution of men and women through a pay range at all: it is a single measure which does not take account of distribution.

(vi) If averages are to be used at all as a proxy indicator for differential distribution, then only the average amount above the range minimum for men and women respectively can be considered, because failing to do so is in breach of the principle that what needs to be assessed is the differential impact of the impugned factor, not the value of the differences produced.

(vii) Alternatively, the Claimants contend (and maintain that this was their case below, though the Respondent disputes this) that if they are wrong about differential distribution being the exclusive test of particular disadvantage in this case, the average variable pay data demonstrates a significant pay differential that has persisted over time, between the two groups, and combines with the differential distribution data to demonstrate particular disadvantage requiring objective justification.

42. I agree with Mr Cooper that the starting point in the analysis of this issue is the statute, but broadly for the reasons advanced by Mr Linden QC, I do not accept his submissions as to the proper approach to be adopted here. My reasons follow.

43. Section 69 EA 2010 is only engaged once it is established that the sex equality clause would otherwise operate under s.66 because there is a difference between a claimant's terms and those of a comparator doing equal work, in that either the equivalent term in her contract is less favourable or she has no equivalent term, so that in either case she is receiving less by way of pay or other contractual benefits. That is where the enquiry starts: a claimant in a case under s.66(2)(a) EA 2010 must point to a term of her contract which is less favourable than a term of a similar kind in a comparator man's contract.

44. Here, the Claimants' claim made in their ET1 is that they were paid less by way of basic pay than their male comparators (see paragraph 5). That was the contractual term about which they complained. Within the scheme of the EA 2010, their complaint falls under s.66(2)(a) and they contend that the less favourable term in their contracts as to basic pay must be deemed modified so as not to be less favourable.

45. It might have been possible to treat this claim as a complaint about differential ranking within a pay range and the uneven distribution of women that results; but that is artificial because it would then be an indirect discrimination claim based on differential ranking where the detriment would be limited to a justifiable sense of indignation about a lower ranking and any remedy limited on the same basis; rather than a claim based on unequal contractual pay. However, that is not the claim the Claimants have pursued.

46. Where the complaint is one about contractual terms and pay, the concept of particular disadvantage in s.69 must be understood in terms of the impact of the material factor on or in relation to the difference in the contractual term as to basic pay complained about; and not in relation to the uneven distribution of men and women in the relevant grades.

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47. Therefore, when the question is asked whether, pursuant to s.69(2), length of service puts women at a particular disadvantage when compared with men doing equal work to the women, the particular disadvantage must be a disadvantage in relation to the contractual term complained about, in other words, the lower basic pay received by the women. That disadvantage, if it is proved to be a particular disadvantage suffered by the women (the receipt of less basic pay) is what would have to be justified under s.69(1)(b) by considering whether the material factor of length of service is a proportionate means of achieving a legitimate aim having regard to the differences in pay it causes. An approach based on particular disadvantage being established by reference simply to differential distribution would mean that an employer would have to justify a factor by reference not to a disparity in pay terms, but by reference to a disparity in terms of abstract distribution. If unable to justify the disparity in terms of distribution, then the employer would have to remedy that disparate distribution, rather than the differential impact in terms of pay. I agree with Mr Linden, that is not what ss.66 and 69 require. These provisions are, after all, concerned with ensuring equal pay.

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48. The mere fact of differential distribution of men and women within a pay range is not enough to establish particular disadvantage. There may be more women represented in the quartile or decile chosen and they may not necessarily have lower total average pay than their male comparators. There may be other factors at play. If Mr Cooper is right, and the particular disadvantage need not relate to the contractual term in issue and can be shown purely by reference to differential distribution regardless of its actual effect on the contractual term as to pay, as a matter of logic, actual pay must be irrelevant. It is taken out of the equation by counting the number of individuals within the relevant section or proportion of the grade in question (a particular quartile or decile) or in addition, by applying a chi-square analysis to that count, so that the known pay within the grade is replaced by a less accurate approximation (for example, by treating the lowest quartile as corresponding to 25% of the maximum of the pay grade, which also has the effect of ignoring the distribution within the quartile concerned). Whilst the inaccuracy can be reduced by reducing the size of the range (or approximation) the only way to remove the inaccuracy is to keep reducing the size of the range until each range is the same as the actual pay, at which point the comparison becomes one of comparing total average pay within the grade.

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49. That is not to suggest that differential distribution of men and women within a pay range is irrelevant. A differential distribution of men and women may indicate a problem or give the appearance of disadvantage. However without evidence that it reflects a sufficiently significant or patterned pay inequality, particular disadvantage is unlikely to be established. That is not the same as suggesting relative size, value or seriousness of the pay differential is what matters. It plainly does not. However, there must be significant or consistent patterns of pay differences to lead to an inference that the material factor (leading to lower pay) put women at a particular disadvantage in terms of lower pay (see Seymour-Smith, Villalba and the other cases referred to above). If the statistics reveal marginal differences in average total pay it will be hard to conclude that the difference results from a factor putting women as a group at a particular disadvantage.

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50. Particular disadvantage in relation to pay can be proved in different ways; but it cannot simply be assumed. In a case where the link between the factor in issue and the disadvantage it

A puts women under is not obvious or intrinsic it must be proved by evidence. Here, as it seems
to me, the Claimants' argument assumes what had to be proved: that length of service did put
women at a particular disadvantage in relation to their basic pay given the clustering
demonstrated. To determine whether that was so required a comparison of average basic pay
within the relevant grades. That comparison was conducted in this case, and it was ultimately
agreed by the Claimants that the statistical analysis of average basic pay differentials over a
seven year period did not show significant long-term differences between the pay of men and
women. Moreover the evidence showed that the proportion of women in the relevant grades
increased substantially over the period; and the statistics showed that the pay differential in both
grades (both in London and nationally) was reducing.

C 51. Nor do I do accept that the Claimants' distribution based approach is consistent with
the ECHR Code of Practice on Equal Pay 2011 (admissible in evidence and required to be taken
into account by a tribunal in an equal pay case: see s.15(4) Equality Act 2006) or the Toolkit.
Neither document advocates a distribution-based approach. For example:

- (i) Paragraph 177 of the Code refers to the need for employers "to collate and compare
pay information to identify any significant inequalities by ... calculating average basic
pay ...".
- D (ii) Paragraph 179 provides that "Employers then need to review the pay comparisons to
identify any gender pay inequalities and decide if any are significant enough to warrant
further investigation. It is advisable to record the significant or patterned pay
inequalities that have been identified. The Commission's Toolkit gives detailed advice
and guidance on collecting and comparing pay information and when pay gaps may be
regarded as significant..."
- E (iii) The Toolkit provides a five-step equal pay audit model. Step three – headed collecting
and analysing pay data – requires an employer to collect and compare pay data to
identify significant inequalities in pay. It suggests that employers calculate average
basic pay to see if there is a pay gap.
- (iv) Where the concern is about one group or the other being more likely to receive a
particular pay element (such as a car allowance for example), the employer is required
to collect data to compare access to and amounts received of each element of pay. It is
in that context that the comparison to be made is between the proportions of the two
groups who do and do not receive the allowance and in that context, the use of the chi-
square test which provides a probability figure to indicate statistical significance is
identified (see paragraph 3.6 of step three).
- F (v) The guidance provides that employers should review the pay comparisons to establish
any gender pay gaps, and decide if any pay gaps are significant and need further
investigation. It gives general guidance as to what percentage differences will require
exploration and explanation, indicating that significant differences between the
average basic pay of men and women performing equal work of 5% or more, or
patterns of pay differences where women consistently earn less than men on average
for equal work at most or all grades or levels in the organisation with differences of
3% or more will need further investigation. It notes that a pay difference even when
less than 3% or 5% may be open to legal challenge.
- G (vi) Step four assumes a significant pay inequality is revealed by the data collected.
Employers should then examine their pay system from all angles to identify how the
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A inequality came about, including by considering the impact of length of service on pay and other factors that might have an impact on the inequality identified.

(vii) While Mr Cooper is right that the Toolkit refers to clustering within pay ranges, it makes clear that clustering should be investigated and does not say or imply that the mere fact of clustering leads to the conclusion that there is a gender pay gap.

B (viii) I note also that the Equality Act 2010 (Gender Pay Gap Information) Regulations 2017 require information about mean hourly rates, mean bonus payments and proportions of men and women but do not require the provision of information about the distribution of men and women within a pay range.

C 52. Further, I do not accept Mr Cooper's contention that where average pay is to be used as a proxy indicator for differential distribution (or relied on together with differential distribution), as a matter of law this can only be by reference to differences in average pay within the variable part of the pay only, in other words in respect of amounts above the pay grade minimum (the so-called variable pay element). This argument amounts to a contention that basic pay can be subdivided into notionally separate elements representing, in effect, base salary and a length of service element, even where there is no evidence that as a matter of contract or practice such a distinction is drawn within basic pay; and where the Employment Tribunal found as a fact that basic pay in this case was indivisible and could be explained by several factors of which length of service was one. Neither the EA 2010, nor authority supports Mr Cooper's approach. Nor does the Code or Commission guidance support it.

D 53. As already indicated, the term relied on by the Claimants is that which entitles them and their comparators to basic pay. There is no definition of the word 'term' in the EA 2010. E In Hayward v Cammell Laird Shipbuilders Ltd (No 2) [1988] 1 AC 894 (which concerned different terms relating to both basic pay and the calculation of overtime), Lord Mackay of Clashfern LC addressed the meaning of 'term' in the context of the predecessor section in the Equal Pay Act 1970, at 900G as follows:

F **"I am of the opinion that the natural meaning of the word "term" in this context is a distinct provision or part of the contract which has sufficient content to make it possible to compare it from the point of view of the benefits it confers with similar provision or part in another contract."**

G As Lord Goff in the same case made clear, where the contract makes discrete provision for basic pay, bonus, and other benefits, those discrete provisions cannot be lumped together as one term of the contract merely because they provide for total remuneration. The emphasis must be on the reality of the contractual provisions in the circumstances of the particular case, and it will be a question of fact in each case whether a discrete term exists for these purposes. It is not permissible to seek to off-set one more favourable term against another less favourable one. A term by term analysis is required, as illustrated by Brownbill v St Helens Hospitals NHS Trust [2012] ICR 68 (CA).

H 54. I agree with Mr Linden that s.66 EA 2010 dictates that just as an employer cannot lump together or engage in an overall comparison of different terms, a claimant in an equal pay claim cannot subdivide a single term into two or more parts in order to complain about one part only. A term by term analysis is required in equal pay cases. There is no distinct provision or part of the Claimants' contracts providing for "variable pay" above the minimum point in each relevant grade and none is relied on by Mr Cooper. The reality of the contractual pay

A provisions in this case is that they are indivisible into sub-terms and to the extent that average pay is considered, average total pay is the only relevant consideration.

B 55. In any event, even if the Claimants' analysis by reference to average variable pay were appropriate, it has a distorting effect that must be recognised. As a matter of logic, the shorter the pay scale the easier it would be to prove particular disadvantage. For example, if a pay scale is £1000 in length (say from £55,000-£56,000, representing approximately 2% of total pay) then even a £100 pay differential would equate to a 10% pay differential on the Claimants' case and would be significant. By contrast, if the pay scale was £20,000 in length (say from £45,000-£65,000) a much greater pay differential would be required to make the pay differential significant. Accordingly, the significance of the pay differential depends on the size of the particular pay scale from bottom to top rather than on the actual pay differential. Since it is well established that long pay scales can lead to unequal pay and a means of tackling pay inequality is to shorten the pay scales, it would be a perverse result that the shorter the pay scale the easier it is to establish particular disadvantage.

C 56. These points are borne out by the table produced by Mr Cooper at paragraph 42 of his Skeleton Argument, reproduced below:

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| Case 1: pay range of £1,000 with £100,000 minimum | | | | | | | |
|--|--------------|--------------|----------|---|---------------|--------------|--------|
| <u>Total average basic pay comparison</u> | | | | <u>Average variable pay comparison</u> | | | |
| | Men | Women | | | Men | Women | |
| | Distribn | Distribn | All | | Distrib | Distribn | All |
| £100,000 | 10% | 50% | | £0 | 10% | 50% | |
| £100,333 | 15% | 25% | | £333 | 15% | 25% | |
| £100,667 | 25% | 15% | | £667 | 25% | 15% | |
| £101,000 | 50% | 10% | | £1,000 | 50% | 10% | |
| Mean | £100,717 | £100,283 | £100,500 | Mean | £717 | £283 | £500 |
| Diff. | £433 | | | Diff. | £433 | | |
| % diff. | 0.43% | | | % diff. | 60.47% | | |
| Case 2: pay range of £10,000 with £50,000 minimum | | | | | | | |
| <u>Total average basic pay comparison</u> | | | | <u>Average variable pay comparison</u> | | | |
| | Men | Women | | | Men | Women | |
| | Distribn | Distribn | All | | Distribn | Distribn | All |
| £50,000 | 10% | 50% | | £0 | 10% | 50% | |
| £53,333 | 15% | 25% | | £3,333 | 15% | 25% | |
| £56,666 | 25% | 15% | | £6,666 | 25% | 15% | |
| £60,000 | 50% | 10% | | £10,000 | 50% | 10% | |
| Mean | £57,166 | £52,833 | £55,000 | Mean | £7,166 | £2,833 | £5,000 |

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|---------|--------------|--|--|---------|---------------|--|--|
| Diff. | £4,333 | | | Diff. | £4,333 | | |
| % diff. | 7.58% | | | % diff. | 60.47% | | |

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The table demonstrates that the shorter the pay range, the bigger the percentage difference in pay. Significantly, it also shows that even where there is an identically uneven distribution of men and women within the pay scale, what that reflects in pay terms is markedly different depending on the size of the pay range taken.

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57. The points made above also dispose of Mr Cooper’s alternative argument, that if they are wrong about differential distribution being the exclusive test of particular disadvantage in this case, the Claimants can rely on the average variable pay data as demonstrating a significant pay differential that has persisted over time between the two groups, and combines with the differential distribution data to demonstrate particular disadvantage requiring objective justification.

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58. Separately, Mr Linden contends that this argument is not in any event open to Mr Cooper on appeal because the Claimants’ case below was premised on a distribution based analysis only and no alternative was advanced. He accepts that average variable pay was raised by the Claimants but only in order to challenge the positive case advanced by the Respondent based on average total pay, and submits that at no time was average variable pay relied on to show particular disadvantage or to support the Claimants’ case based on differential distribution. It is significant he contends, that the table at paragraph 64 of the Claimants’ Skeleton Argument on this appeal (setting out average variable pay for men and women in Grade 7 and 6, both nationally and for London, and calculating the male to female percentage differential) did not appear at any time before the Employment Tribunal and the average variable pay point was ventilated only to attack the Respondent’s case.

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59. Mr Cooper disagrees. Although he accepts that his primary case was based on distribution only and has not changed, he maintains that the alternative approach was advanced by reference to average variable pay, albeit without the table at paragraph 64 available.

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60. The only reference to average variable pay in the pleadings, expert reports and written submissions placed before the Tribunal, is (as I understood Mr Cooper to accept) in a footnote to paragraph 10.4 of the Claimants’ Further Particulars of their Case on Particular Disadvantage dated 1 October 2014. At paragraph 10 the Claimants made their attack on the Respondent’s reliance on average total basic pay. At paragraph 10.4 they argued that the difference between the minimum and maximum of the scale (the only part of the earnings affected by length of service) will only be a relatively small proportion of the total average pay so that comparison of average total pay will necessarily produce relatively small percentage differences that may distort the disparate impact of length of service within the portion of income that it actually affects, masking actual sums that are in fact important and significant. The footnote to this paragraph made the point in relation to variable pay and said:

“therefore, if (contrary to the submissions set out herein) differences in average pay were to be used as the principal basis for determining particular disadvantage, then an assessment of the significance of such differences would in any event only be meaningful if based on a calculation of those differences as a percentage of the variable portion of pay (i.e. of the

A difference between the minimum and maximum of the pay scale), not on a calculation of those differences as a percentage of total pay...”.

B 61. Mr Cooper maintains that in closing submissions he made the same point to the Employment Judge by reference to average variable pay. He accepts that he did not produce the figures but suggested that they could be calculated by working out the difference between male and female average variable pay and dividing that by average male variable pay on the basis of the figures provided in Annex G. He submitted to EJ Snelson that differences of up to 30% in some cases would be produced if this analysis was conducted. However he frankly accepts that he followed this submission with a statement that “he was not advocating an averages approach”.

C 62. This was a complicated case which evolved over time and the parties’ respective cases on particular disadvantage were reduced to writing and refined, and were supported by statistics and expert analysis. In the absence of any written argument to the effect that the Claimants were advancing a positive case in reliance on data containing average variable pay differentials together with or to support their distribution analysis, it does not surprise me that EJ Snelson understood the point advanced in submissions as a point designed only to attack the Respondent’s approach rather than to support an alternative positive case. In all the circumstances, if the variable pay argument were sound, I do not consider that it was properly raised before the Tribunal, or that it can fairly be raised now to demonstrate a fatal flaw in the Judgment.

D 63. Having reached those conclusions, I return to the errors relied on by Mr Cooper in the Judgment. First, I do not agree with Mr Cooper that EJ Snelson excluded a distribution analysis entirely from his consideration; nor that he focused exclusively on an inappropriate comparison of average total basic pay. Rather in the context of the Claimants’ concession that the average basic pay figures showed no significant long-term differences between the basic pay of men and women in either of the two grades, the Employment Judge held that distribution could not be equated with, or allowed to supplant pay. In other words, a distribution analysis on its own said nothing about pay. It might indicate a problem to be investigated, but on its own, it said nothing about actual differences in pay. More fundamentally, the distribution analysis ignored what EJ Snelson described as the “undisputed reality” that the average basic pay figures showed no significant long-term differences between the basic pay of men and women in either of the two grades, and was therefore not reliable and did not substantiate the case on particular disadvantage.

E 64. Mr Cooper criticises EJ Snelson’s statement at paragraph 44 that given this undisputed reality, insofar as there is the clustering phenomenon revealed by the distribution figures, “there must be a (more or less) counter-balancing advantage the other way, within and/or outside the relevant decile, quartile or other slice...”. He submits that this reveals a fundamental misunderstanding of the statistical evidence and a perverse conclusion; and the apparent discrepancy is explained by the distorting effect of bringing into account in the comparison of average pay, the non-variable part of pay. Again I do not accept these arguments. Where clustering occurs it is necessary to understand why and to prove (rather than assume) what if any effect it has on pay differentials. All EJ Snelson was saying here was that the distribution data must be masking something else in a case where the evidence showed only insignificant

A mean differentials in pay had occurred. That was not a conclusion without any evidence whatsoever to support it, as Mr Cooper submits. The evidence was the statistical data showing consistently low or marginal average total pay differences between men and women across the grades for London and nationally over the seven year period, that fell from 2.3% to 1.2% in Grade 7, and from 1.9% to 1.5% in Grade 6; and that, it was agreed, would narrow further in the next few years.

B

C 65. Nor, for similar reasons do I accept the challenge to the Employment Judge's conclusion at paragraph 45 that Dr Brown's evidence supported the conclusion that the evidence of differential distribution was statistically insignificant. The average total pay figures showed that particular disadvantage could not be established. As a result, the Claimants sought to rely principally on evidence relating to differential distribution (including analysis by reference to the chi-square approach). Dr Brown's evidence in chief and maintained in cross-examination, was that this was unreliable. It added nothing to the comparison of average basic pay because whichever method of dividing the pay range was adopted, the effect of doing so was merely to replace known continuous data regarding pay with less accurate data in the form of a range within which the actual figure sat. To make the assessment more accurate, average pay figures would have to be reintroduced, so that you would end up comparing average total basic pay. This was the only method that properly took account of actual basic pay and any gender differences.

D

66. Furthermore, in my judgment as already discussed, EJ Snelson was both entitled and correct to rely on total average pay rather than average variable pay for the reasons given above. Basic pay in this case is indivisible as he correctly held at paragraph 46.

E 67. It follows that EJ Snelson's reasons disclose no error of law or principle. He neither misunderstood the evidence nor reached perverse conclusions. Grounds 1 and 2 accordingly fail. This conclusion disposes of the Claimants' appeal.

F 68. Although they do not arise, I have been asked to express my views on the remaining issues in any event, and do so shortly.

Issues 3: Whether the 'Armstrong' line of cases survives Naeem

G 69. As indicated above, the judgment of the Supreme Court in Essop/Naeem holds that in a claim based on unlawful indirect discrimination,

- (i) once it has been established (whether by statistical evidence or otherwise) that a PCP places people with relevant protected characteristics at a particular disadvantage compared with others, that is sufficient to require objective justification by a respondent of its use of the PCP;
- (ii) it is irrelevant whether or not the reason why the PCP puts that group at a particular disadvantage is itself related to the protected characteristic;
- (iii) the only required causal link is between the PCP and the particular disadvantage.

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70. It is common ground that those principles apply equally to an equal pay claim based on indirect discrimination under s.69 EA 2010.

B

71. Accordingly, to the extent that the line of authority based on Armstrong v Newcastle upon Tyne NHS Hospital Trust [2006] IRLR 124, CA, has been understood as holding that it is open to a respondent to rebut a finding made of particular disadvantage by showing that the underlying reason for the particular disadvantage was not itself related to the protected characteristic in issue, it is inconsistent with the ratio of Essop/Naeem and can no longer be regarded as good law.

C

72. In my judgment however, as the parties agree, it remains open to a respondent to dispute a case of disparate disadvantage based on statistics by advancing an explanation or evidence to demonstrate that the statistics are not significant or that the result indicated by them is not significant. What a respondent cannot do once the statistics are shown to be sufficiently significant to prove particular disadvantage, is to seek to undermine that by requiring a claimant to prove the reason why that is so.

D

73. A correlation between the PCP and disadvantage is not the same as establishing a causal link. The link may be inherent in the PCP, but where it is not, it must be proved by statistics or otherwise. Essop/Naeem makes clear that there is a difference between the two (see [28]), and a causal link is required: see [25] and [33] where Baroness Hale DPSC held “The essential element is a causal connection between the PCP and the disadvantage suffered, not only by the group, but also by the individual.”

E

74. Accordingly, since EJ Snelson proceeded (understandably given the state of the law at the time and the parties’ shared approach) on the basis that even where particular disadvantage is made out on the statistical evidence, it was open to the Respondent to show that the disadvantage was wholly unrelated (indirectly) to sex, that was impermissible, and his decision on this issue could not have survived.

F

Issue 4: individual disadvantage

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75. The Respondent relies on an additional reason for dismissing the claim, namely that the Claimants could not have shown that they were placed at the same disadvantage as the group disadvantage if that had been established.

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76. In this regard, before the Employment Tribunal, the Respondent contended that the individuals had to share an underlying causal factor, or show some additional connection with women generally, such as short service as a result of childcare responsibilities, or having taken maternity leave, in order to meet this requirement. The argument was considered and rejected by EJ Snelson at paragraph 71 of the Judgment. I can detect no error in his approach. It is sufficient that the operation of length of service as a determinant of pay causes women

A disproportionately to be paid less than their male comparators, and causes each individual to be at the same disadvantage.

Conclusion

B 77. For the reasons given above Grounds 1 and 2 fail and are dismissed. Grounds 3 and issue 4 are strictly academic in those circumstances. To the extent that they were addressed by EJ Snelson, the approach to the ‘Armstrong’ line of cases is set out shortly above, and ground 3 would have succeeded, while issue 4 would have failed.

Annex 1: Agreed Facts

HMRC’s Pay System – Background

C 1. HM Treasury has overall responsibility for the Government’s public sector pay policy, which includes defining the overall parameters for Civil Service pay and budget for all government departments. Each year, HM Treasury publishes Civil Service Pay Guidance. For example, the 2010/11 guidance is at pages 1173-1203 of the hearing bundle.

D 2. Pay for delegated grades (AA to Grade 6) has been delegated to Government departments since 1996. In line with public sector pay policy, and therefore operating within the pay guidance set by HM Treasury, HMRC submits a pay remit proposal in relation to these grades to its Minister, which for HMRC is the Treasury Minister. Following approval of the total spending allocation, and under collective bargaining, HMRC negotiates the pay settlement with the two Departmental Trade Unions (collectively referred to in this statement as the ‘DTUS’), which are the Association of Revenue and Customs (ARC), which is a section of the First Division Association (FDA) and the Public and Commercial Services Union (PCS). Examples of submissions made to HMRC by PCS and ARC in relation to pay can be seen in the hearing bundle at pages 1227-1235 (PCS) and pages 1278-1284 (ARC). It is not essential for agreement to be reached with DTUS. In the absence of agreement, the pay settlement is implemented following discussion and consultation.

F 3. HMRC was formed in April 2005 by the merger of two separate Government departments, Inland Revenue (‘IR’) and HM Customs and Excise (‘C&E’). Following negotiations with the DTUS, a set of pay and other terms and conditions was implemented for staff in the new department. The new terms and conditions aligned the pay and grading systems of the former departments. They also involved an “assimilation exercise” in 2006 based upon the length of past satisfactory performance in the current grade. Further details about this assimilation exercise are given below.

Pre-merger pay structures

G 4. Prior to the merger in 2005, IR and C&E had separate delegated pay arrangements aligned with their own business needs, considering a range of factors including grading, location, staffing levels and business priorities.

Inland Revenue pay structure

H 5. As at April 2005 IR was the bigger department with approximately 77,000 people, compared to 24,000 in C&E (page 971AB).

A

6. IR's pre-merger grading structure mirrored the traditional Civil Service structure though the grades had different names. For example, Grade 7 was known as Band B2 and Grade 6 was Band B1.

B

7. IR's grading structure had a pay system that had:

- London and National pay zones;
- A two tier pay structure (with an upper and lower tier) and a 'pay target' within each band. The 'pay target' was 81% up the pay range for the National zone and 86% up the pay range for the London zone (page 950B), (See tables on pages 950F to 950I for details of the IR maxima, minima and pay targets between 2002 and 2004).

C

8. Annual pay awards payable from 1 August each year consisted of:

- A flat rate monetary basic performance award, the value the same for each individual in the pay band, and;
- A flat rate monetary progression award for staff below their maximum. The value of the award differed depending where an individual sat in the pay range (i.e. upper or lower tier, above or below pay target), and;
- A lump sum, non-consolidated additional award for satisfactory performers.

D

The pay offer for 2002-2004 can be seen in hearing bundle at pages 950A to 950I.

9. IR's pay system provided for guaranteed pay progression (subject to performance) for Bands B2 and B1 from the pay range minimum to the 'target rate' in 7 years, and from the 'target rate' to the pay range maximum in 5 years, i.e. 12 years in total to move from minimum to maximum. See page 950A paragraph 3.

E

10. The IR pay offer 2002-2004 document in the bundle shows (see table on page 950H) that following the 2004 pay award, so just prior to the merger:

- B2 National (Grade 7) pay range minimum was £37,630 and pay range maximum was £47,590;
- B2 London (Grade 7) pay range minimum was £42,250 and pay range maximum was £54,170;
- B1 National (Grade 6) pay range minimum was £45,670 and pay range maximum was £58,530;
- B1 London (Grade 6) pay range minimum was £51,320 and pay range maximum was £65,270.

F

11. The table on page 950AY shows pay range length for IR B1 and B2 grades at 2004 were:

G

- B2 National 26.5%
- B2 London 28.2%
- B1 National 28.2%
- B1 London 27.2%

H

Customs & Excise pay structure

12. C&E's grading system pre-merger did not align with the traditional Civil Service seven graded structure. From 1996 C&E had a twelve graded structure with junior and middle

A management grades (Administrative Assistant to Senior Officer) having both a general and technical band (Bands 1 to 10). Grade 7 and Grade 6 were not split and were Bands 11 and 12 respectively.

13. In 1996 C&E amalgamated Band 1 and 2 (for the Administrative assistant grade) so at April 2005 (the time of the merger) C&E had 11 pay bands numbered 2-12. (See table on page 950 AR, within the 2004 C&E pay settlement document)

B 14. C&E's grading structure was supported by a pay structure that had:

- London, National and other premium pay zones;
- An 'entry point rate' (pay range minimum) and a 'bonus point rate' (pay range maximum) for each of the 11 bands in the National pay zone (with higher entry point rate and bonus point rate for the London pay zone). The pay ranges were subject to annual review, and would increase according to C&E's reward strategy and available funds. (The terminology was changed to minimum and maximum in the 2004 pay offer: see page 950AU)
- In addition, Office Premium allowances were payable to individuals working in London, and in a few other hotspot locations which had recruitment or retention challenges.

C

D The C&E pay settlements for 2002 to 2004 can be seen in the bundle at pages 950Y to 950AY.

15. The annual pay awards payable from 1 June (see page 950AR for the 2004 award) consisted of:

- A salary-related percentage-based increase for Top and Good performers, with Less Effective performers receiving a lower award; and
- A flat rate monetary progression award for Top and Good performers (only if they were below their pay band maximum) and
- A non-consolidated non-pensionable lump sum award for Top performers

E

16. The salary-related percentage-based increase mirrored the increase applied to the pay range entry point and the bonus point rate. For example, in 2004 the pay range entry and bonus points (the minimum and maximum) were increased by 2.6%, so staff received an initial increase of 2.6% to their salary (i.e. before the addition of the progression award) to preserve their position within the pay range and thereby ensure that any 'progression award' would actually move them up to a higher position. C&E had an aim – but not a guarantee – that people would reach the bonus point of their pay band in around 9 years (see page 971AI). It is not known how long this took in practice at Band's 11 and 12 prior to the merger.

F

17. The 2004 C&E pay settlement document shows (see table on page 950AX) that following the 2004 pay award, i.e. just prior to the merger:

- Band 11 National (Grade 7) pay range minimum was £40,954 and pay range maximum was £48,285;
- Band 11 London (Grade 7) pay range minimum was £43,012 and pay range maximum was £50,711;
- Band 12 National (Grade 6) pay range minimum was £51,164 and pay range maximum was £60,322;
- Band 12 London (Grade 6) pay range minimum was £53,682 and pay range maximum was £63,292.

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A 18. It also shows the pay range length for C&E Band 11 and Band 12 (National and London) was 17.9% (see page 950AY).

19. The HMRC pay Remit 2005/6 to 2007/8 includes a table at page 971AW which shows both the 'existing' (2004) pay ranges for IR and C&E prior to the merger, and the 'proposed' (2005 to 2008) pay ranges for HMRC post-merger. This provides a useful summary and comparison of the grading and pay bands pre and post merger, showing how they differed.

B

HMRC's post-merger pay structure

C 20. A new set of pay, grading, terms and conditions were required for the newly merged HMRC as the former departments arrangements were so different, especially for C&E staff who would move from an eleven banded structure back to a traditional seven banded one. Transitional arrangements also had to be put in place.

D 21. The documents at pages 950BB to 971BJ of the bundle – in particular the HMRC Pay Remit 2005/6 to 2007/8 – date from 2005 and refer to the various pay options which were considered for the newly merged department, and those which were eventually put forward to the Paymaster General by HMRC. The pay structure options and proposals are summarised at Appendix B of the Remit document, on pages 971AA to 971BB.

E 22. Since 2005, the merged department has had seven grades below the Senior Civil Service, which reflects the traditional Civil Service grading structure (see page 980). Each of the seven grades has a London and a National pay band (see page 964), with the London pay band being on average 15% higher owing to the associated costs of living in London. Each pay band has a minimum and a maximum rate of pay, with no set points (such as milestones, or incremental increases) in between (see page 981 and the table on page 1172).

23. HMRC does not have contractual pay progression; movement up through the pay range for each grade is by annual pay awards, payable on 1 June. The value of these annual pay awards is not guaranteed, and varies each year, impacting on the rate at which a person's pay will increase during their time in grade.

F 24. HMRC operates a performance management system, where people receive an annual rating based on their performance at 31 March. Up to March 2013, the ratings were Top; Good; Improvement Needed and Poor Performance. Since 2005, the consolidated value of the pay award for both Top and Good performance was the same, so people progressed at the same rate if they joined on the same day and remained in the same grade and pay location (page 982). A person with an Improvement Needed mark received a lower award and those managed under Poor performance did not receive an award.

G 25. In April 2013, HMRC modified its performance management system, and the ratings are now Exceeded, Achieved, Must Improve and Poor Performance. The pay policy has not changed as a result, as both performance management systems have many similarities, although currently the value of the consolidated pay award is the same for Exceeded, Achieved and Must Improve performance.

H 26. HMRC employed 64,515 people as at 31 January 2015, of whom 3,010 (5% of the total workforce) were employed at Grade 7 and 1,262 (2% of the total workforce) were at the more senior Grade 6, being the two grades relevant to this case. For Grade 7, 2,027 employees were

A in the National pay band and 983 were in the London pay band as at 31 January 2015. For Grade 6, 718 were in the National pay band and 544 were in the London pay band as at 31 January 2015.

B 27. Between 1 April 2005 and 31 January 2015, HMRC reduced its total workforce by 40,155 from 104,670 to 64,515. However, during this period the number of Grade 7 staff increased from 2,424 to 3,010 (i.e. by 25%), and the number of Grade 6 staff also increased from 1,225 to 1,262 (i.e. by 3%).

HMRC pay awards

C 28. Historically, pay awards were agreed with HM Treasury as a multi-year settlement, often covering three years at a time. This practise ceased following the public sector pay freeze (see below), so pay awards are now settled on an annual basis. To be eligible for a pay award, a person must have been in post on 1 June of the settlement year, and have completed at least 91 days paid reckonable service in the appraisal year ending 31 March, with a performance mark of Top, Good or Improvement Needed (see pages 1038, 1104 and 1154).

2005/06 to 2007/08 settlement (pages 972-1019)

D 29. Before the merger, IR and C&E had very different terms and conditions, including pay and grading. Transitional arrangements to take effect from 1 June 2006 had been agreed with the DTUS and HM Treasury to align pay for staff from the two merging departments where there were unjustifiable differences. This was necessary because former C&E staff had moved from the traditional Civil Service seven-graded structure in 1996 to an eleven-graded structure, where grades AO, Officer, Higher Officer and Senior Officer had each been split into two grades. IR had maintained the traditional Civil Service seven-graded structure. (See page 980).
E In the interests of fairness, HMRC sought to ensure that, when staff transferred to the relevant new HMRC grade, their pay reflected the number of years of satisfactory or better performance in their equivalent 'old' grade as at 31 May 2006 (pages 951-971).

F 30. HMRC's first pay settlement was an average of 3.86% for each of the three years from 1 June 2005 to 31 May 2008, including an assimilation exercise in 2006. The settlement percentage reflects the amount that the paybill increased by, in total, though individual pay awards ranged from 0% - 10%.

G 31. The annual pay award (known as stage 1) was paid to all eligible staff on 1 June 2006 as normal practice, and was then followed by the assimilation exercise (stage 2), also on 1 June 2006. For the purposes of the assimilation exercise only, notional pay points and rates within each new pay range were set, establishing the minimum pay a person would receive for a given historical duration of satisfactory or better service, e.g. someone with 2 years satisfactory service (but less than three years) as at 31 May 2006 would move to the notional rate for point 2, if their pay, after the stage 1 pay award was below this notional rate. So a Grade 7 or 6 with at least 8 years satisfactory service could move to the maximum of the pay range, which was point 8 in the notional tables if their pay was still below the maximum after the pay award. If they were already being paid above the notional rate for their historical length of service, their pay remained the same. No-one received a pay cut on assimilation. (See pages 986, 998-9, 1001-2).
H

A 32. To ensure that the assimilation exercise did not disadvantage any particular group of staff, HMRC included all service in the equivalent grade including periods of maternity leave, both paid and unpaid, and career breaks (whether male or female). The exercise was intended to ensure parity of pay according to length of service for men and women from the two former departments (see pages 1017-1019).

B 33. A further assimilation exercise was repeated on a smaller scale for selected groups on 1 June 2007 (depending on when staff opted in to the arrangements).

34. The pay award in 2005 (i.e. for the year 2004-5, but paid out post-merger) maintained many of the elements of the two former departments, chiefly because individuals had had their performance assessed up to 31 March 2005 under their former department's arrangements, and with different performance management processes.

C 35. Former C&E Band 11's (Grade 7) and Band 12's (Grade 6) received their pay award on 1 June 2005 (under C&E's existing arrangements) and were paid a non-consolidated bonus. Former IR B2's (Grade 7) and B1's (Grade 6) received their pay award on 1 August 2005 (under IR's existing arrangements) and were paid an individual non-consolidated bonus if they received a Top performance rating.

D 36. As part of the HMRC terms and conditions it was agreed to introduce a common pay award settlement date of 1 June. This meant IR staff would receive their 2006 award just 10 months after they received their 2005 award so the amounts were amended to reflect this.

E 37. The next pay award, for 2005/6 – which formed part of the 2005-2008 3 year settlement – was the first year that all HMRC staff were assessed on their performance using a common performance management system. It was also the year when the first assimilation exercise was carried out.

2008/09 to 2010/11 Settlement (pages 1064-1073)

38. By 2008, pay band lengths had decreased from a combined IR/CE average of 38% (pre-merger) down to 23% (page 1025).

F 39. In 2008, the overall pay settlement from 1 June 2008 to 31 May 2011 was 2.4% for each of the three years, and in 2008/09 pay offer HMRC announced that for the 2009/10 and 2010/11 pay awards, greater priority would be given to progression and further range shortening (see page 1027). In 2008/09, the minima for all grades increased by 3% by 4.1% on average for 2009/10, and by 4.6% on average for 2010/11. The settlement was agreed by the trade union.

G 2011/12 to 2012/13 settlement (pages 1081-1087)

H 40. The Government announced a two year pay freeze for public sector workforces from 2011 for those earning above £21,000 per annum, which included all Grade 7s and Grade 6s. The immediate pay freeze applied to all organisations and departments in the Civil Service that had not entered into legally binding pay agreements. As HMRC had already agreed a pay settlement for 2010, the pay freeze took effect from June 2011 for staff in grades AA to Grade 6. (The Senior Civil Service had a pay freeze of three years from 1 April 2010 to 31 March 2013). Cabinet Office instructions to HR Directors on the implementation of this policy are set out at pages 1204-1212.

A

41. Details of HMRC's pay offer during the pay freeze, i.e for 2011/12 and 2012/13, covering the grades for staff earning less than £21,000, are set out at pages 1081-1087. Following the Government's Spending Review published in October 2010, in the 2011 Autumn Statement the Chancellor of the Exchequer announced that pay awards for the public sector would average 1% for the two years following the pay freeze – 2013/14 (see pages 1088 and 1129). This was later extended to three years, i.e. to 2015/16, in the 2013 Budget (see page 1131).

B

2013/14 settlement (pages 1133-1152)

C

42. For the 2013 pay award, which averaged 1%, the value of the award paid to people at the pay range maximum for all grades was 0.70%. Awards greater than 1% were paid to people below the maximum, which would provide them with some movement towards the maximum (see pages 1138-1142). The maximum was frozen. The award was implemented following discussion and consultation with DTUS, rather than negotiation, as they do not have a mandate to negotiate pay settlements below 3%.

2014/15 settlement (pages 1153-1171)

D

43. For the 2014 pay award, which again averaged 1%, the value of the award paid to people at the pay range maximum was 0.50% for Grade 7s and 6s, and 0.55% for other grades. Awards greater than 1% were paid to people below the maximum to provide them with some movement towards the maximum (see pages 1153 and 1168). The maximum of the pay range was frozen and the pay range minimum increased. For the first time, people on the 2013 minimum received the increase to the new minimum and then received the pay award. In previous years, the new minimum was applied after the pay award. As in the previous year, the award was implemented following discussion and consultation with DTUS rather than negotiation.

E

2015/16 settlement (pages 1172P-1172AD)

F

44. Details of the 2015/16 pay award are in the hearing bundle at pages 1172P to 1172AD.

45. The 1% average pay award applicable to the public sector workforce in 2013/14 and 2014/15 was extended to three years in the 2013 Budget (<https://www.gov.uk/government/speeches/budget-2013-chancellors-statement>), so it was also applied to HMRC's pay award for 2015/2016.

G

46. HMRC increased the pay range maximum for all grades by 0.5% in recognition of the fact that individuals on maximum had not received a consolidated pay increase for five years, since 2010.

H

47. The remainder of the sum available was used to pay awards of greater than 1% to individuals who were below maximum, to provide movement towards pay range maximum for each grade. Pages 1172P-1172AD. As in 2014, the minimum grade increase was applied before individual pay awards were added to ensure progression within grade.

48. As in the previous year the award was implemented following discussion and consultation with DTUS.

Annex 2: Data provided by parties to Employment Tribunal in various annexes

ANNEX G – Mean Base Pay Differentials

Table 1 – Grade 7

| Year | Data Date | London | | | National | | | Overall | | |
|------|------------|--------|--------|-----------------------------|----------|--------|-----------------------------|---------|--------|-----------------------------|
| | | Female | Male | Male to Female differential | Female | Male | Male to Female differential | Female | Male | Male to Female differential |
| 2009 | 30/09/2009 | 54,535 | 55,422 | 1.6% | 48,711 | 49,927 | 2.4% | 50,583 | 51,748 | 2.3% |
| 2010 | 30/09/2010 | 56,188 | 57,075 | 1.6% | 50,103 | 51,067 | 1.9% | 51,986 | 53,040 | 2.0% |
| 2011 | 30/09/2011 | 56,013 | 56,945 | 1.6% | 49,956 | 50,831 | 1.7% | 51,876 | 52,840 | 1.8% |
| 2012 | 30/09/2012 | 55,505 | 56,611 | 2.0% | 49,609 | 50,448 | 1.7% | 51,492 | 52,444 | 1.8% |
| 2013 | 30/09/2013 | 55,467 | 56,500 | 1.8% | 49,634 | 50,494 | 1.7% | 51,570 | 52,484 | 1.7% |
| 2014 | 30/09/2014 | 55,665 | 56,541 | 1.5% | 49,774 | 50,340 | 1.1% | 51,673 | 52,361 | 1.3% |
| 2015 | 30/09/2015 | 55,855 | 56,544 | 1.2% | 49,730 | 50,301 | 1.1% | 51,738 | 52,354 | 1.2% |

A B C D E F G H

Table 2 – Grade 6

| Year | Data Date | London | | | National | | | Overall | | |
|------|------------|--------|--------|-----------------------------|----------|--------|-----------------------------|---------|--------|-----------------------------|
| | | Female | Male | Male to Female differential | Female | Male | Male to Female differential | Female | Male | Male to Female differential |
| 2009 | 30/09/2009 | 67,782 | 70,130 | 3.3% | 61,727 | 62,845 | 1.8% | 64,657 | 65,929 | 1.9% |
| 2010 | 30/09/2010 | 69,614 | 71,559 | 2.7% | 63,440 | 64,413 | 1.5% | 66,372 | 67,387 | 1.5% |
| 2011 | 30/09/2011 | 69,521 | 71,472 | 2.7% | 63,229 | 64,331 | 1.7% | 66,188 | 67,313 | 1.7% |
| 2012 | 30/09/2012 | 68,881 | 70,635 | 2.5% | 62,468 | 63,910 | 2.3% | 65,519 | 66,775 | 1.9% |
| 2013 | 30/09/2013 | 68,810 | 70,311 | 2.1% | 62,128 | 63,651 | 2.4% | 65,246 | 66,463 | 1.8% |
| 2014 | 30/09/2014 | 68,425 | 70,233 | 2.6% | 62,251 | 63,404 | 1.8% | 65,085 | 66,248 | 1.8% |
| 2015 | 30/09/2015 | 68,444 | 69,840 | 2.0% | 62,268 | 63,140 | 1.4% | 65,029 | 66,023 | 1.5% |

Correct as at 25/02/2016 - Kerry Black

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Claimants' Consolidated Tables

Table 1a: Distribution women and men by quartile, Grade 7 London (Tables 1 – 2 replace the Tables at 1/120-1)

| Quartile | Year 2009 | | Year 2010 | | Year 2011 | | Year 2012 | | Year 2013 | | Year 2014 | |
|----------|-----------|--------|-----------|--------|-----------|--------|-----------|--------|-----------|--------|-----------|--------|
| | Male | Female | Male | Female | Male | Female | Male | Female | Male | Female | Male | Female |
| 1 | 41.03 | 53.88 | 37.68 | 51.81 | 40.32 | 54.04 | 45.65 | 61.76 | 48.66 | 63.95 | 42.39 | 53.81 |
| 2 | 16.15 | 15.10 | 15.46 | 12.85 | 14.06 | 12.50 | 12.61 | 10.46 | 15.71 | 12.89 | 22.64 | 24.62 |
| 3 | 14.62 | 9.39 | 15.70 | 12.05 | 14.75 | 11.03 | 12.17 | 9.15 | 5.36 | 5.26 | 8.70 | 6.35 |
| 4 | 28.21 | 21.63 | 31.16 | 23.29 | 30.88 | 22.43 | 29.57 | 18.63 | 30.27 | 17.89 | 26.27 | 15.23 |

Table 1b: Distribution women and men by quartile, Grade 7 National

| Quartile | Year 2009 | | Year 2010 | | Year 2011 | | Year 2012 | | Year 2013 | | Year 2014 | |
|----------|-----------|--------|-----------|--------|-----------|--------|-----------|--------|-----------|--------|-----------|--------|
| | Male | Female | Male | Female | Male | Female | Male | Female | Male | Female | Male | Female |
| 1 | 34.18 | 50.48 | 35.42 | 48.74 | 39.01 | 51.54 | 45.10 | 57.06 | 48.77 | 60.13 | 54.82 | 61.59 |
| 2 | 19.95 | 19.73 | 18.18 | 19.24 | 17.36 | 17.75 | 15.63 | 15.95 | 10.53 | 12.42 | 9.72 | 12.80 |
| 3 | 9.40 | 6.77 | 9.56 | 8.63 | 9.02 | 8.02 | 7.92 | 6.60 | 8.92 | 8.24 | 10.33 | 9.54 |
| 4 | 36.47 | 23.02 | 36.84 | 23.38 | 34.61 | 22.70 | 31.35 | 20.40 | 31.78 | 19.22 | 25.13 | 16.06 |

Table 2a: Distribution women and men by quartile, Grade 6 London

| Quartile | Year 2009 | | Year 2010 | | Year 2011 | | Year 2012 | | Year 2013 | | Year 2014 | |
|----------|-----------|--------|-----------|--------|-----------|--------|-----------|--------|-----------|--------|-----------|--------|
| | Male | Female | Male | Female | Male | Female | Male | Female | Male | Female | Male | Female |
| 1 | 17.07 | 31.62 | 16.73 | 30.28 | 17.19 | 30.99 | 25.26 | 37.72 | 28.13 | 41.84 | 26.54 | 44.04 |
| 2 | 8.94 | 12.50 | 7.97 | 15.49 | 8.20 | 15.20 | 9.12 | 8.98 | 12.19 | 12.24 | 16.36 | 16.97 |
| 3 | 10.16 | 17.65 | 9.96 | 13.38 | 9.77 | 12.68 | 8.07 | 17.37 | 6.56 | 7.65 | 7.72 | 9.17 |
| 4 | 63.82 | 38.24 | 65.34 | 40.85 | 64.84 | 40.14 | 57.54 | 35.93 | 53.13 | 38.27 | 49.38 | 29.82 |

Table 2b: Distribution women and men by quartile, Grade 6 National

| Quartile | Year 2009 | | Year 2010 | | Year 2011 | | Year 2012 | | Year 2013 | | Year 2014 | |
|----------|-----------|--------|-----------|--------|-----------|--------|-----------|--------|-----------|--------|-----------|--------|
| | Male | Female | Male | Female | Male | Female | Male | Female | Male | Female | Male | Female |
| 1 | 18.81 | 21.38 | 17.05 | 23.57 | 18.21 | 25.63 | 23.96 | 35.87 | 29.91 | 45.98 | 28.63 | 43.97 |
| 2 | 17.91 | 26.90 | 10.80 | 15.29 | 10.36 | 15.63 | 9.11 | 14.13 | 7.76 | 7.59 | 16.08 | 13.23 |
| 3 | 13.73 | 17.93 | 14.49 | 19.75 | 14.57 | 19.38 | 13.28 | 16.30 | 14.16 | 17.86 | 11.89 | 13.62 |
| 4 | 49.55 | 33.79 | 57.67 | 41.40 | 56.86 | 39.38 | 53.65 | 33.70 | 48.17 | 28.57 | 43.39 | 29.18 |

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Table 3: Summary of Chi-Square Values for Quartile Distribution of Grade 7
(Table 3-4: Replace the Tables at 1/124)

| Year | Value of Chi-Square | |
|------|---------------------|----------|
| | London | National |
| 2009 | 11.31 | 41.13 |
| 2010 | 12.81 | 34.44 |
| 2011 | 13.26 | 29.80 |
| 2012 | 20.14 | 29.36 |
| 2013 | 23.97 | 38.75 |
| 2014 | 21.31 | 26.78 |

Table 4: Summary of Chi-Square Values for Quartile Distribution of Grade 6

| Year | Value of Chi-Square | |
|------|---------------------|----------|
| | London | National |
| 2009 | 23.72 | 11.11 |
| 2010 | 23.08 | 11.54 |
| 2011 | 23.81 | 13.67 |
| 2012 | 23.31 | 20.55 |
| 2013 | 12.72 | 25.86 |
| 2014 | 24.26 | 21.23 |

Table 5a: Distribution women and men by decile, Grade 7 London (Tables 5-6: Replace the Tables at 1/125-6)

Please note, for the decile analyses, unlike for the quartile analyses, Dr. Hall did not carry out a new analysis with the amended 2013 and 2014 data (see page 177Y) – that new data was provided due to some inaccuracies in the 2013 data and because more up-to-date data had become available for 2014 (i.e. September, rather than March data, to accord with the data point for the other years). The analysis which was carried out by Dr Hall on the unamended data at 1/125-6 is included. In these consolidated tables for completeness in red font.

| Decile | 2009 | | 2010 | | 2011 | | 2012 | | 2013 | | 2014 | |
|--------|-------|--------|-------|--------|-------|--------|-------|--------|-------|--------|-------|--------|
| | Male | Female | Male | Female | Male | Female | Male | Female | Male | Female | Male | Female |
| 1 | 28.21 | 38.37 | 27.78 | 39.76 | 30.65 | 41.91 | 36.74 | 50.00 | 26.95 | 35.04 | 33.46 | 41.48 |
| 2 | 9.49 | 11.43 | 4.11 | 3.61 | 3.69 | 4.78 | 3.26 | 4.90 | 18.75 | 24.26 | 17.29 | 21.70 |
| 3 | 11.54 | 10.61 | 9.18 | 10.84 | 9.22 | 9.93 | 8.48 | 9.15 | 6.05 | 8.63 | 6.02 | 8.24 |
| 4 | 2.56 | 1.63 | 10.14 | 8.43 | 8.99 | 8.09 | 8.26 | 6.54 | 5.47 | 4.04 | 4.70 | 3.85 |
| 5 | 5.38 | 6.94 | 1.93 | 2.01 | 1.84 | 1.84 | 1.52 | 1.63 | 6.45 | 4.31 | 6.02 | 4.12 |
| 6 | 9.74 | 6.12 | 6.04 | 6.43 | 5.53 | 5.88 | 4.57 | 4.90 | 0.98 | 1.08 | 0.94 | 0.27 |
| 7 | 0.77 | 0.00 | 9.42 | 5.22 | 8.99 | 4.78 | 7.39 | 3.92 | 4.10 | 3.77 | 3.57 | 3.02 |
| 8 | 4.62 | 3.27 | 0.72 | 0.40 | 0.69 | 0.74 | 0.65 | 0.33 | 5.47 | 3.50 | 5.08 | 3.02 |
| 9 | 4.62 | 2.86 | 3.62 | 3.21 | 3.69 | 3.31 | 3.70 | 2.29 | 0.39 | 0.00 | 0.19 | 0.00 |
| 10 | 23.08 | 18.78 | 27.05 | 20.08 | 26.73 | 18.75 | 25.43 | 16.34 | 25.39 | 15.36 | 22.74 | 14.29 |

Table 5b: Distribution women and men by decile, Grade 7 National

| Decile | 2009 | | 2010 | | 2011 | | 2012 | | 2013 | | 2014 | |
|--------|-------|--------|-------|--------|-------|--------|-------|--------|-------|--------|-------|--------|
| | Male | Female | Male | Female | Male | Female | Male | Female | Male | Female | Male | Female |
| 1 | 24.90 | 35.78 | 30.58 | 41.01 | 34.50 | 44.54 | 41.04 | 50.77 | 27.54 | 34.37 | 36.18 | 40.82 |
| 2 | 4.83 | 7.93 | 0.47 | 0.54 | 0.45 | 0.51 | 0.63 | 0.61 | 20.21 | 24.29 | 18.13 | 21.96 |
| 3 | 7.88 | 10.25 | 8.38 | 13.13 | 7.78 | 11.95 | 6.77 | 10.58 | 3.29 | 5.43 | 2.93 | 4.96 |
| 4 | 11.05 | 10.83 | 4.84 | 4.50 | 4.74 | 4.10 | 4.27 | 3.83 | 3.10 | 4.13 | 2.84 | 4.09 |
| 5 | 5.46 | 5.42 | 9.33 | 8.81 | 8.91 | 8.19 | 8.02 | 7.21 | 4.61 | 3.49 | 3.82 | 3.23 |
| 6 | 4.70 | 3.09 | 4.84 | 4.68 | 4.62 | 4.44 | 4.06 | 3.37 | 5.55 | 5.43 | 4.80 | 5.21 |
| 7 | 1.02 | 2.13 | 0.35 | 0.72 | 0.34 | 0.51 | 0.52 | 0.61 | 3.20 | 2.33 | 2.93 | 2.11 |
| 8 | 4.07 | 1.74 | 4.37 | 3.42 | 4.06 | 3.24 | 3.33 | 2.76 | 4.32 | 3.23 | 3.29 | 2.11 |
| 9 | 5.21 | 4.45 | 4.01 | 2.16 | 3.83 | 2.05 | 3.54 | 1.99 | 0.19 | 0.65 | 0.09 | 0.62 |
| 10 | 30.88 | 18.38 | 32.82 | 21.04 | 30.78 | 20.48 | 27.81 | 18.25 | 28.01 | 16.67 | 24.98 | 14.89 |

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Table 6a: Distribution women and men by decile, Grade 6 London

| Decile | 2009 | | 2010 | | 2011 | | 2012 | | 2013 | | 2014 | |
|--------|-------|--------|-------|--------|-------|--------|-------|--------|-------|--------|-------|--------|
| | Male | Female | Male | Female | Male | Female | Male | Female | Male | Female | Male | Female |
| 1 | 8.94 | 21.32 | 9.96 | 36.62 | 10.94 | 23.24 | 20.70 | 31.14 | 16.61 | 20.94 | 19.81 | 27.50 |
| 2 | 6.10 | 7.35 | 3.19 | 2.82 | 2.73 | 3.52 | 0.70 | 4.19 | 8.31 | 16.23 | 8.31 | 16.00 |
| 3 | 4.47 | 8.09 | 4.38 | 3.52 | 4.30 | 9.15 | 5.26 | 7.78 | 4.47 | 5.24 | 5.11 | 5.00 |
| 4 | 2.44 | 4.41 | 5.58 | 8.45 | 6.64 | 6.34 | 6.32 | 4.79 | 5.11 | 6.81 | 5.75 | 6.50 |
| 5 | 4.07 | 2.94 | 1.59 | 2.82 | 1.56 | 4.93 | 1.40 | 4.19 | 4.47 | 3.66 | 4.47 | 3.50 |
| 6 | 4.47 | 11.03 | 4.38 | 4.93 | 3.52 | 2.82 | 3.16 | 2.99 | 1.60 | 3.66 | 1.28 | 3.50 |
| 7 | 3.66 | 5.88 | 4.78 | 6.34 | 4.69 | 7.75 | 4.21 | 7.19 | 2.88 | 2.62 | 2.88 | 2.50 |
| 8 | 4.88 | 1.47 | 1.20 | 7.75 | 1.56 | 3.52 | 1.40 | 2.99 | 3.51 | 7.33 | 3.51 | 6.50 |
| 9 | 11.38 | 11.03 | 3.98 | 4.23 | 3.91 | 2.82 | 3.51 | 2.99 | 1.92 | 2.62 | 1.92 | 2.50 |
| 10 | 49.59 | 26.47 | 60.96 | 22.54 | 60.16 | 35.92 | 53.33 | 31.74 | 51.12 | 30.89 | 46.96 | 26.50 |

Table 6b: Distribution women and men by decile, Grade 6 National

| Decile | 2009 | | 2010 | | 2011 | | 2012 | | 2013 | | 2014 | |
|--------|-------|--------|-------|--------|-------|--------|-------|--------|-------|--------|-------|--------|
| | Male | Female | Male | Female | Male | Female | Male | Female | Male | Female | Male | Female |
| 1 | 12.54 | 15.86 | 11.93 | 17.83 | 12.61 | 20.00 | 17.71 | 29.35 | 16.85 | 29.26 | 21.11 | 34.17 |
| 2 | 3.88 | 2.07 | 2.27 | 2.55 | 2.80 | 2.50 | 3.65 | 3.80 | 10.11 | 13.54 | 9.78 | 13.33 |
| 3 | 2.99 | 4.14 | 5.68 | 4.46 | 5.60 | 5.00 | 4.95 | 4.35 | 2.92 | 2.18 | 3.11 | 2.08 |
| 4 | 5.67 | 13.79 | 3.41 | 3.18 | 3.08 | 3.13 | 2.60 | 3.26 | 4.94 | 3.49 | 4.44 | 3.33 |
| 5 | 11.64 | 12.41 | 4.55 | 10.83 | 4.48 | 10.63 | 4.17 | 9.24 | 2.25 | 3.93 | 1.78 | 3.33 |
| 6 | 3.28 | 8.28 | 10.23 | 11.46 | 10.36 | 11.25 | 9.64 | 9.24 | 5.17 | 6.55 | 3.11 | 6.25 |
| 7 | 6.57 | 4.14 | 3.41 | 7.64 | 3.36 | 7.50 | 3.13 | 6.52 | 8.31 | 9.17 | 9.78 | 7.92 |
| 8 | 6.57 | 8.28 | 1.42 | 1.27 | 1.40 | 1.25 | 1.04 | 1.09 | 2.47 | 4.37 | 3.11 | 4.17 |
| 9 | 8.36 | 6.21 | 9.09 | 8.92 | 8.96 | 8.75 | 8.59 | 7.07 | 3.15 | 2.18 | 2.44 | 2.08 |
| 10 | 38.51 | 24.83 | 48.01 | 31.85 | 47.34 | 30.00 | 44.53 | 26.09 | 43.82 | 25.33 | 41.33 | 23.33 |

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Table 7: Summary of Chi-Square Values for Decile Distribution of Grade 7

Tables 7-8: Replace the Tables at 129

Please note, for the decile analyses, unlike for the quartile analyses, Dr Hail did not carry out a new analysis with the amended 2013 and 2014 data (see page 177Y) – that new data was provided due to some inaccuracies in the 2013 data and because more up-to-date data had become available for 2014 (i.e September, rather than March data, to accord with the data point for the other years). The analysis which was carried out by Dr Hall on the unamended data at 1/125-6 is included in these consolidated tables for completeness in red font

| Year | Value of Chi-Square | |
|------|---------------------|----------|
| | London | National |
| 2009 | 14.11 | 48.78 |
| 2010 | 14.91 | 39.84 |
| 2011 | 15.42 | 34.84 |
| 2012 | 22.02 | 34.44 |
| 2013 | 25.92 | 47.73 |
| 2014 | 21.85 | 44.92 |

Table 8: Summary of Chi-Square Values for Decile Distribution of Grade 6

| Year | Value of Chi-Square | |
|------|---------------------|----------|
| | London | National |
| 2009 | 34.25 | 23.31 |
| 2010 | 74.75 | 20.62 |
| 2011 | 30.43 | 22.80 |
| 2012 | 30.00 | 28.40 |
| 2013 | 25.80 | 31.81 |
| 2014 | 28.45 | 34.22 |

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Table 9a: Distribution women and men by quartile, Grade 6 National
 Tables 9-10: Replace the Tables at 1/177AK-L

| Quartile | Year 2009 | | Year 2010 | | Year 2011 | | Year 2012 | | Year 2013 | | Year 2014 | |
|-------------|-----------|--------|-----------|--------|-----------|--------|-----------|--------|-----------|--------|-----------|--------|
| | Male | Female | Male | Female | Male | Female | Male | Female | Male | Female | Male | Female |
| 25% & below | 41.03 | 53.88 | 37.68 | 51.81 | 40.32 | 54.04 | 45.65 | 61.76 | 48.66 | 63.95 | 42.39 | 53.81 |
| 50% & below | 57.18 | 68.98 | 53.14 | 64.66 | 54.38 | 66.54 | 58.26 | 72.22 | 64.37 | 76.84 | 65.04 | 78.43 |
| 75% & below | 71.79 | 78.37 | 68.84 | 76.71 | 69.13 | 77.57 | 70.43 | 81.37 | 69.73 | 82.11 | 73.73 | 84.77 |
| 76% & above | 28.21 | 21.63 | 31.16 | 23.29 | 30.88 | 22.43 | 29.57 | 18.63 | 30.27 | 17.89 | 26.27 | 15.23 |

Table 9b: Distribution women and men by quartile, Grade 7 National

| Quartile | Year 2009 | | Year 2010 | | Year 2011 | | Year 2012 | | Year 2013 | | Year 2014 | |
|-------------|-----------|--------|-----------|--------|-----------|--------|-----------|--------|-----------|--------|-----------|--------|
| | Male | Female | Male | Female | Male | Female | Male | Female | Male | Female | Male | Female |
| 25% & below | 34.18 | 50.48 | 35.42 | 48.74 | 39.01 | 51.54 | 45.10 | 57.06 | 48.77 | 60.13 | 54.82 | 61.59 |
| 50% & below | 54.13 | 70.21 | 53.60 | 67.99 | 56.37 | 69.28 | 60.73 | 73.01 | 59.30 | 72.55 | 64.54 | 74.40 |
| 75% & below | 63.53 | 76.98 | 63.16 | 76.62 | 65.39 | 77.30 | 68.65 | 79.60 | 68.22 | 80.78 | 74.87 | 83.94 |
| 76% & above | 36.47 | 23.02 | 36.84 | 23.38 | 34.61 | 22.70 | 31.35 | 20.40 | 31.78 | 19.22 | 25.13 | 16.06 |

Table 10a: Distribution women and men by quartile, Grade 6 London

| Quartile | Year 2009 | | Year 2010 | | Year 2011 | | Year 2012 | | Year 2013 | | Year 2014 | |
|-------------|-----------|--------|-----------|--------|-----------|--------|-----------|--------|-----------|--------|-----------|--------|
| | Male | Female | Male | Female | Male | Female | Male | Female | Male | Female | Male | Female |
| 25% & below | 17.07 | 31.62 | 16.73 | 30.28 | 17.19 | 30.99 | 25.26 | 37.72 | 28.13 | 41.84 | 26.54 | 44.04 |
| 50% & below | 26.02 | 44.12 | 24.70 | 45.77 | 25.39 | 47.19 | 34.39 | 46.70 | 40.31 | 54.08 | 42.90 | 61.01 |
| 75% & below | 36.18 | 61.76 | 34.66 | 59.15 | 35.16 | 59.37 | 42.46 | 64.07 | 46.88 | 61.73 | 50.62 | 70.18 |
| 76% & above | 63.82 | 38.24 | 65.34 | 40.85 | 64.84 | 40.14 | 57.54 | 35.93 | 53.13 | 38.27 | 49.38 | 29.82 |

Supplementary Table 10b: Distribution women and men by quartile, Grade 6 National

| Quartile | Year 2009 | | Year 2010 | | Year 2011 | | Year 2012 | | Year 2013 | | Year 2014 | |
|-------------|-----------|--------|-----------|--------|-----------|--------|-----------|--------|-----------|--------|-----------|--------|
| | Male | Female | Male | Female | Male | Female | Male | Female | Male | Female | Male | Female |
| 25% & below | 18.81 | 21.38 | 17.05 | 23.57 | 18.21 | 25.63 | 23.96 | 35.87 | 29.91 | 45.98 | 28.63 | 43.97 |
| 50% & below | 36.72 | 48.28 | 27.84 | 38.85 | 28.57 | 41.25 | 33.07 | 50.00 | 37.67 | 53.57 | 44.71 | 57.20 |
| 75% & below | 50.45 | 66.21 | 42.33 | 58.60 | 43.14 | 60.63 | 46.35 | 66.30 | 71.43 | 72.05 | 56.61 | 70.82 |
| 76% & above | 49.55 | 33.79 | 57.67 | 41.40 | 56.86 | 39.38 | 53.65 | 33.70 | 48.17 | 28.57 | 43.39 | 29.18 |