Analysis of Pay Trends in the Civil Service

Draft Report for the Public and Commercial Services Union

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Executive Summary

- Pay trends are sensitive to inflation indicator. Given this report explores trends as far back as five decades ago, for which no HCI (the most accurate inflation indicator) data are available, this report uses both the RPI and CPI (two of the most widely-used indicators), with the former taken as an upper-bound and the latter as a lower-bound estimate of inflation.

- Civil Service wages have dramatically eroded in real terms due to persistent below-inflation pay rises. Depending on the inflation indicator used, at best, real wages in 2023 were at where they were two decades ago. At worst, they were back to where they were four decades ago.

- Wage growth in the Civil Service has persistently lagged economy-wide wage growth for almost half a century. The Civil Service has gone from an above average-paying occupation in the 1970s and 1980s to a below average-paying one thereafter.

- The Civil Service's experience has tended to be less favourable than in comparable public sector occupations as well. When comparing the experience of the Civil Service to the rest of the public sector, wage growth during the 1980s and 1990s was much weaker, but wage erosion from below-inflation pay rises since 2010 has been similar. However, averages conceal the true erosion in the Civil Service as lower-paying grades have been proportionately declining and higher-paying grades expanding, to an extent offsetting declining average wages.

- Since 2010, median annual pay has fallen between 15 and 38 per cent in the Civil Service, depending on the grade and inflation indicator. Around half of the erosion in pay since 2010 occurred in the period of high inflation since the pandemic.

- To restore annual pay to 2010 levels, pay rises in the order of 18 to 62 per cent would be needed, depending on the grade and inflation indicator. Even to just restore pay to 2020 levels, pay rises in the order of 11 to 27 per cent would be needed, depending on the grade and inflation indicator.

- To restore annual pay to 2010 levels for the three largest grades—Senior Higher and Executive, Executive, and Administrative Officers—pay rises of 38, 39, and 27 per cent respectively would be needed. Even to just restore pay of these grades to 2020 levels, pay rises of 17, 21, and 15 per cent respectively would be needed.

- The gender pay gap in median annual earnings was substantial in 2023 (9.1 per cent) although it has narrowed since 2007. The disability pay gap was also substantial (8. 4 per cent) and has widened over time.

- Although the share of the Civil Service who are women (now the majority), have an ethnic minority background, or declare a disability, has increased over time, these groups are all underrepresented in the higher grades and overrepresented in the lower grades.

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Introduction

The purpose of this report is to present a detailed account of pay trends in the Civil Service. The structure of the report is as follows. The first section covers inflation indicators and the data. The second section explores aggregate pay trends in the public and private sectors. The third section focuses on comparison in trends between the Civil Service and the rest of the public sector. The fourth section examines disaggregated pay trends by Civil Service grade. The final section explores trends by several protected characteristics (sex, ethnicity, disability, sexual orientation, and age).

1. Inflation indicators and data overview

When analysing pay trends, it is necessary to adjust for inflation. Inflation measures changes in the cost of goods and services from one period to another. How these changes are aggregated and which goods and services are included vary from one inflation indicator to another. The three most widely-used are the Retail Price Index (RPI), the Consumer Price Index (CPI), and the CPI including owner occupiers' housing costs (CPIH). The RPI has been in use since 1947 but it was replaced by the CPI as the ONS' headline inflation indicator in the last decade. In 2017, the CPI was in turn replaced by the CPIH as ONS' headline inflation indicator. The CPI, however, is still used by the government as its main indicator for inflation targeting, state benefits and pensions upratings, and other purposes.

The ONS still releases RPI data as it is frequently used outside of the ONS and government. Depending on the aim, the RPI seemingly has some advantages over both the CPI and CPIH. For instance, it includes mortgage and student loan interest payments, which the CPI and CPIH do not, so is arguably a better indicator of changes in the cost of living. The RPI also excludes the top 4% of households from its calculations, thereby producing arguably a better indicator of the typical household than the CPI and CPIH, as it is less distorted by richer households, which account for a disproportionate fraction of overall spending.

One major drawback of the RPI, however, and one of the main reasons why it was stripped of its 'official statistic' status in 2013, is a technical issue termed the 'formula effect'. The RPI uses the arithmetic mean in the first stage of aggregation to combine prices, whereas the CPI and CPIH use the geometric mean. In effect, this means that if the price of goods and services fall back to the original level of an earlier period, the RPI will still be positive, even though no price increases occurred between the two periods. The ONS estimates the formula effect typically accounts for around 0.7 percentage points of the difference between the RPI and the CPIH (ONS 2018), implying some of the reason why the RPI has tended to run higher than the CPI and CPIH is purely a methodological artefact.

The ONS recently developed the Household Cost Indices (HCI) which do not have the same issues as the RPI, but unlike CPI and CPIH, the HCI includes mortgage and student loan interest payments, so is a more accurate indicator of changes in the cost of living. It also uses a different weighting method to the CPI and CPIH such that it provides a better indicator of households' experience of inflation. The main innovation of the HCI is they provide a different index for different household types and income levels. Although relatively new, these improvements over existing indicators have led it to being backed by the Royal Statistical Society as the most appropriate changes in the cost of living indicator (RSS 2022). I too would recommend the use of HCI too to adjust for inflation as it is the most statistically accurate reflection of changes in workers' cost of living available. A major drawback of the HCI, however, given it was only developed in the last two years, is that the ONS have only produced statistics beginning in 2006, ruling out its use in more historical analyses.

Choice of indicator is an important consideration in analysing pay trends as trends are sensitive to the indicator used. Table 1 shows annual inflation since 2006 according to five different indicators. To illustrate the impact of choice of inflation indicator more clearly in monetary values, Table 2 shows what £100 in 2005 would be worth in subsequent years for each indicator. As is well-known, among the three main indicators, the RPI generally runs highest, the CPIH lowest, with the CPI in between. Interestingly, the RPI with the formula effect removed (let's call it the Recalculated RPI, RRPI) is very close to the HCI, which is the arguably

the best indicator for the purposes of understanding the impact of changes in the cost of living for workers. The RRPI and the HCI tend to fall between the RPI and the CPI.

Table 1. Inflation since 2006 according to five different indicators (%s)

	RPI	CPI	CPIH	RRPI	HCI
2006	3.2	2.3	2.5	2.8	3.2
2007	4.3	2.3	2.4	3.9	3.7
2008	4.0	3.6	3.5	3.6	4.0
2009	-0.5	2.2	2.0	-0.9	0.7
2010	4.6	3.3	2.5	4.0	3.5
2011	5.2	4.5	3.8	4.5	4.7
2012	3.2	2.8	2.6	2.6	2.9
2013	3.0	2.6	2.3	2.4	2.5
2014	2.4	1.5	1.5	1.7	1.5
2015	1.0	0.0	0.4	0.3	-0.1
2016	1.8	0.7	1.0	1.0	0.7
2017	3.6	2.7	2.6	2.8	2.7
2018	3.3	2.5	2.3	2.7	2.5
2019	2.6	1.8	1.7	2.0	2.0
2020	1.5	0.9	1.0	0.8	0.6
2021	4.1	2.6	2.5	3.2	2.5
2022	11.6	9.1	7.9	10.8	10.1
2023	9.7	7.3	6.8	9.2	10.2*
Average	*3.8*	*2.9*	*2.7*	*3.2*	*3.2*

Note: Data comes from ONS (various). *2023 HCI based on January to September 2023 data and not full-year.

Table 2. Value of £100 in 2005 in later years according to different inflation indicators (£s)

	RPI	CPI	CPIH	RRPI	HCI
2005	100	100	100	100	100
2006	96.8	97.7	97.5	97.2	96.8
2007	92.6	95.5	95.2	93.4	93.2
2008	88.9	92.0	91.8	90.0	89.5
2009	89.4	90.0	90.0	90.9	88.9
2010	85.3	87.0	87.7	87.2	85.8
2011	80.8	83.1	84.4	83.3	81.7
2012	78.2	80.8	82.2	81.1	79.4
2013	75.9	78.7	80.3	79.2	77.4
2014	74.1	77.5	79.1	77.8	76.2
2015	73.3	77.5	78.8	77.6	76.3
2016	72.0	77.0	78.0	76.8	75.8
2017	69.4	74.9	76.0	74.7	73.7
2018	67.1	73.0	74.2	72.7	71.9
2019	65.4	71.7	73.0	71.2	70.4
2020	64.4	71.0	72.2	70.6	70.0
2021	61.8	69.2	70.4	68.4	68.3
2022	54.6	62.9	64.9	61.0	61.4
2023	49.3	58.3	60.5	55.4	55.1*
Percentage point change 2005 to 2023	*-50.7*	*-41.7*	*-39.5*	*-44.6*	*-44.9*

Note: Data comes from ONS (various). *2023 HCI based on January to September 2023 data and not full-year.

Table 2 implies there is around a 9 percentage point difference in the decline in value of £100 by 2023 between the RPI and the CPI. The difference is even larger with the CPIH, but about half the difference in the case of both the RRPI and HCI. Although the HCI is the best indicator available, historical data of it (and the

RRPI) for longer term analysis are still not available. Therefore, this report acknowledges the caveats of both the RPI and the CPI but will use them in tandem as upper and lower bound estimates respectively of the trends explored. In places, it will used the midpoint of the RPI and the CPI.

Two main data sources are used in this report. The first is the New Earnings Survey (NES) and Annual Survey of Hours and Earnings (ASHE). NES (in digitised form) ran from 1975 and was subsumed into ASHE in 1997, creating a long-running timeseries to 2023.[i] NES/ASHE is based on a 1% sample of employee jobs taken from HM Revenue and Customs' (HMRC's) Pay As You Earn (PAYE) records. NES/ASHE is considered the most authoritative earnings dataset of its kind because it is an employer survey drawing on payroll data, with sampled employers having to fill it out by law. This means the data are likely of higher quality than household surveys, where nonresponse and item nonresponse on earnings are higher, and earnings are possibly measured with greater error. The second data source used is the Annual Civil Service Employment Surveys (ACSES), a survey of all Civil Service organisations conducted by the Office for National Statistics (ONS) until 2018, when it was transferred to the Cabinet Office. The main advantage of the ACSES is that is a more reliable indicator of pay trends in the Civil Service than NES/ASHE given that it is not possible to cleanly identify all Civil Service jobs in the NES/ASHE and its Civil Service sample sizes are smaller. Additionally, it provides a much finer level of detail such as Civil Service grade and employer. However, ACSES data are only available from 2007, hence the need to also draw upon NES/ASHE for longer term trends. ACSES and NES/ASHE are not strictly comparable but together provide the best possible portrait of pay rends in the Civil Service from 1975 to 2023.

2. Long term pay trends in the Civil Service

This section presents pay trends in the Civil Service 1975 to 2023 drawing on NES/ASHE data. It focuses on mean hourly wages (weekly pay excluding overtime divided by weekly hours excluding overtime) to standardise for differences in hours worked across time and occupations, and to remove the impact of variable components of pay (including bonuses). Detailed occupation codes were used to identify Civil Service jobs.[ii]

Figure 1 shows mean hourly wages for the Civil Service and the whole labour market, adjusted for both the RPI (Panel A) and the CPI (Panel B). After a period of real term wage erosion in the late 1970s (when inflation was persistently double digits), the Civil Service (and the wider labour market) experienced two decades of sustained, uninterrupted, real terms wage growth. This was then followed by a long period of wage stagnation and decline since the mid-2000s, the severity of which depends on whether one views trends through the RPI or the CPI.

The trends for specifically the Civil Service are more clearly exhibited in Panel C, which shows the ratio of real hourly wages in subsequent years to what they were in 1975. According to the CPI, by the mid- to late-2000s, Civil Service wages were around 60 per cent higher in real terms than in 1975. Real term wages cuts since 2010 eroded these gains to 50 per cent higher than their 1975 levels in 2023. The story is markedly different in terms of the RPI, where the real term wage cuts since 2010 completely eroded any wage gains from earlier decades, resulting in wages which are now lower than what they were in 1975.

Panel D explores how average Civil Service wages compare to overall average wages to provide a different angle on the relative gains and losses of average wages in the Civil Service over time i.e., the relative position of the position of the Civil Service in the wider pay distribution. In the mid-1970s to late-1980s, the Civil Service was an above average occupation in terms of wages—paying around 5 per cent more. By the mid-1990s, average Civil Service wages had slumped to 5 per cent lower than the average wage. By the 2000s, relative wages were 10 per cent lower than the overall average. Although there were large real terms wage gains during the 1980s and 1990s, there also were wage gains across the whole labour market, which in fact were larger than those experienced in Civil Service, hence the falling relative position of the occupations' wages. Although the period since the financial crisis at the end 2000s has meant stagnating or falling wages
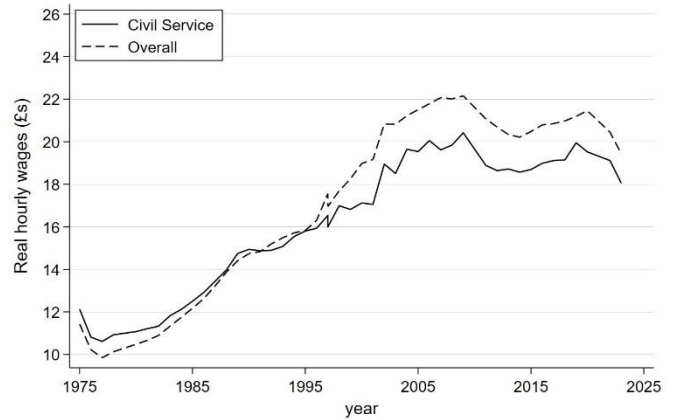
for most workers, not just those in the Civil Service, Panel D shows that this was more severe in the Civil Service than in the wider labour market.

Figure 1. Trends in mean hourly wages 1975 to 2023

Panel A. RPI-adjusted
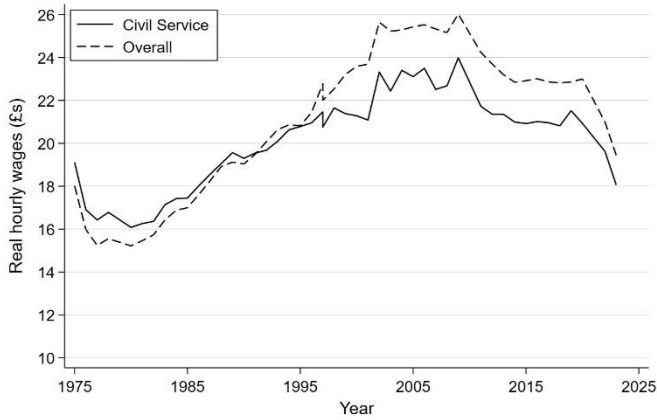
Panel B. CPI-adjusted

Panel C. Relative to 1975 Civil Service wages
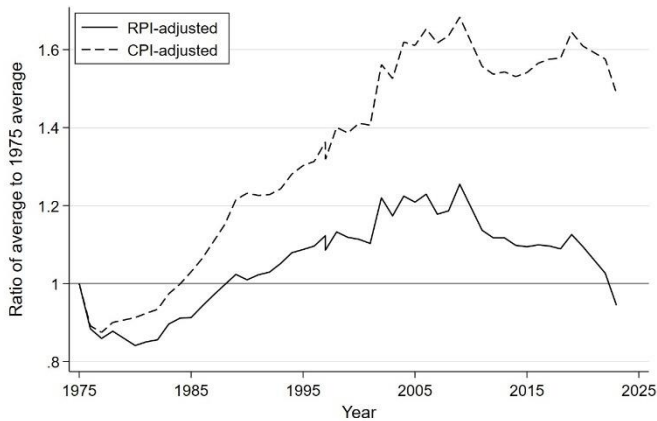
Panel D. Relative to overall average wages
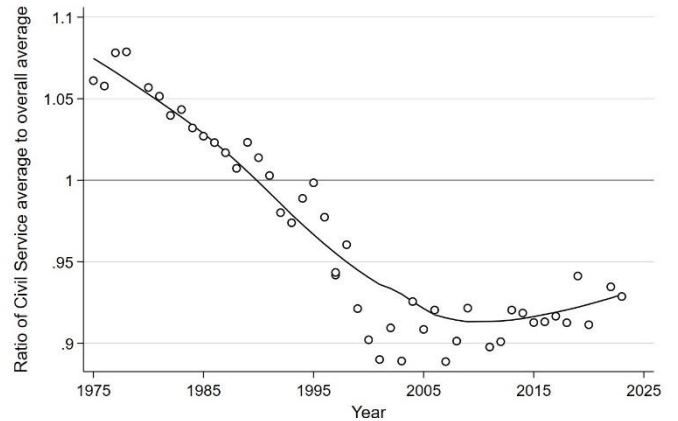
Note: Data comes from NES/ASHE.

In terms of relative pay, the Civil Service has gone from an above average-paying occupation in the 1970s and 1980s, to a below-paying one thereafter. In terms of real wages, trends depend on the choice of inflation indicator. At best (according to the CPI), Civil Service real wages are now back to what they were during Tony Blair's first term in Downing Street (late 1990s). At worst (according to the RPI), real wages are back to what they were when James Callaghan was in office (mid-1970s).

Finally, Table 3 estimates the pay rises that would be needed to restore 2023 pay to levels in earlier years. Again, the inflation indicator is critical. The RPI suggests Civil Service pay during the mid-1970s and from mid-1980s onwards was much higher than it was in 2023, whereas the CPI suggests Civil Service pay was lower in all years prior to the early 2000s. Therefore, pay restoration to 1975 would imply a substantial pay cut according to the CPI, but a pay rise of 5.9 per cent would be needed according to the RPI. Assuming the midpoint between the RPI and the CPI is most reflective of underlying changes in the cost of living, pay rises in the region of 12 per cent would be needed to restore pay to 2020 levels (8.1 to 15.9) and in the region of 23 per cent to restore pay to 2010 levels (13.2 to 32.9).

Table 3. Pay rise required to restore mean annual FTE pay to earlier levels

	Mean annual FTE pay (£s)
Panel A. RPI-adjusted	

1975	36,777
2000	44,872
2010	46,148
2020	40,269
2023	34,736
Pay rise required to restore 2023 pay to 1975 pay (%)	5.9
Pay rise required to restore 2023 pay to 2000 pay (%)	29.2
Pay rise required to restore 2023 pay to 2010 pay (%)	*32.9*
Pay rise required to restore 2023 pay to 2020 pay (%)	*15.9*
Panel B. CPI-adjusted	
1975	23,340
2000	36,457
2010	39,288
2020	37,560
2023	34,736
Pay rise required to restore 2023 pay to 1975 pay (%)	*N/A*
Pay rise required to restore 2023 pay to 2000 pay (%)	*5.0*
Pay rise required to restore 2023 pay to 2010 pay (%)	*13.2*
Pay rise required to restore 2023 pay to 2020 pay (%)	*8.1*

Note: Data comes from NES/ASHE. FTE pay is derived from hourly pay assuming a 37 hours working week.

3. Pay trends within the public sector

This section explores how pay trends compare in the Civil Service relative to those experienced in the rest of the public sector based on NES/ASHE data.[iii] Figure 2 shows trends in mean hourly wages excluding overtime since 1975 for the Civil Service and several comparable public sector occupations. These occupations have been chosen as their pay is broadly comparable to that of the Civil Service, have broadly similar qualification requirements, they are relatively straightforward to identify using the occupational classifications in the NES/ASHE, and they are relatively large occupations, ensuring more reliable estimates. These other occupations show similar overall trends to the Civil Service and economy-wide wages observed earlier of generally sustained real terms wage growth in the 1980s and 1990s followed by a period of stagnation and decline since 2010. It is noteworthy that police and especially nurses pulled away from the Civil Service, experiencing much stronger wage growth during the 1980s and 1990s. All four occupations experienced real terms wage cuts since 2010 such that the fanning out in wages between these occupations during the 1980s and 1990s narrowed by the pandemic era, reducing inequalities between them.

Figure 2. Trends in mean hourly wages of selected public sector occupations 1975 to 2023

Panel A. RPI-adjusted   Panel B. CPI-adjusted
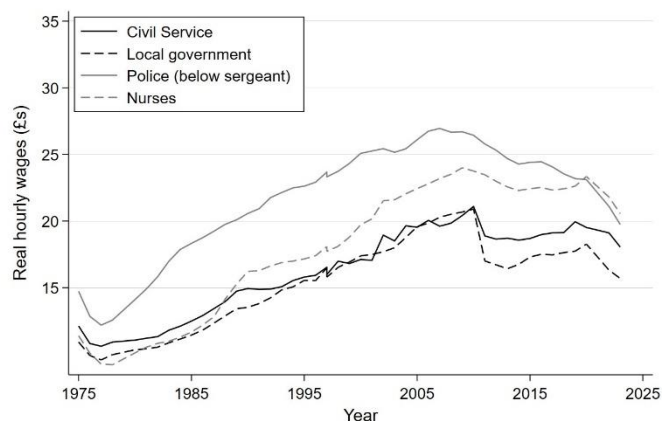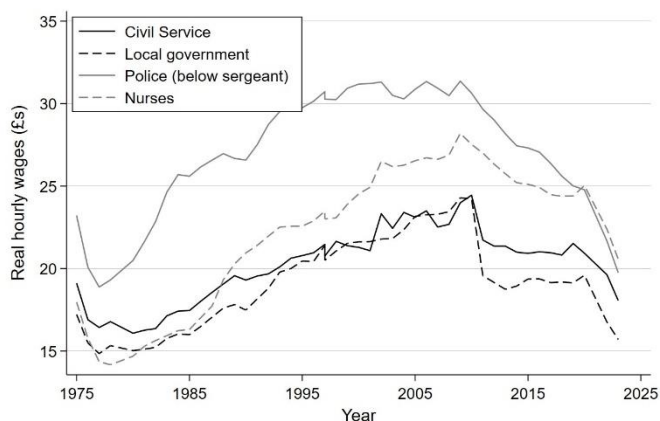
Note: Data comes from NES/ASHE.

To more clearly see the changing relative fortunes of these four occupations over time, Figure 3 shows the ratio of real hourly wages in subsequent years to what they were in 1975 for each of them. It is apparent that although all four occupations saw sustained real terms wage growth in the 1980s and 1990s, it was by far weakest in the Civil Service. For instance, at peak relative wages in 2010, Civil Service wages were around 40 per cent higher than what they were in 1975 (20 to 60 according to the RPI and CPI respectively), whereas nurses' wages were 130 per cent higher than in 1975 (60 to 200 according to the RPI and CPI respectively).

Figure 3. Trends in hourly wages relative to their 1975 levels of selected public sector occupations 1975 to 2023

Panel A. RPI-adjusted   Panel B. CPI-adjusted
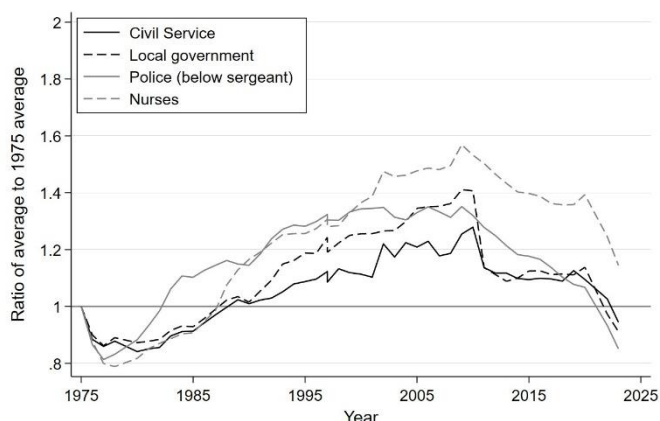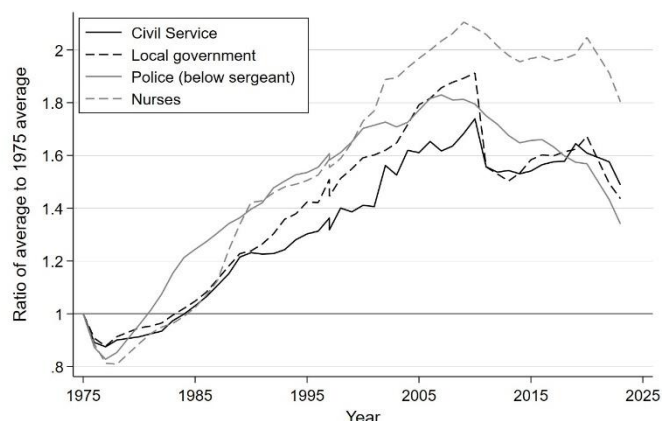
Note: Data comes from NES/ASHE.

Since 2010, with the exception of nurses—whose relative position is improved the most and declined the least—the wage erosion of local government and police is slightly more severe than that experienced in the Civil Service. However, it must be stated that these occupations also experienced relatively larger wage gains in the 1980s and 1990s such that there were there were more gains to subsequently be eroded. For instance, by 2010, wages were 60 per cent higher in real terms (40 to 80 according to the RPI and CPI) than 1975 in local government and police, compared to around 40 per cent higher in the Civil Service (20 to 60) over the same period.

4. Pay trends by Civil Service grade

This section analyses pay trends using ACSES aggregated statistical tabulations published by the ONS and the Cabinet Office. Figure 4 shows median annual pay trends since 2007. Using a different dataset, a different pay definition, and different measure of central tendency (the median, which is usually lower than the mean), the trends are similar to those observed in NES/ASHE for the same period. The changes in monetary

terms are also similar broadly similar if converted to an hourly basis. That is, after rising to a peak in 2010, pay was lower in real terms by 2023 than at any point in the preceding period due to annual pay rises falling below inflation, with particularly sharp reductions coming the pandemic era of very high inflation. The extent of the pay erosion observed depends on the inflation indicator used. According to the RPI, median annual pay was about £39,740 in 2010 and it was £34,250 according to the CPI. By 2023, pay had fallen to £31,920. This represents an erosion relative to 2010 of as low as 7 per cent according to the CPI and as high as 20 per cent according to RPI, with the 'true' drop (assuming these are lower and upper bound estimates) falling somewhere in between i.e., around 13 per cent. However, as this report goes on to show, the overall median is a somewhat misleading statistic which understates the depth of real terms pay erosion due to the changing composition of the Civil Service over this period.

Figure 4. Trends in median annual pay in the Civil Service 2007 to 2023
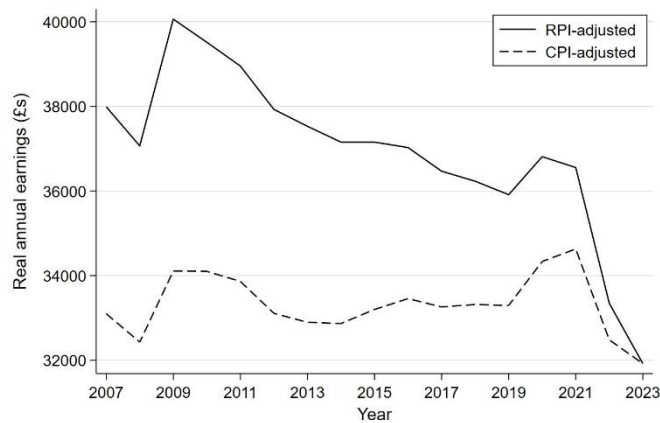
Note: Data comes from ACSES.

Figure 5. Civil Service employment by grade 2007 to 2023

Panel A. Headcounts by different grade
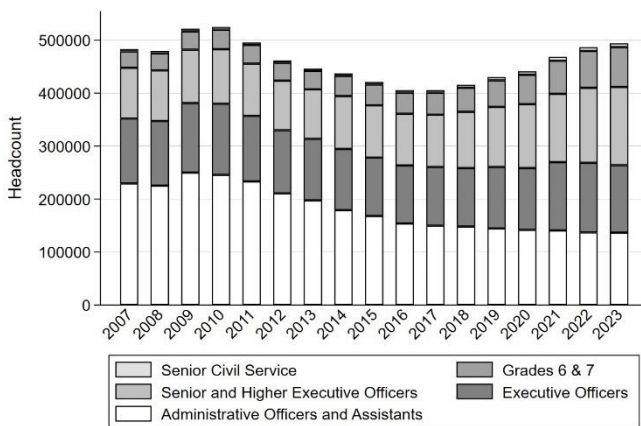
Panel B. Proportions by different grade
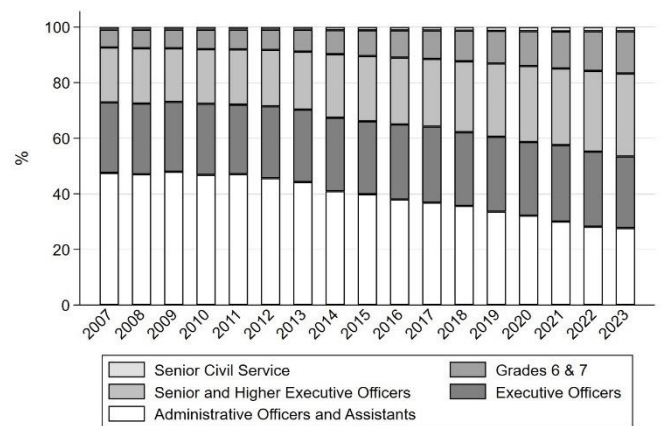
Note: Data comes from ACSES.

Given the changing composition of the Civil Service over time, the median Civil Service employee has likely changed. As can be seen in Figure 5, between 2010 and 2017, there was a massive reduction in Civil Service employment of around 100,000 employees (Panel A). Numbers have recovered somewhat since, but remain below the 2010 peak. The job cuts were mostly to Administrative Officers and Assistants (the lowest-paying grade). The jobs recovery has mostly come from growing numbers in Senior and Higher Executive Officers and Grades 6 and 7 (higher-paying grades). Panel B makes the changing relative proportions of different grades clearer. The median (middle) earner is now more likely to be an Executive Officer than an Administrative Officer and Assistant after 2010 because of these compositional changes. Thus, focusing just

on the overall median understates the true erosion of pay in the Civil Service, which is evident when the figures are broken down by grade and is examined next. This also means that the comparison with other public sector occupations earlier understated the severity of pay cuts in the Civil Service relative to the public sector and wider labour market, unless these occupations also underwent a similar 'hollowing out' of lower-paying grades.

Figure 6. Trends in median annual pay by in the Civil Service by grade 2007 to 2023

Panel A. RPI-adjusted

Panel B. CPI-adjusted
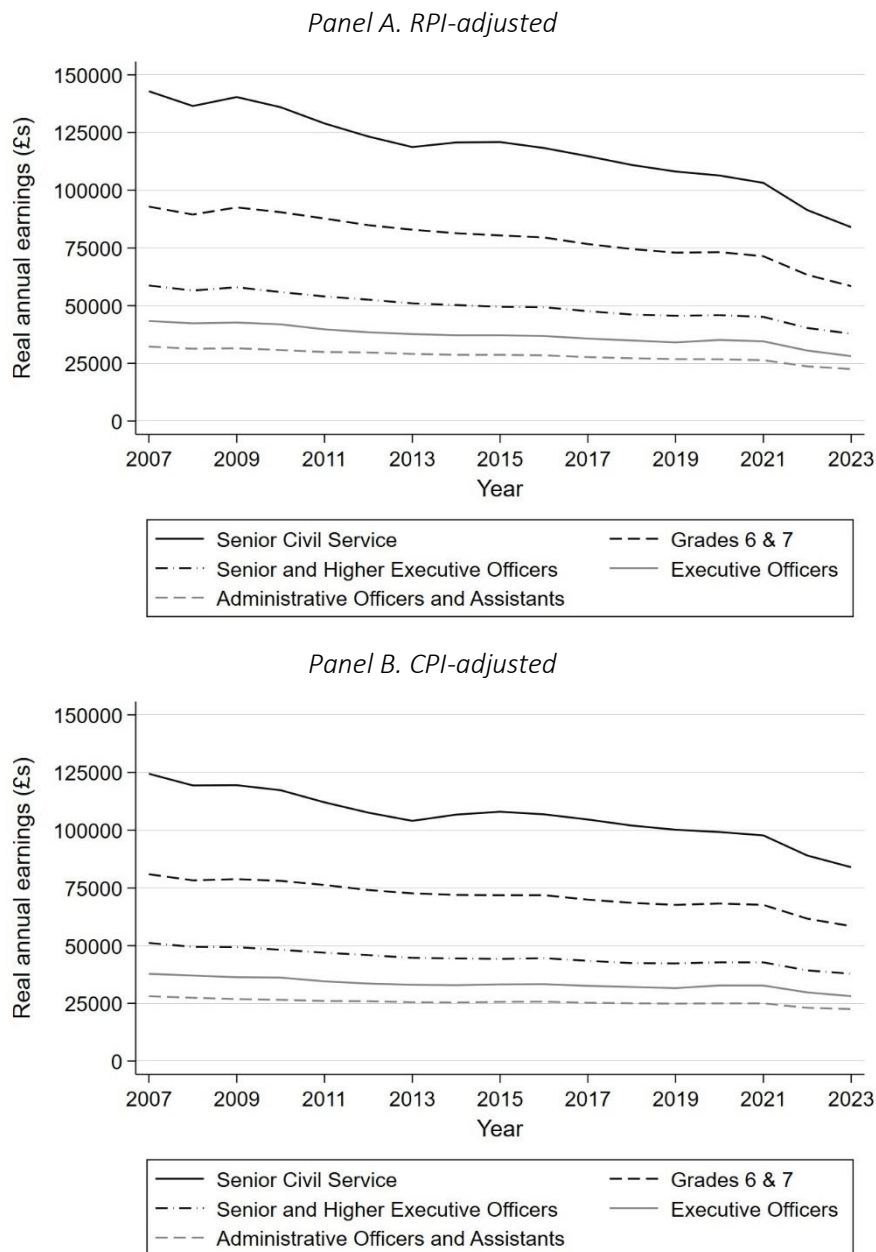
Note: Data comes from ACSES.

Figure 6 examines trends in median annual pay by grade. When exploring pay trends by grade, there appears to be no conflict in the general trends across the two indicators for inflation. It is clear from this figure that median annual pay fell in all grades, and that this trend began several years before the public sector pay freeze was set in place. This finding is not sensitive to the choice of RPI or CPI. This finding illustrates that the overall median in annual earnings is sensitive to the changing composition of the Civil Service, which showed a rise between 2007 and 2010. The pay erosion varied by grade (explored in more detail below). It is evident from this graph that one effect of proportionately larger real terms pay cuts for higher-paying grades relative

to lower-paying ones is a narrowing in the dispersion of pay by grade. In 2007, the ratio of the highest-paying grade to the lowest-paying grade was 4.5. By 2023, the same ratio was 3.5. However, given the large disparities in pay between grades, it is difficult to get a handle on the erosion in pay since 2010 in relative terms for each grade clearly in a graph like this. To get a better handle on this, Tables 4 to 7 report detailed figures on trends by grade since 2010.

Table 4. Annual growth rates in median annual pay by grade 2011 to 2023 (%)

Year	Senior Civil Service	Grades 6 and 7	Senior and Higher Executive	Executive Officers	Administrative Officers	All Civil Service
Panel A. RPI-adjusted						
2011	-5.2	-3.0	-3.4	-5.2	-2.7	-1.2
2012	-4.4	-3.3	-2.6	-3.2	-0.7	-2.6
2013	-3.7	-2.3	-3.0	-2.0	-2.0	-1.0
2014	1.8	-1.8	-1.4	-1.4	-1.4	-1.0
2015	0.2	-1.2	-1.5	0.0	0.0	0.0
2016	-2.1	-1.1	-0.3	-0.8	-0.8	-0.3
2017	-3.0	-3.6	-3.5	-3.0	-2.6	-1.4
2018	-3.3	-2.8	-3.1	-2.3	-1.8	-0.6
2019	-2.6	-2.1	-1.1	-2.3	-1.3	-0.8
2020	-1.6	0.3	0.6	3.1	-0.2	2.6
2021	-2.9	-2.4	-1.5	-1.6	-1.4	-0.6
2022	-11.4	-11.3	-10.5	-11.6	-10.0	-8.4
2023	-8.0	-7.5	-5.8	-7.7	-4.4	-4.2
Average	*-3.6*	*-3.2*	*-2.9*	*-2.9*	*-2.3*	*-1.5*
Panel B. CPI-adjusted						
2011	-4.5	-2.2	-2.5	-4.5	-1.9	-0.5
2012	-4.0	-2.9	-2.2	-2.8	-0.3	-2.2
2013	-3.3	-1.9	-2.6	-1.6	-1.6	-0.6
2014	2.7	-0.9	-0.5	-0.5	-0.5	-0.1
2015	1.2	-0.2	-0.5	1.0	1.0	1.0
2016	-1.0	0.0	0.8	0.3	0.3	0.8
2017	-2.1	-2.7	-2.6	-2.1	-1.7	-0.5
2018	-2.5	-2.0	-2.3	-1.5	-1.0	0.2
2019	-1.8	-1.3	-0.3	-1.5	-0.5	-0.0
2020	-1.0	0.9	1.2	3.7	0.4	3.2
2021	-1.4	-0.9	0.0	-0.1	0.1	0.9
2022	-8.9	-8.8	-8.0	-9.1	-7.5	-5.9
2023	-5.6	-5.1	-3.4	-5.3	-2.0	-1.3
Average	*-2.5*	*-2.2*	*-1.8*	*-1.8*	*-1.2*	*-0.4*

Note: Data comes from ACSES.

Taking annual growth rates first in Table 4, in general, the overall median shows only moderate real terms changes year-on-year (final column), almost always negative, whereas by grade, we see a consistent pattern of annual declines which are much larger. Average annual pay cuts were between -0.4 (CPI) and 1.5 (RPI) per cent when looking at the overall median. However, when exploring by grade, the cuts have been much larger. Again, this illustrates that the overall median is misleading given the changing composition of the Civil Service during this time. The general move away from lower- to higher-paying grades changed the grade of the median earner and worked to partially offset falling median pay.

Table 5. Median annual pay relative to 2010 by Civil Service grade 2010 to 2023 (%)

Year	Senior Civil Service	Grades 6 and 7	Senior and Higher Executive	Executive Officers	Administrative Officers	All Civil Service
Panel A. RPI-adjusted						
2011	-5.2	-3.0	-3.4	-5.2	-2.7	-1.4
2012	-9.3	-6.2	-5.9	-8.2	-3.4	-4.0
2013	-12.7	-8.4	-8.7	-10.1	-5.4	-5.0
2014	-11.2	-10.1	-10.0	-11.3	-6.7	-6.0
2015	-11.1	-11.1	-11.4	-11.3	-6.7	-6.0
2016	-13.0	-12.1	-11.7	-12.1	-7.4	-6.3
2017	-15.6	-15.3	-14.8	-14.7	-9.9	-7.7
2018	-18.4	-17.6	-17.4	-16.7	-11.5	-8.3
2019	-20.5	-19.4	-18.3	-18.7	-12.7	-9.1
2020	-21.8	-19.1	-17.9	-16.2	-12.9	-6.8
2021	-24.1	-21.1	-19.2	-17.6	-14.2	-7.5
2022	-32.8	-30.0	-27.8	-27.1	-23.0	-15.6
2023	-38.2	-35.4	-32.3	-32.9	-26.8	-19.2
Panel B. CPI-adjusted						
2011	-4.5	-2.3	-2.6	-4.5	-2.0	-0.7
2012	-8.3	-5.1	-4.8	-7.2	-2.3	-2.9
2013	-11.3	-6.9	-7.3	-8.7	-3.9	-3.5
2014	-9.0	-7.8	-7.8	-9.1	-4.4	-3.6
2015	-8.0	-8.0	-8.2	-8.2	-3.4	-2.6
2016	-8.9	-7.9	-7.5	-7.9	-3.1	-1.9
2017	-10.8	-10.4	-9.9	-9.9	-4.8	-2.5
2018	-13.1	-12.2	-12.0	-11.3	-5.7	-2.3
2019	-14.6	-13.4	-12.3	-12.6	-6.3	-2.4
2020	-15.4	-12.6	-11.3	-9.4	-5.9	0.7
2021	-16.7	-13.4	-11.3	-9.5	-5.9	1.5
2022	-24.1	-21.0	-18.5	-17.8	-13.1	-4.8
2023	-28.4	-25.2	-21.5	-22.2	-15.1	-6.4

Note: Data comes from ACSES.

Turning to the erosion in pay over time relative to had pay remained at its 2010 levels in real terms in Table 5, the effects of persistent below-inflation pay rises are thrown into sharp relief. For instance, by 2023, median annual pay for Senior and Higher Executive Officers—the largest single grade by 2023—was one-quarter (CPI) to one-third (RPI) of what it would have been had pay kept up with inflation in the intervening years. The real term pay cuts have been particularly large for the higher-paying grades, but they are considerable for all grades, with pay standing at no less than one-sixth lower in 2010 and as large as two-fifths lower, depending on the grade and inflation indicator. To further illustrate the effect of below-inflation, pay rises, Table 6 calculates the cumulative loss since 2010. That is, the total loss in earnings for a hypothetical employee at the median within each had they been continuously employed at that level since 2010. For the higher-paying grades, the sums are of significant proportions by any measure—running into the hundreds of thousands for some grades. Even for the lowest-paying grades, whose absolute and proportionate pay erosion has been less stark than higher-paying grades, and even from the perspective of the CPI which understates the actual changes in the cost of living, the cumulative losses run into the tens of thousands over this time through consecutive below-inflation pay rises.

Tables 5 illustrates that up to half of the pay erosion in median annual pay across grades between 2010 and 2023 occurred since the pandemic—a period of very high inflation. Table 6 illustrates, however, given that

these are only a few years, they do not contribute this much to the cumulative pay erosion to the below inflation pay rises in the period between 2010 and the pandemic when inflation was relatively low by historical standards. This is simply due to the cumulative effect of a decade of below inflation pay rises piling up, whereas the period since the pandemic is only a few years.

Table 6. Cumulative loss in median annual pay by Civil Service grade 2010 to 2023 (£s)

	Senior Civil Service	Grades 6 and 7	Senior and Higher Executive	Executive Officers	Administrative Officers	All Civil Service
Panel A. RPI-adjusted						
2010 median annual pay	135,981	90,481	55,859	41,903	30,748	39,516
2020 median annual pay	106,977	73,586	46,119	35,322	26,928	36,811
2023 median annual pay	83,980	58,440	37,830	28,120	22,520	31,920
Cumulative loss 2010 to 2023	*-318,113*	*-188,861*	*-110,997*	*-84,696*	*-44,091*	*-40,718*
Cumulative loss 2020 to 2023	*-40,556*	*-26,357*	*-14,305*	*-12,189*	*-7,770*	*-8,615*
Panel B. CPI-adjusted						
2010 median annual pay	117,346	78,082	48,204	36,160	26,535	34,101
2020 median annual pay	99,228	68,256	42,779	32,763	24,978	34,335
2023 median annual pay	83,980	58,440	37,830	28,120	22,520	31,920
Cumulative loss 2010 to 2023	*-203,112*	*-114,167*	*-65,079*	*-49,982*	*-20,085*	*-10,686*
Cumulative loss 2020 to 2023	*-26,890*	*-16,990*	*-8,471*	*-7,710*	*-4,368*	*-3,975*

Note: Data comes from ACSES.

Finally, as the preceding analysis has focused on pay erosion, this section of the report finishes by considering what pay rises would be required to restore 2023 Civil Service pay by grade to their 2010 levels, or pay restoration. The report also considers pay restoration to 2020 levels. These two time points are chosen because 2010 was when pay freezes came in and kicked off a decade long stagnation and erosion in pay thereafter. 2020 was chosen because thereafter inflation has been very high while pay rises have been stagnant in nominal terms, leading to the steepest pay cuts for half a century in the Civil Service, and so these few years alone account for up to half the total pay erosion since 2010. To restore annual pay to 2010 levels, pay rises in the order of 18 to 62 per cent would be needed (Table 7), depending on the grade and inflation indicator. Even to just restore pay to 2020 levels, pay rises in the order of 11 to 27 per cent would be needed, depending on the grade and inflation indicator. Just focusing on the midpoints between the two inflation indicators and for the three largest grades only—Senior Higher and Executive, Executive, and Administrative Officers—would respectively imply pay rises of 37.6, 38.9, and 27.1 per cent to restore pay to 2010 levels. To restore pay to 2020 levels, the midpoint between the RPI and CPI would imply rises of 17.2, 20.7, and 14.9 per cent for these grades.

It must also be noted that even if such pay rises were awarded, it will only bring pay in-line to prior levels in real terms. It would not compensate for the cumulatively foregone pay brought about by persistently below inflation pay rises across the occupation, which, for a current employee who has been in-post for the entire

time since 2010 would be staggering, as Table 6 makes clear (more than six figures for the higher-paying grades).

Table 7. Pay rise required to restore median annual pay to earlier levels by Civil Service grade 2010 to 2023

	Senior Civil Service	Grades 6 and 7	Senior and Higher Executive	Executive Officers	Administrative Officers	All Civil Service
Panel A. RPI-adjusted						
Difference in 2023 pay vs. 2010 pay (£s)	-52,001	-32,041	-18,029	-13,783	-8,228	-7,596
Difference in 2023 pay vs. 2020 pay (£s)	-22,405	-14,739	-8,034	-7,006	-4,259	-4,891
Pay rise required to restore 2023 pay to 2010 pay (%)	*61.9*	*54.8*	*47.7*	*49.0*	*36.5*	*23.8*
Pay rise required to restore 2023 pay to 2020 pay (%)	*26.7*	*25.2*	*21.2*	*24.9*	*18.9*	*15.3*
Panel B. CPI-adjusted						
Difference in 2023 pay vs. 2010 pay (£s)	-33,366	-19,642	-10,374	-8,041	-4,015	-2,181
Difference in 2023 pay vs. 2020 pay (£s)	-15,248	-9,816	-4,949	-4,643	-2,458	-2,415
Pay rise required to restore 2023 pay to 2010 pay (%)	*39.7*	*33.6*	*27.4*	*28.6*	*17.8*	*6.8*
Pay rise required to restore 2023 pay to 2020 pay (%)	*18.2*	*16.8*	*13.1*	*16.5*	*10.9*	*7.6*

Note: Data comes from ACSES.

5. Protected characteristics analysis of pay and employment in the Civil Service

This section explores trends pay in the Civil Service by the protected characteristics of gender (sex), ethnicity, and disability. In addition, it also explores trends in employment by grade for these characteristics, as well as of the protected characteristics of sexual orientation, religion, and age. It uses data from drawn from the ACSES. There are two data limitations to note. First, coverage and reporting by employees of most of these characteristics has improved over time, meaning earlier estimates are less representative than later estimates, which must be born in mind in making historical comparisons. However, even when asked, a small minority do not report some or all characteristics. Second, the Cabinet Office do not release median annual pay by grade and employer for protected characteristics other than gender, and neither did the Office for National Statistics when they were responsible for the ACSES. This limits the level of detail of possible analyses for these characteristics except for gender.

Beginning with trends in median annual pay by gender, men and women experienced broadly similar pay trends in that pay has either been falling (RPI) or stagnant (CPI) since 2007. However, pay erosion was more severe for the median man than the median woman (Figure 7), which narrowed gender pay differentials over the period. The gender pay gap in median annual earnings went from 23.6 per cent in 2007 to 9.1 per cent in

2023 (Table 8). The Civil Service median gender pay gap is slightly higher than the economy-wide gender pay gap for full-time employees but similar to that for Professionals and Associate Professionals (ONS 2023).

One route by which gender pay gaps emerge is through women being more likely to occupy lower points of pay scales within grades than men i.e., within-grade gender pay gaps. Table 8 demonstrates that there are gender pay gaps within grades and these too have shrunk over time along with the overall gender pay gap. In the two lowest-paying grades, pay gaps have shrunk to zero or almost zero. The gender pay gaps within grades are smaller than the overall gender pay gap which suggests that the main reason for the overall pay gap is not through within-grades pay gaps but rather through men and women occupying different grades i.e., vertical segregation.

Figure 7. Median annual pay by gender 2007 to 2023

Panel A. RPI-adjusted

Panel B. CPI-adjusted
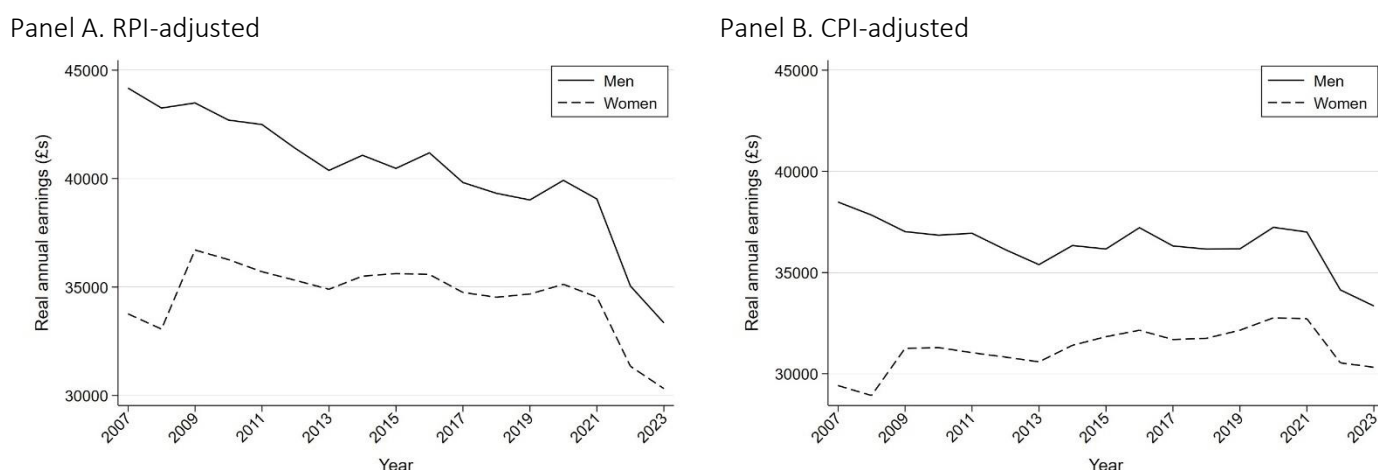
Note: Data comes from ACSES.

Table 8. Median annual pay by gender and grade in 2007 and 2023 (£s)

Year	Gender	Senior Civil Service	Grades 6 and 7	Senior and Higher Executive	Executive Officers	Administrative Officers	All Civil Service
Panel A. RPI-adjusted							
2007	Men	144,882	94,490	58,904	44,173	32,881	44,173
	Women	138,344	90,188	55,634	42,012	31,528	33,764
Panel B. CPI-adjusted							
2007	Men	126,226	82,323	51,319	38,485	28,647	38,485
	Women	120,530	78,574	48,470	36,603	27,468	29,416
2023	Men	85,410	59,140	38,470	28,120	22,520	33,350
	Women	82,390	57,970	37,540	28,120	22,500	30,320
Panel C. Gender pay gap (%)							
2007		*4.5*	*4.6*	*5.6*	*4.9*	*4.1*	*23.6*
2023		*3.5*	*2.0*	*2.4*	*0.0*	*0.1*	*9.1*

Notes: Data comes from ACSES.

The overall gender pay gap has narrowed over time and given within-grade gender pay gaps have always been smaller than the overall gender pay gap, it is likely largely attributable to the changing gender balance across grades. As Table 9 makes clear, the share of women in the higher-paying grades has been increasing while their share in the lower-paying grades has been declining. While a similar trend is also observed for men, the trend is more pronounced for women. For instance, in 2007 three-quarters of women occupied the two lowest-paying grades and two-thirds of men did so. By 2023, around half of women and half of men

occupied the two lowest-paying grades. In short, the Civil Service has become less gender segregated with respect grade, and this likely explains the lion's share of the fall in the overall gender pay gap.

Even though women are now the majority of the Civil Service, and the odds of women being in the higher grades has increased more for women relative to men, they are still underrepresented in the three highest-paying grades, and still overrepresented in the two lowest-paying grades. For instance, as the odds ratios in Table 9 demonstrate, in 2023, women were 20 per cent less likely to occupy Senior Civil Service roles and Grades 6 and 7 roles than men. On the other hand, women were 10 per cent more likely to occupy Executive Officers and Administrative Officers roles relative to men—a figure which has barely changed since 2007.

Table 9. Proportion of men and women across grades in 2007 and 2023 (%)

Year	Gender	Senior Civil Service	Grades 6 and 7	Senior and Higher Executive	Executive Officers	Administrative Officers	All Civil Service
Panel A. Proportion of genders across grades							
2007	Men	1.3	8.3	23.3	24.1	43.0	52.6
	Women	0.6	4.6	16.4	26.6	51.9	47.4
2023	Men	1.7	16.7	31.0	24.1	26.5	45.4
	Women	1.3	14.0	28.9	27.2	28.7	54.6
Panel B. Odds ratio of women to men							
2007		*0.5*	*0.6*	*0.7*	*1.1*	*1.2*	
2023		*0.8*	*0.8*	*0.9*	*1.1*	*1.1*	

Note: Data comes from ACSES.

Moving on to ethnicity, there was a small pay gap in median annual earnings in favour of whites of 0.7 per cent in 2007, and this halved by 2023 (Table 10). Ethnic minorities tend to outearn whites within grades, however. The gaps are most pronounced in the two lowest-paying grades, but have narrowed slightly since 2007. This could imply that the apparently higher pay of ethnic minorities within these (and some other) grades is evidence of lower rates of promotion out of their grades to the higher grades. In other words, ethnic minorities may be having to spend longer in their grades—at the higher pay scale points within them—to be promoted, whereas whites, may be more likely to be found at the lower ends of pay scales through higher rates of recent promotions. Some evidence for this possible scenario is given in Table 11, where it is ethnic minorities have similar or higher odds of occupying the lowest-paying three grades relative to whites but are less likely to be in the two highest-paying grades. For instance, in 2023, ethnic minorities were 40 per cent less likely to occupy Senior Civil Service roles and 20 per cent less likely to occupy Grades 6 and 7 roles than whites.

Table 10. Median annual pay by ethnicity and grade in 2007 and 2023 (£s)

Year	Ethnic group	Senior Civil Service	Grades 6 and 7	Senior and Higher Executive	Executive Officers	Administrative Officers	All Civil Service
Panel A. RPI-adjusted							
2007	White	141,839	92,743	58,246	42,726	32,317	41,712
	Ethnic minorities	142,229	91,238	57,911	44,273	33,837	41,414
Panel B. CPI-adjusted							
2007	White	123,574	80,800	50,746	37,224	28,156	36,341
	Ethnic minorities	123,915	79,490	50,454	38,572	29,480	36,082
2023	White	83,530	58,510	37,760	28,120	22,520	32,080

	Ethnic minorities	85,178	58,160	38,161	28,759	23,366	31,959
		Panel C. Ethnicity pay gap (%)					
	2007	*-0.3*	*1.6*	*0.6*	*-3.6*	*-4.7*	*0.7*
	2023	*-2.0*	*0.6*	*-1.1*	*-2.3*	*-3.8*	*0.4*

Note: Data comes from ACSES.

Table 11. Proportion of white and ethnic minorities across grades in 2007 and 2023 (%)

Year	Ethnic group	Senior Civil Service	Grades 6 and 7	Senior and Higher Executive	Executive Officers	Administrative Officers	All Civil Service
		Panel A. Proportion of ethnic group across grades					
2007	White	1.0	6.3	19.3	25.2	48.1	91.7
	Ethnic minorities	0.4	4.2	15.2	28.9	51.3	8.3
2023	White	1.7	16.2	30.6	25.0	26.6	84.6
	Ethnic minorities	1.1	13.2	30.4	29.8	25.6	15.4
		Panel B. Odds ratio of ethnic minorities to whites					
	2007	*0.4*	*0.7*	*0.8*	*1.1*	*1.1*	
	2023	*0.6*	*0.8*	*1.0*	*1.2*	*1.0*	

Note: Data comes from ACSES.

In terms of disability, the median disability pay gap apparently increased between 2007 and 2023 from 4.9 per cent to 8.4 per cent (Table 12). In 2007, there were negative pay gaps within grades (except for the Senior Civil Service) i.e., those declaring a disability had higher within-grade median earnings than those declaring no disability. This implies the main reason for the overall pay gap was due to differential employment across grades, as was indeed the case (Table 13). By 2023, the within-grade pay gaps had become positive i.e., i.e., those declaring a disability had lower within-grade median earnings than those declaring no disability. At the same time, there was no real progress in employment gaps by disability status, and if anything, there has been regress (Table 13). Disabled employees had the same relative odds of occupying a role in the three highest-paying grades in 2023 as in 2007. Their relative odds of occupying the lowest-paying grade actually increased from 10 per cent less likely to 10 per cent more likely than non-disabled 2007 to 2023.

Therefore, two reasons for the apparently large relative increase in the overall disability pay gap over this period are, first, the increasing odds of disabled employees occupying the lowest paying grade, and second, rising inequalities in pay between disabled and non-disabled employees within grades. At the same time, however, there was an improvement in recording of disability status from around half of the Civil Service to two-thirds over this period. It is difficult to know the extent to which this could be a possible explanation for the observed pay and employment trends, but is a caveat to the foregoing.

Table 12. Median annual pay by disability status and grade in 2007 and 2023 (£s)

Year	Disability status	Senior Civil Service	Grades 6 and 7	Senior and Higher Executive	Executive Officers	Administrative Officers	All Civil Service
		Panel A. RPI-adjusted					
2007	Declared non-disabled	142,759	91,935	58,058	42,670	31,754	41,524

Year	Disability status	Senior Civil Service	Grades 6 and 7	Senior and Higher Executive	Executive Officers	Administrative Officers	All Civil Service
	Declared disabled	137,066	93,306	58,641	43,628	32,317	39,495
Panel B. CPI-adjusted							
2007	Declared non-disabled	124,376	80,097	50,582	37,175	27,665	36,177
	Declared disabled	119,416	81,291	51,090	38,010	28,156	34,409
2023	Declared non-disabled	83,530	58,850	37,980	28,120	22,520	32,160
	Declared disabled	83,310	57,970	37,300	28,120	22,220	29,450
Panel C. Disability pay gaps (%)							
2007		*4.0*	*-1.5*	*-1.0*	*-2.2*	*-1.8*	*4.9*
2023		*0.3*	*1.5*	*1.8*	*0.0*	*1.3*	*8.4*

Note: Data comes from ACSES.

Table 13. Employment by disability status and grade in 2007 and 2023 (%)

Year	Disability status	Senior Civil Service	Grades 6 and 7	Senior and Higher Executive	Executive Officers	Administrative Officers	All Civil Service
Panel A. Employment							
2007	Declared non-disabled	0.7	5.9	18.3	19.7	55.3	92.9
	Declared disabled	0.5	4.2	16.8	27.0	51.6	7.1
2023	Declared non-disabled	1.7	16.2	30.4	25.5	26.2	84.5
	Declared disabled	1.0	11.7	27.7	30.1	29.5	15.5
Panel B. Odds ratio of disabled to non-disabled							
2007		*0.7*	*0.7*	*0.9*	*1.4*	*0.9*	
2023		*0.6*	*0.7*	*0.9*	*1.2*	*1.1*	

Note: Data comes from ACSES.

Moving onto sexual orientation, religion, and age, there are no available statistics on pay by these characteristics, only employment by grade, so the focus is on this only. Additionally, employment by grade statistics were first published in 2019 sexual orientation and religion, so this is used as the base year for these two characteristics instead of 2007.

The ACSES records whether employees are lesbian, gay, bisexual, 'other' (LGBO), or heterosexual/straight, which can be used to create a simplr wo-factor classification. In 2019, LGBO employees were 20 per cent less likely than heterosexual employees to occupy roles in the lowest-paying three grades and had identical odds of occupation roles in the two highest-paying grades (Table 14). By 2023, things had evened out.

The ACSES records various religion or belief categories (with Christian, Muslim, and 'other' being the largest three) and whether employees declare they are not affiliated with any religion or belief. This can be used to create a simple two-factor classification. Those with a declared religion or belief were about 20 per cent less likely to occupy the two highest-paid grades and similarly likely to occupy other grades relative to those with declared no religion or belief. By 2023, the differentials at the highest two grades had fallen to 10 per cent.

Finally, in terms of age, those who were under 50 were underrepresented in the three highest-paying grades. By 2023, they were actually overrepresented in Grades 6 and 7 and Senior and Higher Executive Officers, and were now underrepresented in Executive Officers and Administrative Officers.

Table 14. Employment by sexual orientation and grade in 2019 and 2023 (%)

Year	Sexual orientation	Senior Civil Service	Grades 6 and 7	Senior and Higher Executive	Executive Officers	Administrative Officers	All Civil Service
Panel A. Employment							
2019	LGBO	2.0	15.6	29.0	24.8	28.5	5.1
	Heterosexuals	2.0	16.1	36.1	30.3	34.9	94.9
2023	LGBO	1.8	16.7	32.2	24.1	25.2	6.3
	Heterosexuals	1.6	16.1	31.0	25.5	25.8	93.7
Panel B. Odds ratio of LGBO to heterosexuals							
2019		*1.0*	*1.0*	*0.8*	*0.8*	*0.8*	
2023		*1.1*	*1.0*	*1.0*	*0.9*	*1.0*	

Wit Note: Data comes from ACSES.

Table 15. Employment by religion or belief and grade in 2019 and 2023 (%)

Year	Religion or belief	Senior Civil Service	Grades 6 and 7	Senior and Higher Executive	Executive Officers	Administrative Officers	All Civil Service
Panel A. Employment							
2019	No religion or belief	1.5	12.7	29.3	26.5	30.0	37.2
	Religion or belief declared	1.9	15.2	30.5	23.7	28.8	62.8
2023	No religion or belief	1.6	15.2	30.3	27.0	26.0	42.2
	Religion or belief declared	1.7	16.9	32.3	23.8	25.4	57.8
Panel B. Odds ratio of religion declared to no religion declared							
2019		*0.8*	*0.8*	*1.0*	*1.1*	*1.0*	
2023		*0.9*	*0.9*	*0.9*	*1.1*	*1.0*	

Note: Data comes from ACSES.

Table 16. Employment by age and grade in 2007 and 2023 (%)

Year	Age group	Senior Civil Service	Grades 6 and 7	Senior and Higher Executive	Executive Officers	Administrative Officers	All Civil Service
Panel A. Employment							
2007	<50	0.6	5.5	18.7	26.2	49.0	69.6
	50+	1.5	7.8	20.0	23.1	47.6	30.4
2023	<50	1.3	16.1	32.0	24.6	26.0	61.5
	50+	1.8	13.9	26.5	27.6	30.3	38.5
Panel B. Age group employment gaps							
2007		*0.4*	*0.7*	*0.9*	*1.1*	*1.0*	
2023		*0.8*	*1.2*	*1.2*	*0.9*	*0.9*	

Note: Data comes from ACSES.

Endnotes

[i] This report makes use of publicly-available extracts of average pay by 4-digit occupation produced by the ONS. Earlier estimates come from Williams, M., (2011). The changing structure of occupations and wage inequality [PhD thesis]. University of Oxford.

[ii] In recent years, the ONS has made available a 'coding index' which is a look-up table of occupation codes for approximately 30,000 job titles and four of the occupational classification systems used in NES/ASHE: SOC90 (which covers the years 1991 to 2001), SOC2000 (2002 to 2010, SOC2010 (2011 to 2020), and SOC2020 (2021 to 2023). This was used to identify Civil Service occupations in a consistent way was across years. Since the coding tool does not include KOS occupation codes (covering 1975 to 1990), a proportional reweighting method was used to make occupation-level estimates comparable to SOC90 on a 4-digit basis, developed in Williams (2011). These estimates were then coded to the Civil Service indicator using the coding index.

[iii] ONS' coding index is used to identify these other occupations consistently through time as well.