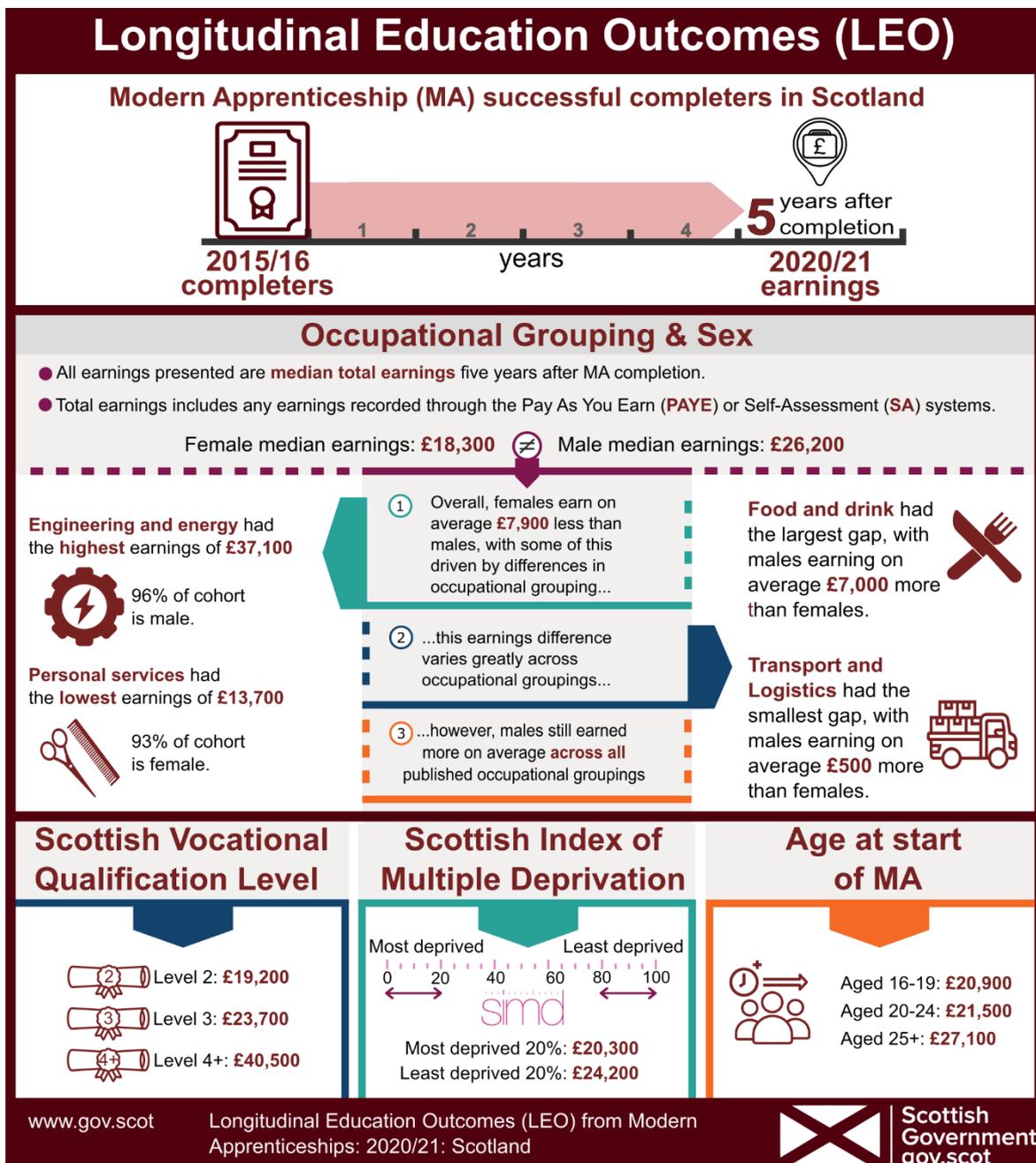


## CHILDREN, EDUCATION AND SKILLS

This Official Statistics release presents earnings outcomes for Modern Apprenticeship (MA) completers in Scotland five years after completion. This is the second publication in Scotland to use the Longitudinal Education Outcomes (LEO) dataset to track MA completers as they move from Modern Apprenticeships into the workplace. Prior Scottish Government [statistical releases of LEO data](#) can be accessed on the Scottish Government website.



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## Foreword

In September 2019, the first release of LEO MA data was published, focusing on the 2011/12 cohort of MA completers in the 2016/17 tax year. During 2020 and 2021, analytical work on LEO was mostly paused due to resourcing demands resulting from the COVID-19 pandemic. In 2022, work was restarted to clean, analyse and quality assure the LEO data from newly available tax years.

During this time, LEO MA data was also used by analysts seconded into the Scottish Government as part of the Education and Skills Impact Framework (ESIF) project, leading to further and more extensive quality assurance of the data. Throughout this project, more confidence and knowledge was built up around the LEO MA data.

As the data presented in this release overlaps with the COVID-19 pandemic, earnings data is likely to be impacted by COVID health protection measures such as the furlough scheme. More details on the potential impact of COVID-19 on earnings is available in the data quality section on the Coronavirus Job Retention Scheme (CJRS) and the Self-Employed Income Support Scheme (SEISS).

Since the previous release of this publication in September 2019, given the further quality assurance and confidence built around the LEO MA data, this release is being published as Official Statistics, rather than Experimental Statistics.

For this release, exploratory analysis was carried out to determine if additional data breakdowns for disability and ethnicity could be included, with the following findings.

- **Disability:** The number of those self-declaring a disability was very low both in the 2015/16 MA cohort and historically, with a suspected under reporting of those with a disability. However, substantial data quality improvements to disability reporting have been seen in the 2016/17 MA cohort.
- **Ethnicity:** Similarly, there is consistently a large number of individuals who prefer not to disclose their ethnicity, or their ethnicity is not known, with some data quality improvement seen in the 2016/17 MA cohort.

Given the data quality for the 2015/16 MA cohort and the known improvements for the 2016/17 MA cohort, disability and ethnicity data have not been included in this release, but will be included in the next LEO MA release.

## Completer cohort

This publication looks at the earnings of those who complete an MA in Scotland and who are in sustained employment in the UK five years after completing their apprenticeship. This means that for the 2015/16 cohort of MA completers, five years after completion will be the 2020/21 tax year. For the LEO college and university releases, the 2020/21 tax year would be five years after completion for the equivalent college and university 2014/15 cohorts. This is because MAs are aligned to tax year (meaning the following tax year is the first full year of earnings), and colleges and universities are aligned to academic year (meaning completion overlaps with the tax year, and the first full tax year of earnings isn't until the following tax year).

## Occupational Grouping

Table 1 shows the median total earnings of MA completers five years after completion split by occupational grouping and sex. Overall, those who successfully completed their apprenticeship earned, on average, £22,000 five years after completion, with female completers earning £7,900 less than male completers (£18,300 for female and £26,200 for males).

Although this is a large earnings gap, it is an improvement on the earnings gap reported in the 2019 publication, with females earning £9,800 less than males.

When looking at the occupational groupings, male completers earned more than female completers across each published occupational grouping. The smallest gap for occupational groupings was in 'Transport and Logistics' where males earned on average £500 more than females. The largest gap was seen in 'Food and Drink', where males earned £7,000 more.

The overall difference in earnings between sexes can partially be explained by the number of males and females in certain occupational groupings. For example, 96% of MA completers in 'Engineering and Energy', the occupational grouping with the highest median earnings, were male. This compares to 'Personal Services', the occupational grouping with the lowest median earnings, where 93% of completers were female. In addition, as females are more likely to be in part-time employment than males, this difference in hours worked is also likely responsible for some of the overall earnings gap, as the LEO data does not account for hours worked. Further information on differences in full and part-time employment patterns by sex can be found in the results from the [Annual population survey](#) on the Scottish Government website.

Earnings can vary across both sex and occupational groupings for various other reasons. Individuals may take different career paths, have different employment opportunities, and may be more likely to move location for work. These factors can all greatly affect an individual's earnings and the subsequent median earnings, meaning that earnings can fluctuate from cohort to cohort. Further information on the data quality is available in the Methodology section of this release.

To prevent against disclosure issues, median earnings for 'Automotive' and 'Other Manufacture' have been suppressed due to a low number of female completers in these occupational groupings, and 'Chemicals and Biotechnology related' has been suppressed due to low numbers across both female and male completers.

Further information on which frameworks are contained within each occupational grouping is available in the Glossary section of this release.

**Table 1: Median total earnings of MA completers\* by occupational grouping and sex five years after completion, 2020/21 tax year**

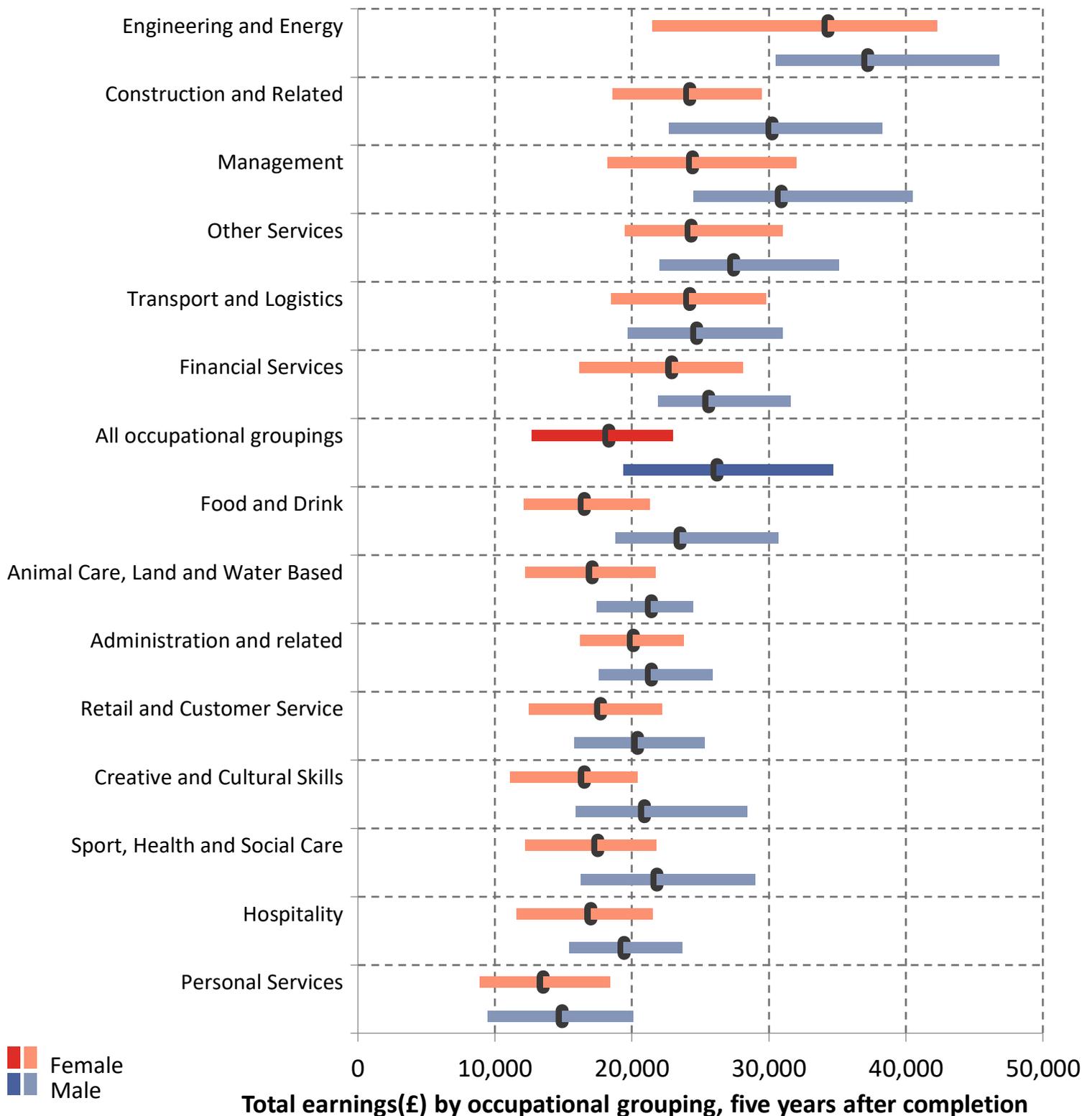
Occupational Grouping	Median total earnings (£)		
	Female Completers	Male Completers	All Completers
Engineering and Energy	34,300	37,200	37,100
Construction and Related	24,200	30,200	30,000
Management	24,400	30,900	28,300
Automotive	x	x	27,500
Other Services	24,300	27,400	26,800
Chemicals and Biotechnology Related	x	x	26,200
Transport and Logistics	24,200	24,700	24,700
Other Manufacture	x	x	24,100
Financial Services	22,900	25,600	24,000
Food and Drink	16,500	23,500	20,800
Animal Care, Land and Water based	17,100	21,400	20,700
Administration and related	20,100	21,400	20,300
Retail and Customer Service	17,700	20,400	19,000
Creative and Cultural Skills	16,500	20,900	18,800
Sport, Health and Social Care	17,500	21,800	18,200
Hospitality	17,000	19,400	18,200
Personal Services	13,500	14,900	13,700
<b>All occupational groupings</b>	<b>18,300</b>	<b>26,200</b>	<b>22,000</b>

\*2015/16 Modern Apprenticeship (MA) completers in Scotland

(1) Hours worked are not taken into account.

(2) 'x' denotes data has been suppressed to prevent disclosure. All figures associated with cohorts of 10 or fewer individuals have been suppressed, and further suppression has been implemented to prevent disclosure by subtraction

**Figure 1: Distributions of total earnings of 2015/16 MA completers\* by occupational grouping and sex, five years after completion (lower quartile, median and upper quartile): 2020/21 tax year**



\*2015/16 Modern Apprenticeship (MA) completers in Scotland

(1) Hours worked are not taken into account.

(2) Occupational groupings with suppressed figures are not included in Figure 1.

## Scottish Vocational Qualification (SVQ) level

Table 2 shows the median total earnings of MA completers five years after completion split by SVQ level (see note on SVQ level in Methodology) and sex.

It shows that those completing MAs at SVQ level 2 in 2015/16 were earning £19,200 in 2020/21, compared to £23,700 for those completing MAs at SVQ level 3, and £40,500 for those completing MAs at SVQ of level 4 or greater. Those completing MAs at higher levels consistently earned more than those completing MAs at lower levels for both female and male completers.

For female completers from 2015/16, those completing MAs at SVQ level 4 or greater earned on average £4,500 more than those completing at level 3, and those completing at level 3 earned on average £2,400 more than those completing at level 2, showing a positive correlation between level of qualification and earnings (£23,600 for SVQ of level 4 or greater, £19,100 for SVQ level 3 and £16,700 for SVQ level 2).

For males, those completing MAs at SVQ level 4 or greater earned on average £15,600 more than those completing at level 3, and those completing at level 3 earned on average £6,000 more than those completing at level 2, again showing a positive correlation between level of qualification and earnings (£43,300 for SVQ of level 4 or greater, £27,700 for SVQ level 3 and £21,700 for SVQ level 2).

The earnings gap between female and male completers becomes wider as the level of SVQ qualification increases, with the largest earnings gap seen for SVQ qualifications of level 4 or greater. This is partly due to the small number of females, relative to men, completing at level 5.

**Table 2: Median total earnings of MA completers\* by SVQ level and sex five years after completion, 2020/21 tax year**

SVQ Level	Median total earnings (£)		
	Female Completers	Male Completers	All Completers
SVQ level 2	16,700	21,700	19,200
SVQ level 3	19,100	27,700	23,700
SVQ level 4+	23,600	43,300	40,500

\*2015/16 Modern Apprenticeship (MA) completers in Scotland

(1) Hours worked are not taken into account.

(2) SVQ level 4+ includes level 4 and level 5.

## Age

Table 3 shows the median total earnings of MA completers five years after completion split by age and sex. The age grouping in the LEO data reflects the age of the modern apprentice when they started their apprenticeship, rather than their age on completion.

It shows that MAs who were aged 16-19 when they started their apprenticeship were earning £20,900 in 2020/21, five years after completing their MA in 2015/16. This compares to £21,500 for MAs aged 20-24, and £27,100 for MAs who were aged 25 and over. Older MA completers typically earned more than younger MA completers, with the exception of male completers aged 20-24, who earned on average slightly less than male completers aged 16-19.

For female completers from 2015/16, those aged 25 and over earned on average £1,600 more than those who were aged 20-24, and those aged 20-24 earned on average £1,000 more than those aged 16-19 (£20,300 for those aged 25 and over, £18,700 for those aged 20-24 and £17,700 for those aged 16-19).

For male completers from 2015/16, those aged 25 and over earned on average £4,800 more than those who were aged 20-24, and those aged 20-24 earned on average £100 less than those aged 16-19 (£29,700 for those aged 25 and over, £24,900 for those aged 20-24 and £25,000 for those aged 16-19).

The earnings gap between female and male completers is consistently large across all age groups, with the youngest male completers earning more on average than the oldest female completers.

**Table 3: Median total earnings of MA completers\* by age and sex five years after completion, 2020/21 tax year**

Age at start of MA	Median total earnings (£)		
	Female Completers	Male Completers	All Completers
16-19	17,700	25,000	20,900
20-24	18,700	24,900	21,500
25+	20,300	29,700	27,100

\*2015/16 Modern Apprenticeship (MA) completers in Scotland

(1) Hours worked are not taken into account.

(2) Age groupings represent the age that MA completers were at the start of their apprenticeship.

## Scottish Index of Multiple Deprivation (SIMD)

Table 6 shows the median total earnings of MA completers five years after completion split by Scottish Index of Multiple Deprivation (SIMD) quintiles and sex.

Note that the quintile is determined by the SIMD rank associated with an individual's postcode when they started their apprenticeship, and so may not reflect their area of residence in the 2020/21 tax year.

It shows that MAs from Quintile 5 were earning £24,200 in 2020/21, five years after completing their MA in 2015/16. This compares to £20,300 for MAs from the most deprived areas. Earnings typically decrease with each SIMD quintile, from the highest earnings in the least deprived quintiles to the lowest earnings in the most deprived quintiles.

These differences in earnings between SIMD quintiles are broadly consistent for both females and males. When comparing the highest and lowest earnings between SIMD quintiles, female completers from Quintile 5 had the highest earnings, earning on average £2,300 more than a female completer from Quintile 1, the lowest earning quintile (£17,300 for females from Q1 and £19,600 for females from Q5).

For male completers, those from Quintile 4 had the highest earnings, earning on average £5,000 more than a male completer from Quintile 1 (£23,200 for males from Q1 and £28,200 for males from Q4).

The differences in earnings between quintiles may be partially reflected by apprenticeship framework choice. For example, MA completers from the least deprived quintiles are more likely to do apprenticeships in Engineering and Energy, where the highest median earnings are seen (refer to Table 1).

**Table 4: Median total earnings of MA completers\* by SIMD quintile and sex five years after completion, 2020/21 tax year**

SIMD Quintile	Median total earnings (£)		
	Female Completers	Male Completers	All Completers
Quintile 1 - 20% most deprived	17,300	23,200	20,300
Quintile 2	17,900	25,500	21,200
Quintile 3	18,200	27,100	22,300
Quintile 4	19,100	28,200	23,500
Quintile 5 - 20% least deprived	19,600	27,800	24,200

\*2015/16 Modern Apprenticeship (MA) completers in Scotland

(1) Hours worked are not taken into account.

(2) MA completers whose quintile is not known have been excluded from the table.

## Methodology

### Background methodology

#### **Additional information:**

Additional detailed information on the [LEO data](#) is available in releases on the Department for Education website.

Further detailed information on [Modern Apprenticeships](#) in Scotland is available on the Skills Development Scotland website.

#### **Skills Development Scotland (SDS) data collection:**

SDS collect data on MA leavers from the current Funding Information and Processing System (FIPS) and prior to 2016 information was collected from the Corporate Training System (CTS). All data is entered and maintained by organisations contracted with Skills Development Scotland to deliver Modern Apprenticeships.

Data integrity checks are made by SDS on an ongoing basis. Final checks are completed prior to production of reports.

### Data Quality

Users should be aware of some additional details and limitations around the data included in this publication;

#### **Mode:**

The employment data covers those with records submitted through the Pay As You Earn (PAYE) system and the Self-Assessed (SA) system. Neither systems collect information on the number of hours worked; therefore, whether an individual is working full-time or part-time cannot be ascertained. There is ongoing work to explore the opportunity to link the LEO data to the Annual Survey of Hours and Earnings (ASHE), which will allow for a subset of the LEO data to contain information on full-time and part-time work patterns

#### **Career Path:**

Different MAs will lead to different career paths, with some careers requiring additional training from their employer after completion of their apprenticeship. Some individuals may change career entirely, and the occupation they are in five years after completing their MA may not reflect the occupational grouping of the completed MA.

## **Completion of Modern Apprenticeships:**

This release focuses on individuals who have successfully completed their MA. Those who have withdrawn early or not completed their MA are excluded from this release, in line with other LEO data statistical releases published by Scottish Government.

## **Time period:**

The time period for which employment and earnings data is reported in this publication is five years year after completion. This refers to the full tax year five years after completion. So, for those who completed their MA in the 2015/16 tax year, employment and earnings outcomes relate to the 2020/21 tax year. As MAs are aligned to tax year rather than an academic year, this differs from the time period covered in our LEO release for universities and colleges.

## **Sustained employment:**

Completers are considered to be in sustained employment only if they were employed for at least one day for five out of the six months between October and March of the tax year in question or if they had a self-employment record in that tax year. Only completers in sustained employment are included in this release.

## **Total earnings:**

Total earnings figures are included for completers who have a valid earnings record (P14 or SA), and who are recorded as being in sustained employment in the 2020/21 tax year.

For each MA completer, the PAYE earnings reported for them on the HMRC P14 data for a given tax year are divided by the number of days recorded in employment across that same tax year. This provides an average daily wage that is then multiplied by the number of days in the tax year to calculate their annualised earnings.

This calculation has been used to maintain consistency with figures reported for further education learners after study. It provides students with an indication of the earnings they might receive once in stable and sustained employment.

The annualised earnings calculated are slightly higher than the raw earnings reported in the tax year. This is because the earnings of those who did not work for the entire tax year will be higher when annualised, however this difference decreases as time elapses after MA completion. All earnings presented are nominal. They represent the cash amount an individual was paid and are not adjusted for inflation (the general increase in the price of goods and services).

The annualised PAYE earnings and raw self-assessment earnings are then added together to calculate the total earnings. If an individual has earnings only through PAYE or self-assessment, then their total earnings will be equal to their PAYE or self-assessment earnings.

These self-assessment earnings only includes profits from partnership enterprises and profit from sole-trader enterprises. As the self-assessment data does not include any information on the number of days worked for a tax year, the earnings cannot be annualised.

### **The Coronavirus Job Retention Scheme (CJRS) and Self-employed Income Support Scheme (SEISS):**

As earnings in this release relate to the 2020/21 tax year, this overlaps with the time period in which the CJRS and SEISS operated. These schemes were designed to support individuals through the Coronavirus pandemic, and ran throughout 2020 and 2021.

For the CJRS, typically 80% of a furloughed employee's wage was paid for by HMRC, with some employers opting to fund the remaining 20% of the wage. For the SEISS, eligible individuals were able to claim a taxable grant at multiple occasions over the course of the pandemic, which varied between 70% and 80% of their three months' average trading profits, capped at between £6,570 and £7,500.

Given this, earnings from this time period may have been influenced by these schemes.

### **Scottish Index of Multiple Deprivation (SIMD):**

The SIMD ranks small areas (data zones) in Scotland from most deprived to least deprived. The SIMD overall rank is calculated from the individual ranks of seven domains: Income, Employment, Health, Education/skills, Housing, Geographic access, and Crime. The quintiles represent 5 equal groups of the SIMD ranks, with quintile 1 representing the 20% most deprived areas, and quintile 5 representing the 20% least deprived areas.

This release uses SIMD 2012 as this was the index available during the 2015/16 tax year, which aligns with the completer cohort for this publication.

Further detailed information on [SIMD ranks](#) is available on the SIMD website.

**Age:**

The age of an individual at the start of their MA is used in this release as this aligns with how SDS publish by age and funding bands in their statistical releases.

**Scottish Vocational Qualification (SVQ) level:**

The SVQ level is recorded by SDS in the MA data. MAs were reported based on SVQ level until 2018/19, at which point they were then reported based on SCQF level. Given that the cohort used in this release is MAs that completed in 2015/16, SVQ level has been used to maintain accuracy to the level of qualification, as SCQF to SVQ mapping exercises may result in some erroneous matches due to inconsistent alignment across levels for some MAs.

**Suppression and rounding:**

In line with disclosure control rules, information based on 10 or fewer individuals has been suppressed. This aligns with our previous releases of LEO data. All earnings are presented to the nearest £100.

## Background

The Small Business, Employment and Enterprise Act 2015 enabled the UK government, for the first time, to link higher education and tax data together to chart the transition of graduates from higher education into the workplace. The Department for Education (DfE) commissioned the Department for Work and Pensions (DWP) to link Higher Education Statistics Agency (HESA) records for the whole of the UK to the tax and benefits records. Following this, Scottish Government were able to use this process to link Scottish Funding Council (SFC) and Skills Development Scotland (SDS) records to tax and benefits records for Scotland, allowing for assessment of earnings and outcomes for those in colleges and Modern Apprenticeships (MA).

This release presents employment and earnings outcomes five years after completion for those who completed an MA in Scotland. Figures are presented only for those who successfully completed an MA and have not been split by full time or part time modes of study. On average, matching of over 95 per cent of each completer cohort to tax and/or benefit data has been achieved. This high match rate is most likely due to SDS collecting data on National Insurance Number (NINO). NINO is also included in DWP's Customer Information System (CIS).

The employment data covers those with records submitted through the Pay As You Earn (PAYE) system and records submitted through the self-assessment system. The core purpose of PAYE is to collect tax and its coverage reflects this. Up until April 2013, employers were not required to supply information to HMRC for individuals who earned below the Lower-earnings Limit (LEL) for National Insurance contributions, although for large employers these individuals were thought to be included due to the methods of data transfer. Since then, employers have been required to provide earnings information for all employees if even one employee of the company is paid above the LEL threshold. The self-assessment data captures the activity of individuals with income that is not taxed through PAYE, such as income from self-employment.

The PAYE and self-assessment systems do not collect information on the number of hours worked; therefore, whether an individual is working full-time or part-time cannot be ascertained currently. There is ongoing work to explore the opportunity to link the LEO data to the Annual Survey of Hours and Earnings (ASHE), which will allow for a subset of the LEO data to contain information on full-time and part-time work patterns. Self-assessed earnings are not published in isolation, rather they are included as part of a total earnings figure. See 'Total earnings' under Methodology for more information on this. All figures are based on UK tax, benefit and student records only: activity of those who move abroad to work or study after graduating is not reflected in the employment or further study figures. Instead, these individuals are categorised as 'activity not captured'.

## Glossary

**Modern Apprenticeship (MA):** MAs provide individuals with the opportunity to secure industry-recognised qualifications at a range of qualification levels while in employment. MAs can be a new team member or an existing employee seeking to increase their capability. MAs also provide a way for businesses to train employees to industry-recognised standards.

**Occupational Grouping:** There are over 80 MA frameworks. Each framework is assigned to one of 17 Occupational Groupings. Historical frameworks included in this publication have been appropriately mapped to current Occupational Groupings for this release by SDS.

A list of [occupational groupings](#) is available on SDS's website.

**Scottish Vocational Qualification (SVQ):** Scottish Vocational Qualifications (SVQs) are work-based qualifications produced by experts from industry, commerce and education set to the national standards for their sector.

The [Scottish Credit and Qualifications Framework \(SCQF\)](#) on the SCQF website contains further information on how SVQs map across SQA qualifications and SCQF levels.

**The Customer Information System (CIS):** A computer system used by the Department for Work and Pensions that contains a record for all individuals that have been issued with a National Insurance (NINO) number. It contains basic identifying information such as name, address, date of birth and NINO.

**Nominal earnings:** Nominal earnings represent the cash amount an individual was paid. They are not adjusted for inflation (the general increase in the price of goods and services).

**PAYE:** HMRC's system to collect Income Tax and National Insurance from employment. The LEO project uses information from the P45 to ascertain employment spell length and from the P14 (P60) to determine annual earnings.

**Self-assessment:** Self-assessment data captures the activity of individuals with income that is not taxed through PAYE, such as income from self-employment, savings and investments, property rental, and shares.

**Sustained annualised earnings:** The calculated average daily wage across the tax year grossed up to the equivalent annual figure.

**Tax year:** Runs from 6 April to 5 April the following year. For example the 2020/21 tax year ran from 6 April 2020 to 5 April 2021.

**Total earnings:** The total of annualised PAYE earnings and raw self-assessed earnings.

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