
Chair of the UK Statistics Authority, Sir Michael Scholar KCB

Rt. Hon Harriet Harman QC MP
Minister for Women and Equality
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11 June 2009

Dear Minister

GOVERNMENT EQUALITIES OFFICE PRESS RELEASE: 27 APRIL 2009

I am writing to you about the Government Equalities Office (GEO) Press Release on the Equality Bill, issued on 27 April, which states that women are paid on average 23 per cent less per hour than men.

GEO's headline estimate of the difference between the earnings of women compared with men (generally referred to as the gender pay gap) is some 10 percentage points higher than the 12.8 per cent figure quoted by the Office for National Statistics (ONS). Yet both estimates are derived from the same source, the 2008 Annual Survey of Hours and Earnings (ASHE). Such a difference in headline estimates is likely to confuse the general public. The Statistics Authority is concerned that this may undermine public trust in official statistics.

I understand that there has been a dialogue between ONS and GEO on the presentation of women's earnings figures in the context of Equality issues and that the National Statistician has agreed to look at the way the gender pay gap is presented in ONS statistical bulletins. Work on this is planned for later this year and will be used to inform the content of ONS's statistical bulletin on the results of the 2009 ASHE, due in November 2009.

In the meantime, I enclose a copy of a note that the Statistics Authority will shortly publish on its website. This clarifies why figures as different as 12.8 per cent and 23 per cent have been used and explores different options for presenting the gender pay gap in an impartial and objective way.

The note explains that the figure of 23 per cent quoted in the GEO press release relates to the median hourly earnings of all employees (full-time and part-time combined) whereas ONS's figure of 12.8 per cent is based on the difference in the median hourly earnings of full-time employees only. Neither measure is entirely satisfactory as an impartial and objective headline estimate. The former rolls together the quite different levels of hourly earnings for part-time and full-time employees; while the latter excludes the earnings of around one quarter of all employees.

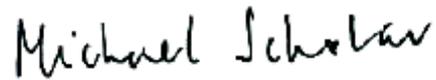
These considerations suggest the need for a more extensive set of measures to present the differences between the earnings of men and women. Indeed, it is the Statistics Authority's

view that use of the 23% on its own, without qualification, risks giving a misleading quantification of the gender pay gap.

I trust that you will find this note of value pending the further work that ONS is planning on this issue later this year.

I am copying this letter to the National Statistician, Karen Dunnell

Yours sincerely

A handwritten signature in black ink that reads "Michael Scholar". The signature is written in a cursive, slightly slanted style.

Sir Michael Scholar KCB

M&A Note 4/2009
11 June 2009

Gender Pay Gap

Executive Summary

The gender pay gap refers to the difference between the earnings of women compared with men. In a press release issued on 27 April 2009 the Government Equalities Office (GEO) quote a headline estimate of the gender pay gap of 23 per cent. This compares with a headline estimate of 12.8 per cent presented by the Office for National Statistics (ONS). Both estimates are based on the 2008 Annual Survey of Hours and Earnings (ASHE).

Both the GEO and the ONS headline estimates of the gender pay gap are based on median hourly earnings excluding overtime. Hourly earnings are preferred to weekly or annual earnings because they exclude differences that arise from men and women working different numbers of hours over the week and over the year. Overtime hours are excluded because men work relatively more overtime than women. The median measure of average earnings is a better indicator of typical pay than the mean because it is less affected by a relatively small number of very high earners and the skewed distribution of earnings.

The two headline measures of the gender pay gap differ because the ONS measure is based on the earnings of full-time employees only whereas the GEO measure is based on all employees, full-time and part-time employees combined. There is a 10 percentage point gap between these two measures because a larger proportion of women work part-time compared with men and median hourly earnings for part-time employees are lower than for full-time employees.

Neither measure of the gender pay gap is entirely satisfactory as an impartial and objective headline estimate. The GEO measure, based on all employees, rolls together the quite different levels of hourly earnings for part-time and full-time employees. The ONS measure, based on full-time employees only, excludes the earnings of around one quarter of all employees. These considerations suggest the need for a more extensive set of measures to present the differences between the earnings of men and women rather than using any single headline measure of the gender pay gap.

There has been an ongoing dialogue between ONS and GEO on the presentation of women's earnings figures in the context of Equality issues. The National Statistician has agreed to look at the way the gender pay gap is presented in ONS statistical bulletins. Work on this is planned for later this year and will be used to inform the content of ONS's statistical bulletin on the results of the 2009 ASHE, due in November 2009.

Introduction

1. The gender pay gap refers to the difference between the earnings of women compared with men. The larger the gap, the greater the concerns that women's work is undervalued compared with men's and that statutory requirements for equal treatment of men and women in the labour market are not being observed.
2. On 27 April 2009 the Government Equalities Office (GEO) issued a Press Release for the publication that day of the Equalities Bill. The Release stated that women are paid on average 23 per cent less per hour than men and presented this as evidence of inequality and discrimination in the labour market.
3. The 23 per cent figure was based on the 2008 Annual Survey of Hours and Earnings (ASHE) produced by the Office for National Statistics (ONS). Yet the headline estimate of the gender pay gap in ONS's own release for 2008 ASHE is 12.8 per cent, considerably lower than the 23 per cent figure quoted by the GEO.
4. There has been an ongoing dialogue between ONS and GEO on the presentation of women's earnings figures in the context of Equality issues. The National Statistician has agreed to look at the way the gender pay gap is presented in ONS releases. Work on this is planned for later this year and will be used to inform the content of the release for the results of the 2009 ASHE, due in November 2009. In the meantime, the purpose of this Monitoring and Assessment (M&A) note is to clarify why figures as different as 12.8 per cent and 23 per cent have been used and to explore different options for presenting the gender pay gap in an impartial and objective way.

Measures of the Gender Pay Gap

5. ONS's release for the 2008 ASHE explains that there is no single 'correct' measure of the gender pay gap and there are various ways in which this can be measured. ONS's headline estimate of the gender pay gap is based on the hourly earnings of full-time employees only, excludes overtime and uses median rather than mean earnings. The gender pay gap is calculated as the difference between these hourly earnings for men and for women expressed as a percentage of men's hourly earnings. The following sections consider how the estimate of the gender pay gap differs depending which of the following measures are adopted:
 - (a) the median or the mean measure of average earnings;
 - (b) earnings for full-time employee jobs only, or for full-time and part-time employee jobs combined; and
 - (c) inclusion or exclusion of overtime and hourly, weekly or annual earnings

The median or the mean measure of average earnings

6. The ONS's headline estimate of the gender pay gap in 2008 is 12.8 per cent. This is based on median hourly earnings, excluding overtime, for full-time employees. The 2008 ASHE release also provides a separate estimate of the pay gap based on mean earnings rather than median earnings. The mean measure shows the gender pay gap as being 17.1 per cent in 2008. Table 1 below presents the data that lies behind these two measures¹.

¹ Tables in this note generally show percentage figures that have been calculated on the basis of rounded, published numbers. The only exception is the median gender pay gap of 12.8 per cent which is taken from the 2008 ASHE release, and which has been calculated on the basis of unrounded numbers. A figure of 12.7 per cent is obtained if rounded figures are used.

Table 1: Hourly pay - excluding overtime - full-time employee jobs*: United Kingdom, 2008

		Men	Women	Gender pay gap
Hourly pay excluding overtime	Median	£12.50	£10.91	12.8%
	Mean	£15.54	£12.88	17.1%

* employees on adult rates whose pay for the survey pay-period was not affected by absence

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

7. The release justifies ONS's preference for the median measure as follows:

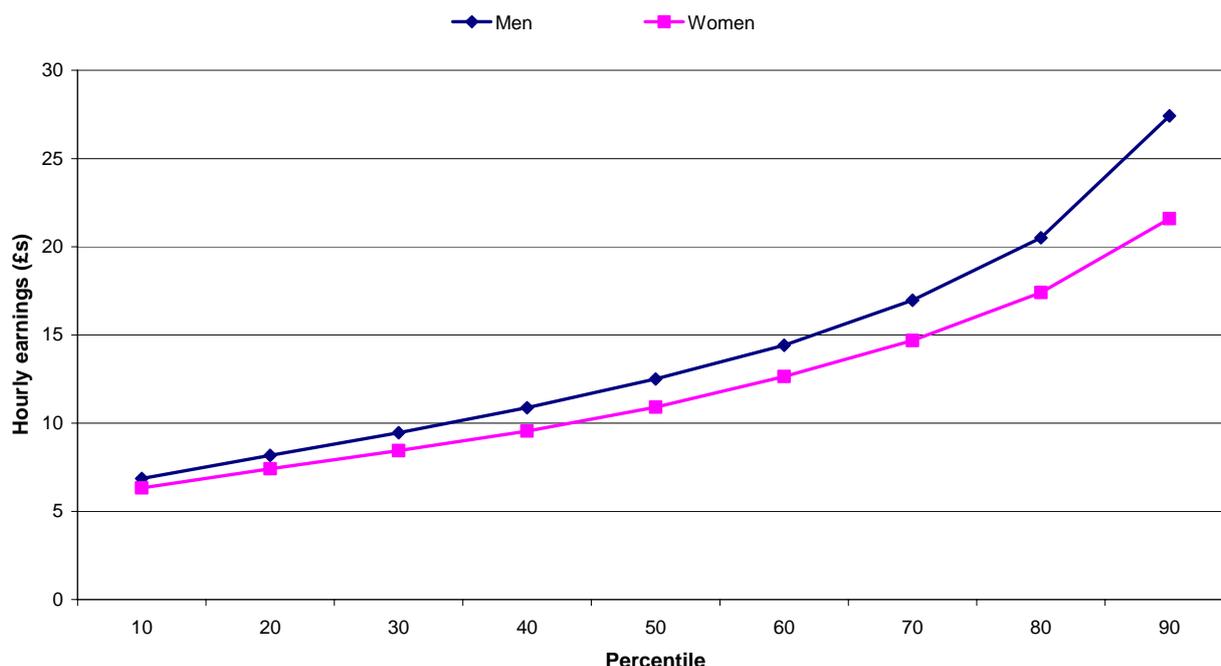
"The median is ONS's preferred measure of average earnings as it is less affected by a relatively small number of very high earners and the skewed distribution of earnings. It therefore gives a better indication of typical pay than the mean."

8. The European Commission's *Report on Equality between Men and Women 2008* includes a table showing the gender pay gap. This appears to be based on the mean rather than the median estimate of hourly earnings. The Equality and Human Rights Commission (EHRC) has produced an *Equal Pay Position Paper* which states that its preference is also to use the mean rather than the median measure for the gender pay gap. This approach is supported in a TUC report *Closing the Gender Pay Gap, An update report for TUC's women's conference 2008*, which provides the following justification for preferring the mean measure:

"Part of the story about pay inequality is that women are over-represented at one extreme of the distribution and men are over-represented at the other extreme; this means that gaps calculated using the median under-state the size of the problem."

9. We agree with the ONS that the median provides a better indication of typical pay than the mean because of the distorting effect that very high earners can have on the mean. Presenting the mean measure of the gender pay gap alongside the median can provide useful complementary information, although it should be accompanied by clear and helpful commentary. Where mean earnings are significantly higher than median earnings, this may provide evidence of the earnings distribution being skewed by very high earners. However, insofar as differences in the distribution of men's and women's pay is an important part of the gender pay gap story, this can be illustrated more directly through percentile earnings rather than through mean earnings. Chart 1 provides an example of this, showing hourly earnings for full-time employees for men and women and illustrating how the gender pay gap widens at higher earnings levels.

Chart 1: Hourly earnings excluding overtime for full-time employees, 2008



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

Full-time only versus full-time and part-time combined

10. ONS's 12.8 per cent headline estimate of the gender pay gap is based on median hourly earnings, excluding overtime, for full-time employees only. However, the 23 per cent gender pay gap quoted in the GEO Press Release is based on all employees (full-time and part-time employees combined). Table 2 below presents the numbers that lie behind these two estimates.

Table 2: Median hourly earnings, excluding overtime*: United Kingdom, 2008

	Men	Women	All	gender pay gap
Full-time	£12.50	£10.91	£11.87	12.8%
Part-time	£7.26	£7.51	£7.49	-3.4%
All	£11.97	£9.27	£10.53	22.6%
Gap between full-time and part-time pay	41.9%	31.2%	36.9%	

* employees on adult rates whose pay for the survey pay-period was not affected by absence

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

11. The reason for the 10 percentage point gap between these two measures is that a larger proportion of women work part-time compared with men and median hourly earnings for part-time employees are lower than for full-time employees. Table 3² below shows that 41 per cent of women employees work part-time compared with 10 per cent of men. Table 2 above shows

² Table 3 is based on data from the Labour Force Survey (LFS) which provides a more accurate estimate of the number of people in employment than the Annual Survey of Hours and Earnings (ASHE). The employment estimates presented in this note are broadly similar to estimates based on 2008 ASHE

that median hourly earnings for part-time employees are 36.9 per cent lower than for full-time employees.

Table 3: Number of full-time and part-time employees (thousands)* by sex: United Kingdom, April to June 2008

Seasonally adjusted

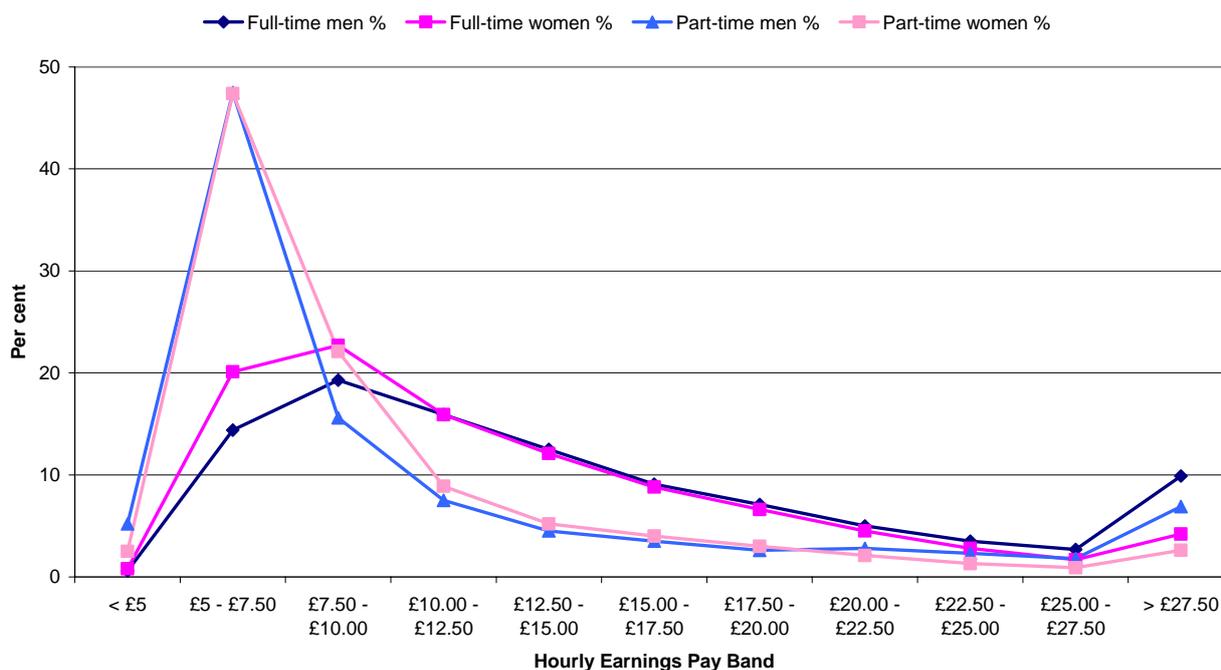
	Men	Women	All	% women
Full-time	11,692	7,332	19,024	39%
Part-time	1,353	5,067	6,420	79%
All	13,045	12,399	25,444	49%
% working part-time	10%	41%	25%	

* figures are for employees and do not include full-time and part-time second jobs. The split between full-time and part-time employees is based on respondents' self-classification

Source: Labour Force Survey, Office for National Statistics

12. Given that full-time employees account for around three quarters of all employees, there is a question-mark over whether it is appropriate to adopt a single headline estimate of the gender pay gap that is based on full-time employees only. We also have concerns over a headline estimate of the gender pay gap based on all employees (full-time and part-time employees combined) when presented in isolation. While such a measure has the advantage of covering all employees, it has the disadvantage of rolling together the quite different levels of hourly earnings for part-time and full-time employees. Table 2 reports a pay gap between full-time and part-time employees of 31.2 per cent for women and 41.9 per cent for men, with men accounting for around one fifth of all part-time employees (table 3). This suggests that there is a part-time factor at play that is distinct from gender but which is influencing the reported 23 per cent gender pay gap for all employees.
13. Chart 2 provides further evidence of the distinct influence that part-time earnings have on the 23 per cent estimate of the gender pay gap. The chart shows the proportion of employees that fall into different earnings bands for full-time men, full-time women, part-time men and part-time women. The chart shows a similar distribution across pay bands for full-time men and full-time women, although the proportion of women is higher than for men amongst the lower rates of pay and lower than for men amongst the higher rates of pay. The chart also shows a fairly similar distribution across pay bands for women and men in part-time jobs.
14. Chart 2 shows a markedly different distribution across pay bands for full-time employees compared with part-time employees. Around 50 per cent of part-time employees have hourly earnings below £7.50 compared with 17 per cent of full-time employees. This difference suggests that the use of median hourly earnings for all employees as an indicator of typical hourly earnings is potentially misleading because the typical hourly earnings of part-time employees are quite different from the typical hourly earnings of full-time employees. It follows that an estimate of the gender pay gap based on median hourly earnings for all employees is likely to provide a misleading measure of the typical difference between the earnings of women compared with men.

Chart 2: Distribution of Employee Proportions by Earnings Band, 2008



Source: *Annual Survey of Hours and Earnings, Office for National Statistics*³

15. These considerations suggest that it would be preferable to present separately the gender pay gap for part-time employees and for full-time employees rather than to present a single estimate based on the combined hourly earnings of full-time and part-time employees. This would allow a more complete, impartial and objective summary of the difference between men's and women's pay.
16. These considerations point towards the need for a more extensive set of measures to present the differences between the earnings of men and women in an impartial and objective way rather than relying on any single headline measure of the gender pay gap.
17. The EHRC *Equal Pay Position Paper* refers to a gender pay gap for women working part-time of 35.6 per cent. This is substantially higher than in table 2, which shows a negative gender pay gap for part-time women of -3.4 per cent. The EHRC measure appears to follow the approach adopted in the TUC report⁴ which presents a part-time gender pay gap measure that is based on the difference between the mean hourly earnings of women part-time employees and of men full-time employees. The TUC report justifies the use of this measure as follows:

“The Office for National Statistics recommends against including part-time employees in the calculation of the gap, because women are far more likely to work part-time than men. But ... lower pay in part-time jobs is an important part of the story of unequal pay for men and women, so we quote a part-time gender pay gap figure to supplement the full-time figure.”
18. While we see value in providing a range of measures to present the differences between the earnings of women compared with men, a gender pay gap that compares the hourly earnings of women part-time employees with men full-time employees needs particularly careful explanation and justification if it is not to mislead.

³ Chart 2 is based on an unpublished table of data that the ONS has extracted from the 2008 ASHE

⁴ *Closing the Gender Pay Gap, An update report for TUC's women's conference 2008*

Inclusion or exclusion of over-time and hourly, weekly or annual earnings

19. Table 4 below presents a number of different estimates of the gender pay gap based on median earnings for full-time employees. The first two rows show that the gender pay gap for hourly earnings is fairly similar, around 13 per cent, whether overtime is included or excluded. For gross weekly pay, rows 3 and 4 show that the estimate of the gender pay gap increases to 17 per cent when overtime is excluded and to 21 per cent when overtime is included. Row 5 shows a gender pay gap of 22 per cent for annual gross pay.

20. ONS's 2008 ASHE release justifies its preference for a gender pay gap measure for median hourly earnings that excludes overtime because:

“Including overtime can distort the picture as men work relatively more overtime than women.”

21. We agree with this approach for presenting differences between the pay of women compared with men. We also agree with ONS's use of hourly earnings rather than weekly or annual earnings because hourly earnings exclude differences that arise from men and women working different numbers of hours over the week and over the year.

Table 4: Median earnings for full-time employee jobs*: United Kingdom, 2008

	Men	Women	Gender pay gap
1 Hourly pay, excluding overtime	£12.50	£10.91	12.8%
2 Hourly pay, gross	£12.62	£10.92	13.5%
3 Weekly pay excluding overtime	£486	£403	17.2%
4 Weekly pay, gross	£521	£412	21.0%
5 Annual pay gross	£27,500	£21,447	22.0%

* employees on adult rates whose pay for the survey pay-period was not affected by absence

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

Limitations of measures of the Gender Pay Gap

22. The 2008 ASHE release states the following:

“Although median and mean hourly pay excluding overtime provide useful comparisons of men's and women's earnings, they do not reveal differences in rates of pay for comparable jobs. This is because such measures do not allow for the different employment characteristics of men and women, such as the proportion in different occupations and their length of time in jobs.”

23. We agree with these important qualifying remarks which highlight some of the limitations of summary measures of the gender pay gap and the difficulties in providing a complete like-for-like comparison between men's and women's earnings. Although the estimates of the gender pay gap presented in this paper have value, they do not control for certain factors such as occupation and length of time in jobs which are likely to have a differential impact on the earnings of women and of men. These limitations need to be borne in mind when considering the extent to which measures of the gender pay gap provide evidence of inequality and discrimination in the labour market.

References

2008 Annual Survey of Hours and Earnings

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European Commission Report on equality between women and men 2008

http://ec.europa.eu/employment_social/publications/2008/keaj08001_en.pdf

TUC report Closing the Gender Pay Gap, An update report for TUC's women's conference 2008

<http://www.tuc.org.uk/equality/tuc-14435-f0.pdf>

Equalities and Human Rights Commission Equal pay position paper

http://www.equalityhumanrights.com/en/policyresearch/briefings/Documents/EHRC_Equal_pay_policy_paper_mar09.doc