

Introduction of Standard Occupational Classification 2020:

Impact Analysis for the Northern Ireland Annual Survey of Hours and Earnings

1 Introduction

The [Standard Occupational Classification](#) (SOC) has recently been updated from SOC 2010 to SOC 2020. This document presents a summary of the impact on the Northern Ireland Annual Survey of Hours and Earnings (ASHE) of the move to SOC 2020. NI ASHE results for 2021 were published on both SOC 2010 and SOC 2020 basis in order to allow continuity with historical and future results. From 2022 onwards, ASHE outputs will be published on a SOC 2020 basis only. ELMS revises NI ASHE results the year following publication of the provisional results. For 2021, only the SOC 2020 results were revised and published in 2022.

Key Points

The results of the change in classification are summarised in the following key points:

- The headline earnings measure, median gross weekly earnings for full-time employees, remained unchanged at £575
- Median gross annual earnings for full-time employees increased by 0.1%, from £29,109 to £29,141.
- Median hourly earnings excluding overtime for full-time employees increased by 0.4%, from £14.26 to £14.31 per hour.
- Earnings for female employees were affected more than males because of the composition of this group.
- Larger changes were seen in the higher paid occupation groups.
- All age groups saw an increase in weekly earnings with the largest increase (1.2%) in the 22-29 age group. When considering age by gender, males aged 40-49 were the only group which experienced a decrease.
- The public sector saw a larger increase (0.7%) in weekly earnings than the private sector (0.2%).
- The gender pay gap among all employees changed from 5.7% to 4.8%, due to the greater shift in wages for female employees caused by SOC 2020 reweighting.

2 Results

Users should note that estimates referenced in this bulletin relate to the pay period that included 21 April 2021, and therefore include employees furloughed under the Coronavirus Job Retention Scheme (CJRS). Earnings are based on actual payments made to the employee from company payrolls and the hours on which this pay was calculated, which in the case of furloughed employees are their usual hours.

Final results showed that approximately 11% of employee jobs were identified as furloughed and approximately 7% were identified as furloughed with reduced pay (i.e. earnings were not topped up by their employer).

The move to SOC 2020 has had an impact on all breakdowns, because occupation forms a part of the methodology by which ASHE data are weighted. The 2021 earnings estimates based on SOC 2010 mark a break in the time series, and any estimates based on the new SOC 2020 classification will not be directly comparable with earlier estimates.

The results discussed in this document show the impact of the SOC move on the NI ASHE estimates using the provisional 2021 NI ASHE (SOC 2020) dataset. Comparisons are made with the previously published results for 2021, which were produced on a SOC 2010 basis.

The following tables provide comparisons of 2021 NI ASHE estimates under SOC 2010 and SOC 2020 for various domains. Figures showing the difference between SOC 2010 and SOC 2020 estimates are given as percentages and are rounded to one decimal place.

Table 1. Comparison of gross median weekly earnings based on SOC 2010 and SOC 2020 by working pattern and sex, 2021

Weekly earnings (£), 2021	SOC 2010	SOC 2020	Change (%)
All	468.6	470.8	0.5
Male	529.3	529.2	0.0
Female	405.2	410.5	1.3
Full-time	575.0	575.0	0.0
Male	586.2	586.0	0.0
Female	558.2	563.0	0.9
Part-time	207.6	207.7	0.0
Male	179.7	179.5	-0.1
Female	215.4	216.0	0.3

Notes

1. Estimates for 2021 data are provisional.
2. Employees are on adult rates, pay is unaffected by absence unless furloughed.
3. Full-time is defined as employees working more than 30 paid hours a week (or 25 or more for the teaching professions).
4. Part-time is defined as employees working less than or equal to 30 paid hours a week (or less than 25 hours for the teaching professions).

Table 2. Comparison of gross median annual earnings based on SOC 2010 and SOC 2020 by working pattern and sex, 2021

Annual earnings (£), 2021	SOC 2010	SOC 2020	Change (%)
All	24,000	24,120	0.5
Male	27,277	27,211	-0.2
Female	20,620	20,911	1.4
Full-time	29,109	29,141	0.1
Male	30,130	30,028	-0.3
Female	27,396	27,583	0.7
Part-time	11,035	11,057	0.2
Male	10,065	10,066	0.0
Female	11,366	11,396	0.3

Notes

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Table 3. Comparison of gross median hourly earnings excluding overtime based on SOC 2010 and SOC 2020 by working pattern and sex, 2021

Hourly earnings excluding overtime (£), 2021	SOC 2010	SOC 2020	Change (%)
All	12.75	12.79	0.3
Male	13.11	13.11	0.0
Female	12.36	12.47	0.9
Full-time	14.26	14.31	0.4
Male	14.07	14.07	0.0
Female	14.64	14.88	1.6
Part-time	10.05	10.09	0.4
Male	9.89	9.89	0.0
Female	10.23	10.27	0.4

Notes

1. Estimates for 2021 data are provisional.
2. Employees on adult rates who have been in the same job for more than a year.
3. Full-time is defined as employees working more than 30 paid hours a week (or 25 or more for the teaching professions).
4. Part-time is defined as employees working less than or equal to 30 paid hours a week (or less than 25 hours for the teaching professions).

Tables 1 to 3 show the change in median earnings for the three headline ASHE measures as a result of the move to SOC 2020. Overall, the majority of the headline earnings estimates produced on a SOC 2020 basis were higher than they were on a SOC 2010 basis. The increases were more pronounced in females than in males.

This is primarily because of employees with high wages in groups with low weightings moving to groups with higher average weightings and higher average wages. For example, a substantial number of employees were reclassified from the lower paid and lower weighted 'Caring, leisure and other service occupations' to the higher paid and higher weighted 'Associate professional and technical occupations'.

Table 4. Comparison of gross median weekly earnings for full-time employees based on SOC 2010 and SOC 2020 by occupation and sex, 2021

Weekly earnings (£), 2021	SOC 2010	SOC 2020	Change (%)
All			
Managers, directors and senior officials	865.3	867.1	0.2
Professional occupations	766.6	758.7	-1.0
Associate professional occupations	610.6	607.3	-0.5
Administrative and secretarial occupations	450.4	450.4	0.0
Skilled trades occupations	506.3	504.9	-0.3
Caring, leisure and other service occupations	405.2	405.2	0.0
Sales and customer service occupations	380.8	380.8	0.0
Process, plant and machine operatives	481.1	480.5	-0.1
Elementary occupations	387.7	387.9	0.1
Male			
Managers, directors and senior officials	894.8	908.8	1.6
Professional occupations	795.0	794.5	-0.1
Associate professional occupations	664.5	662.7	-0.3
Administrative and secretarial occupations	460.0	460.0	0.0
Skilled trades occupations	521.2	515.1	-1.2
Caring, leisure and other service occupations	439.4	444.0	1.0
Sales and customer service occupations	404.4	405.0	0.1
Process, plant and machine operatives	488.5	488.4	0.0
Elementary occupations	405.5	406.4	0.2
Female			
Managers, directors and senior officials	845.5	833.0	-1.5
Professional occupations	757.0	754.6	-0.3
Associate professional occupations	575.0	583.6	1.5
Administrative and secretarial occupations	446.7	446.0	-0.2
Skilled trades occupations	423.9	423.9	0.0
Caring, leisure and other service occupations	396.6	395.9	-0.2
Sales and customer service occupations	361.5	361.5	0.0
Process, plant and machine operatives	412.3	412.3	0.0
Elementary occupations	335.9	335.9	0.0

Notes

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Unlike the headline breakdowns, weekly earnings for more than half the occupation groups saw a decrease or remained the same after the SOC 2020 reweighting. Larger changes were seen in the higher paid groups. This was caused by some jobs, which were highly paid within their SOC 2010 group, moving into occupational groups with a higher average pay in SOC 2020, thereby decreasing the pay of their previous group.

When split by gender, the largest changes in occupation occurred in 'Managers, directors and senior officials'. Female weekly earnings in this group decreased by 1.5%, while male earnings saw an increase of 1.6%, resulting in a small change overall (an increase of 0.2%).

For females, the only other occupational group with a noteworthy change was 'Associate professional occupations', which increased by 1.5%, while male earnings in this group remained unchanged.

The largest decrease in male earnings (1.2%) was seen in 'Skilled trades occupations'. Weekly earnings for females in this group remained unchanged.

Table 5. Comparison of gross median weekly earnings for full-time employees based on SOC 2010 and SOC 2020 by age group and sex, 2021

Weekly earnings (£), 2021	SOC 2010	SOC 2020	Change (%)
All			
Age 18-21	345.0	345.0	0.0
Age 22-29	492.3	498.1	1.2
Age 30-39	586.4	586.7	0.1
Age 40-49	673.0	673.8	0.1
Age 50-59	627.3	627.8	0.1
Age 60+	533.2	534.4	0.2
Male			
Age 18-21	345.3	345.4	0.0
Age 22-29	484.3	484.4	0.0
Age 30-39	575.0	575.0	0.0
Age 40-49	685.9	684.8	-0.2
Age 50-59	664.8	666.7	0.3
Age 60+	558.5	559.6	0.2
Female			
Age 18-21	339.2	339.9	0.2
Age 22-29	506.7	510.5	0.7
Age 30-39	590.6	596.1	0.9
Age 40-49	643.6	647.3	0.6
Age 50-59	586.7	586.7	0.0
Age 60+	469.2	469.2	0.0

Notes

1. Estimates for 2021 data are provisional.
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3. Full-time is defined as employees working more than 30 paid hours a week (or 25 or more for the teaching professions).

When considering all full-time employees, increases in weekly earnings were recorded across all the age groups as a result of the SOC 2020 reweighting. The group that saw the largest increase in earnings was the 22-29 age group, which increased by 1.2%. The largest change in female earnings was seen in the 30-39 age group, with an increase of 0.9%, whilst the largest change for males was in the 50-59 age group, with a 0.3% increase. The only decrease recorded was for males aged 40-49 (0.2%).

Table 7. Comparison of gross median weekly earnings for full-time employees based on SOC 2010 and SOC 2020 by public and private sectors, 2021

Weekly earnings (£), 2021	SOC 2010	SOC 2020	Change (%)
Public sector	690.0	695.1	0.7
Private sector	506.3	507.5	0.2

Notes

1. Estimates for 2021 data are provisional.
2. Employees are on adult rates, pay is unaffected by absence unless furloughed.
3. Full-time is defined as employees working more than 30 paid hours a week (or 25 or more for the teaching professions).

The impact on the public sector estimate for full-time gross weekly earnings after the SOC 2020 reweighting was larger than the impact on the private sector estimate, although both sectors experienced increases of less than 1% (0.7% and 0.2% respectively).

Table 8. Comparison of gender pay gap based on SOC 2010 and SOC 2020 by working pattern, 2021

Gender pay gap (%), 2021	SOC 2010	SOC 2020	Change (pps)
All employees	5.7	4.8	-0.9
Full-time	-4.1	-5.8	-1.7
Part-time	-3.4	-3.9	-0.5

Notes

1. Estimates for 2021 data are provisional.
2. Gender pay gap is defined as the difference between the median hourly earnings (excluding overtime) of males and females, as a proportion of median hourly earnings (excluding overtime) of males.
3. Employees are on adult rates, pay is unaffected by absence unless furloughed.
4. Full-time is defined as employees working more than 30 paid hours a week (or 25 or more for the teaching professions).
5. Part-time is defined as employees working less than or equal to 30 paid hours a week (or less than 25 hours for the teaching professions).

When the new SOC 2020 reweighting was applied to the data, the April 2021 gender pay gap for all employees decreased by 0.9%, narrowing the gap from 5.7% to 4.8% in favour of males. Decreases recorded in both the full-time and part-time gender pay gaps (1.7% and 0.5% respectively) mean that both these rates remain in favour of females. The changes recorded resulted from the greater shift in wages for female employees caused by the reweighting.

3 Further Information

The [Standard Occupational Classification \(SOC\)](#) is commonly used to classify occupational information for Northern Ireland and the UK. It aims to divide jobs into meaningful categories by skill level and job content to provide analysis for users. More recent versions of SOC will provide better divisions of occupation according to the changing role of staff within the labour market as a whole.

The main areas of change in SOC 2020 are:

- a review of the classification of roles as professional or associate professional
- the reclassification of occupations associated with information technologies
- disaggregation into less heterogeneous unit groups

More information on the SOC 2020 reclassification can be found on the ONS website at [SOC 2020 Volume 1: structure and descriptions of unit groups](#).

Coding

In order to transition the ASHE results to the new SOC classification, the records from the 2021 dataset were dual-coded with SOC 2010 and SOC 2020 classifications. This coding is essential to the survey as occupation is one of the variables required to create imputation classes for item non-response, and the dataset is weighted to population totals from the Labour Force Survey on the new SOC basis.

Imputation

ASHE imputes for non-response on some key variables including basic pay, basic hours, overtime pay, overtime hours and gross annual pay. 'Donor' imputation is used, whereby employees with similar characteristics to those that have missing values act as donors. Imputation classes are generated on the basis of age, sex, region, adult rate marker and 2-digit SOC.

Weighting

In order to account for non-response and coverage issues with the sample frame, ASHE records are calibrated to population totals from the Labour Force Survey (LFS). Records are coded into one of 108 categories according to the employee's sex (2 categories), age (3 categories), work region (2 categories) and Major SOC group (9 categories). Calibration weights are generated from the same categories from the LFS.

Outputs

Results from the 2021 ASHE were initially published on a SOC 2010 basis and later released on a SOC 2020 basis. Estimates for earnings in April 2021 on a SOC 2020 basis represent a break in the ASHE time series. Estimates will not be directly comparable with estimates for earnings on a SOC 2010 basis and, as such, should not be used in direct comparison with each other.

A similar bulletin, comparing 2021 UK earnings based on SOC 2010 and SOC 2020, is available on the ONS website at [Measures of employee earnings based on SOC 2020, UK - Office for National Statistics](#)