# CONTENTS

# EXECUTIVE SUMMARY

This report presents the findings from an analysis of workforce data from the Staff Individualised Record (SIR) dataset for Further Education (FE) providers in England in 2018-19. In the main body of the report, we present our analysis of the characteristics of the FE workforce in detail; this section summarises the findings of that analysis.

This report is intended to be descriptive only  describing the raw data received from FE providers  and as such does not aim to draw detailed conclusions about the implications of the data received.

We have seen the quantity and quality of the SIR dataset improve over time.
records from 186 providers,[1] in comparison to the 90,792 submitted by 193 providers in response to SIR 26.

Earlier years have fewer records as the data covered colleges only,[2] whereas since SIR 24 the dataset has included a range of provider types. Figures relating to trends over time therefore need to be interpreted in this context.

## Providers (Section 2)

**Numbers over time**. The number of FE providers submitting responses to the SIR dataset has increased from 122 in SIR 21 (2012-13 data) to 186 in SIR 27.[3] The total number of records received has increased from 90,792 in SIR 26 to 91,800 in SIR 27.

**Types**. We classify FE providers as one of four types: colleges, independents, local authorities, and other.

**Prevalence of college providers**. College providers make up over half of the provider sample (110 of 186), and the 93 General Further Education Colleges (GFECs) that submitted dather

allocations, to estimate the total headcount of staff at each provider type. We estimate that there are around 159,000 staff at colleges, 26,000 at independent providers, 15,500 at local authority providers, and 16,000 at other providers. This implies an estimated total of around 216,500 staff in the FE sector.[5]

**FE**

compared to 47 across all provider types.

**Ethnicity**

facing technical staff between SIR 22 and SIR 27.

**Demographics**. The demographics of the FE college workforce have not changed substantially since SIR 22. The workforce remains predominantly female (61%) and white British (85%). While the median age has only increased from 46 to 47, the proportion of the workforce that are aged 60 and over has increased from 10% in SIR 22 to 14% in SIR 27.

**Part-time work**. The proportion of staff working part-time has declined from 48% in SIR 22 to 46% in SIR 27. This decline is concentrated amongst male staff.

**Annual pay change over time**. Median annual pay has increased by 2.8% since SIR 22, from £26,500 to £28,600. For teaching staff, median annual pay has fallen slightly, from £32,500 to £32,400.

**Gender pay gap**. The gender pay gap has increased for colleges since SIR 22, from 7.3% to 10.2%. Median pay for male staff increased by 6.9%, while for female staff median pay increased by 6.9%.

# 1. INTRODUCTION

This report presents the findings from an analysis of workforce data from the Staff Individualised Record (SIR) dataset for Further Education (FE) providers in England in 2018-19 (SIR 27). The SIR has been collected from colleges in the FE sector since 1993, and from all types of provider since 2015. This is the latest publication in the series of annual SIR reports on the English FE workforce, and the seventh to be

# 2. PROFILE OF FE PROVIDERS

In this section, we provide an overview of the providers that responded to the SIR 27 data collection exercise.

As Figure 1 below shows, General Further Education Colleges (GFECs) are by far the most common provider type in the SIR 27 dataset. GFECs represent 50% of all providers in the sample, and 85% of all college providers.

As in SIR 26 and SIR 25, we continue to categorise local authorities separately due to the large number of such providers. Although the number of independent providers in the sample has decreased by eight from SIR 26, there is still a large number of them; we continue to classify these providers in gh-

**Figure 1. Number of providers by provider type**

| Provider type | High-level provider type | Number of providers |
|---|---|---|
| General Further Education College | College | 93 |
| Local Authority training provider | Local Authority | 40 |
| Independent training provider | Independent | 27 |
| Agriculture and Horticulture College | College | 6 |
| Sixth Form College | College | 6 |
| Specialist Designated College | College | |

independents may be smaller on average than other provider types.[9]

**Figure 2. Number of records by provider type**

| Provider type | High-level provider type |
| --- | --- |

## College providers

There are 110 college providers in total in our sample, comprising:

- 93 General Further Education Colleges;[10]
- 6 Agriculture and Horticulture Colleges;
- 6 Sixth Form Colleges;
- 4 Specialist Designated Colleges; and
- 1 Art, Design and Performing Arts Colleges.

[10] This is over half of all GFECs in England (https://www.aoc.co.uk/about-colleges/research-and-stats/key-further-education-statistics).

Figure 3 below shows the distribution of college providers in SIR 27, in terms of the number of records (i.e. contracts) submitted as part of SIR 27. The largest providers are GFECs, with a number of providers submitting over 1,000 records. At the other end, there are several providers with fewer than 300 records, including most of the Sixth Form Colleges (SFCs) and Specialist Designated Colleges (SDCs) in our sample.

Our sample of colleges has decreased from SIR 26, when we received submissions from 118 college providers. However, the number of records has actually increased slightly from 82,028 in SIR 26 to 82,366 in SIR 27. This may reflect the latest waves of college mergers as part of the Area Reviews.[11] T

**Figure 3. College providers in SIR 27**



Source: Frontier Economics analysis of SIR 27 data

## Independent providers

There are 27 independent providers in our sample, down from 35 in SIR 26. This year, workforce surveys were sent to independent providers on behalf of the DfE at the same time as the SIR collection, which may have affected the rate of returns to the SIR. Using ESFA funding allocations combined with the SIR, we estimate that there are around 26,000 individuals (headcount) working in independent FE providers in England. Note that this figure is estimated for all independent providers in England, of which we only have a sample in the SIR dataset.

Figure 4 below shows the distribution of these providers, in terms of the number of records submitted.

As in SIR 26 and SIR 25, there are a small number of providers with a relatively large number of records (the largest three providers make up over two-thirds of the records for independent providers), and a long tail of smaller

## Local authority providers

There are 40 local authority providers in our sample, a notable increase from the 25 local authority providers in SIR 26 and SIR 25. A data-sharing protocol designed to mostly replace a freedom of information request sent by the University and Colleges Union, was introduced to the SIR collection for local authorities this year which may have increased the return rate to the SIR. A similar approach for colleges was introduced for SIR 26. Using ESFA funding allocations combined with the SIR, we estimate that there are around 15,500 individuals (headcount) working in local authority FE providers in England. Note that this figure is estimated for all local authority providers in England, of which we only have a sample in the SIR dataset.

Figure 5 below shows the distribution of these providers, in terms of the number of records submitted.

As with independent providers, there are a small number of providers with a relatively large number of records (the largest six providers make up over half of the records for local authority providers), and a long tail of smaller providers making up the rest of the distribution.

Using ESFA funding allocations combined with the SIR,[14] we estimate that there are around 15,500 individuals (headcount) working in local authority FE providers in England. Note that this figure is estimated for all local authority providers in England, of which we on

### Terms of employment

Figure 12 below shows the distribution of employment types in the sample. Approximately three-quarters of staff are on permanent contracts. Casual, fixed term, and zero hours contracts are the other key categories.

Since SIR 25, the proportion of permanent staff has decreased, while the proportion of casual staff has increased. The proportion of permanent staff fell from 78.0% in SIR 25, to 75.7% in SIR 26, and to 74.6% in SIR 27. In contrast, the proportion of casual staff has increased from 7.4% in SIR 25, to 9.9% in SIR 26, and to 11.1% in SIR 27. The proportions of zero hour contracts and fixed term staff have been fairly consistent. Zero hour contracts were 5.2% of records in SIR 25, 4.5% in SIR 26, and 4.4% in SIR 27. Fixed term contracts were 9.1% of records in SIR 25, 9.5% of records in SIR 26, and 9.1% in SIR 27.

in SIR 25, increased to 6.1% in SIR 26, and decreased to 0.7% in SIR 27. However, given the relatively small numbers of returns from independent providers, particularly in SIR 27, this may simply be a feature of the sample.

**Figure 13. Percentage of records by employment type and provider type**

| Terms of employment | % of all records | | | |
|---|---|---|---|---|
| | College | Independent | Local Authority | Other |
| Casual staff | 8.7% | 0.7% | 43.1% | 9.4% |
| Employed through an agency | 0.2% | 0.0% | 0.1% | 0.0% |
| Fixed term staff | 9.6% | 1.7% | 4.4% | 11.8% |
| Permanent staff | 77.0% | 96.6% | 41.1% | 77.0% |
| Self-employed | 0.2% | 0.7% | 0.0% | 1.8% |
| Voluntary staff | 0.3% | 0.0% | 1.3% | 0.0% |
| Zero hours contract | 4.0% | 0.4% | 10.0% | 0.0% |

Source: Frontier Economics analysis of SIR 27 data

## Turnover and in-year employment change

In this section, we look at two measures of changes in employment:

1) **Turnover rate**. The number of contracts ending within 2018-19 as a proportion of all contracts at the beginning of the year.

2) **In-year employment change**. The change in the total number of contracts between the beginning and end of 2018-19, as a proportion of all contracts at the beginning of the year. This is the same measure as has been reported in previous versions of this

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   change to clarify that this measure **does not** look at the change from one year to the next, but rather the change in employment between the beginning and end of a single year (in the case of this report, the 2018-19 academic year).

**Figure 14. Turnover and in-year employment change, by occupation**

| Occupation | Turnover | In-year employment change |
|---|---|---|
| Admin staff | 15% | 0.7% |
| Apprentice | 33% | 20.8% |
| Assessor | 16% | 4.5% |
| Learner-facing technical staff | 13% | 4.4% |
| Middle manager | 12% | -3.1% |
| Non-teaching professional | 11% | -0.3% |
| Senior manager | 14% | -2.7% |
| Support staff - caring | 13% | 6.6% |
| Support staff - other | 16% | 2.6% |
| Support staff - technical | 14% | -0.3% |
| Support staff - trades | 10% | -2.4% |
| Teaching staff | 12% | 2.3% |

Source: Frontier Economics analysis of SIR 27 data

## Part-time work

Figure 16 below shows the distribution of fraction of full-time worked across all providers in SIR 27. Note that this measures the number of hours **actually worked**, as opposed to the number of **contracted hours**.[20]

Looking across all provider types, 47% of staff work part-time (we define part-time as working less than 90% of the full-time hours for the job role in question). As shown in Figure 16, this 47% of staff working part-time are spread across a range of the distribution, from those working just 1-9% of full-time to those working 80-89% of full-time.

**Figure 16. Shares of staff by fraction of full-**

## Gender

This section looks at two metrics of gender balance in the FE workforce:

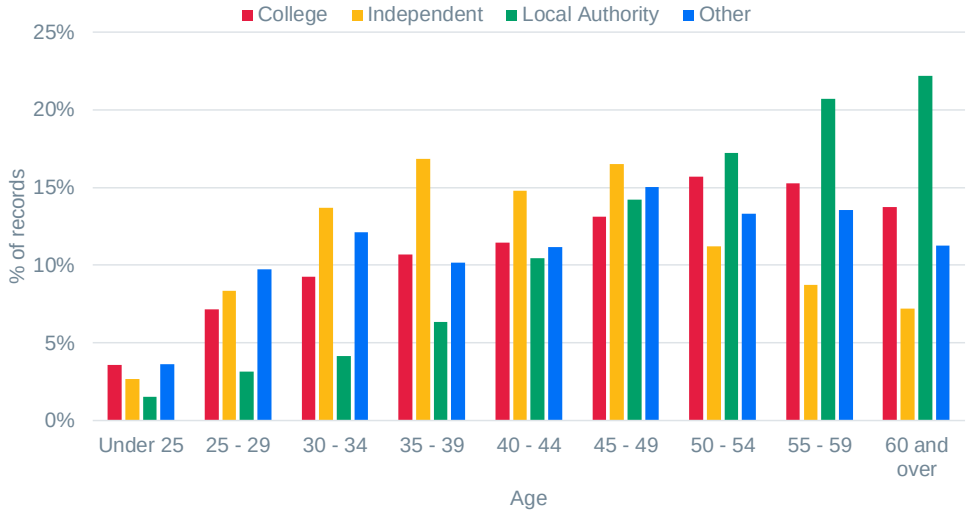
*Proportion working part-time – male and female*

Another important facet of gender comparisons is the proportion of men and women working full-time or part-time. Figure 21 below represents this for the FE workforce in SIR 27

## Age

Figure 22 shows the age distribution of FE staff across provider types. Local authority provider staff are notably older than those of other provider types. Just 15% of staff at local authority providers are 39 or younger (compared to 30% across all providers), and 43% of staff are 55 or over (compared to 29% across all providers). In contrast, staff at independent providers are relatively younger. 42% of staff at independent providers are 39 or younger, and 16% are 55 or over.

**Figure 22. Age distribution by provider type**




Source: Frontier Economics analysis of SIR 27 data

These differences in age distribution are summarised in Figure 23 below, which shows the mean and median age of staff at each provider type. Local authorities have a mean age of 51 compared to 46 across all providers, while independent providers have the youngest staff with a mean of 43. The median ages tell a similar story.

**Figure 23. Average age by provider type**

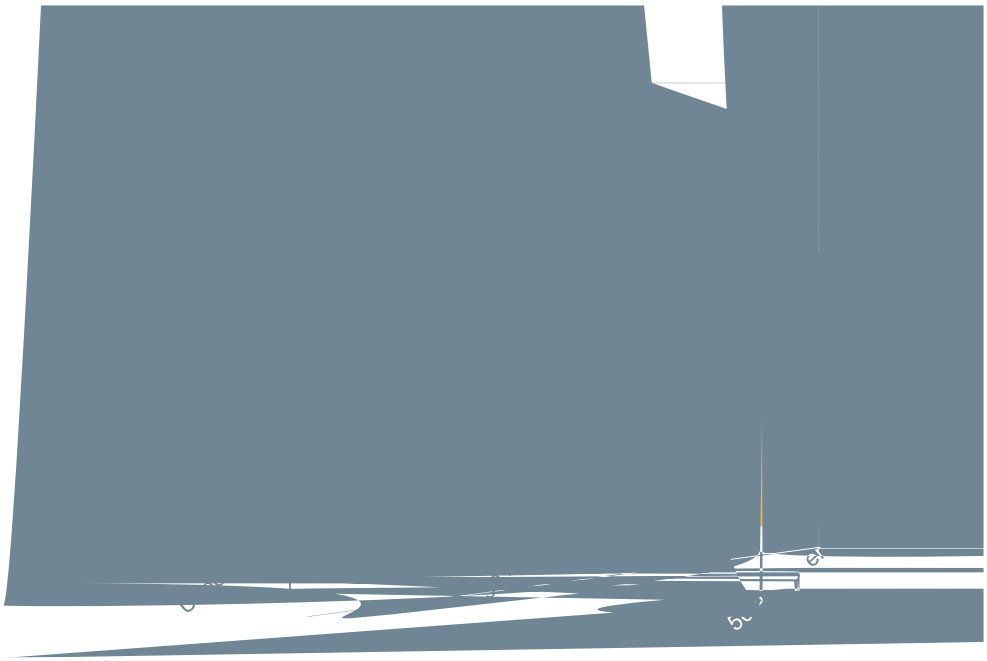
| Provider type | Mean age | Median age | Mode age band |
|---|---|---|---|
| **All providers** | **46** | **47** | **50 - 54** |
| Colleges | 46 | 47 | 50 - 54 |
| Independent | 43 | 42 | 35 - 39 |
| Local authority | 51 | 52 | 60 and over |
| Other | 45 | 45 | 45 - 49 |

Source: Frontier Economics analysis of SIR 27 data

Figure 24 below shows how the age distribution of the FE workforce has changed over time (for simplicity, we have grouped together different age bands). Since SIR 21, and particularly since SIR 24, the proportion of staff under 49 has fallen while the proportion of those who are 50 and over has risen. This trend has continued in SIR 27.[23]

[23] This pattern remains the same when we look solely at college providers. The increase in the proportion of the workforce that is 50 and over is therefore not due to the introduction of non-college providers such as local authorities in SIR 24.

**Figure 24. Age distribution, change over time**



Source: Frontier Economics analysis of SIR 21-27 data

Figure 25 below shows that these changes in the age distribution have had relatively small impacts on the average age of the FE workforce over time. Mean and median age have both increased by 2 years since SIR 24, but the age band within which the highest proportion of workers fall has remained 50-54 since SIR 21.

**Figure 25. Average age, change over time**

| Year | Mean age | Median age | Mode age band |
|---|---|---|---|
| SIR 21 | 45 | 46 | 50 54 |
| SIR 22 | 45 | 46 | 50 54 |
| SIR 23 | 44 | 45 | 50 54 |
| SIR 24 | 44 | 45 | 50 54 |
| SIR 25 | 46 | 47 | 50 54 |
| SIR 26 | 46 | 47 | 50 54 |
| SIR 27 | 46 | 47 | 50 54 |

Source: Frontier Economics analysis of SIR 21-27 data

**Figure 28. Ethnicity of staff, change over time**

**Figure 30. Ethnicity of middle managers, change over time**

Source: Frontier Economics analysis of SIR 21-27 data

From Figure 31
ethnicities as before (when we considered all staff categories), though

**Figure 31. Ethnicity of middle managers, change over time, excl. white British**

Source: Frontier Economics analysis of SIR 21-27 data

As for senior managers, the trends are similar to that of middle managers. Figure 32 and Figure 33 show the changes in ethnicity distribu

**Figure 32. Ethnicity of senior managers, change over time**

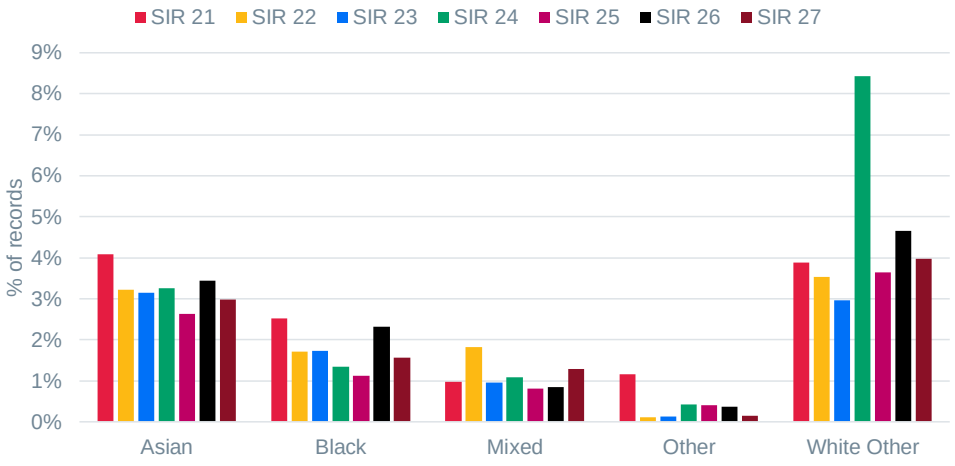
Source: Frontier Economics analysis of SIR 21-27 data

As with middle managers, we observe from Figure 32 that the overall proportion of white British senior managers has increased slightly from 87% in SIR 21 to 90% in SIR 27.

When excluding white British, we observe from Figure 33 that there is a

category, similar to what we observed in middle managers.

**Figure 33. Ethnicity of senior managers, change over time, excl. white British**




Source: Frontier Economics analysis of SIR 21-27 data

## Sexual orientation

Figure 34 shows the sexual orientation of the FE workforce by provider type.

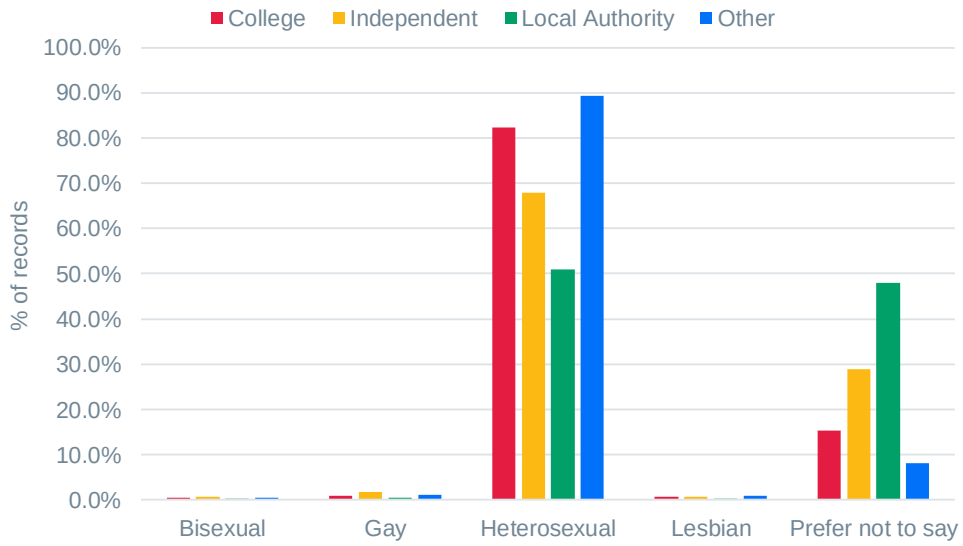
The proportion of the FE workforce identifying as bisexual, gay or lesbian is similar across provider types between 0% and 2% but the proportion identifying as heterosexual varies in direct (negative)

Across all provider types, 81% of the workforce self-report as heterosexual, and 17% state that they prefer not to answer the question.

The number of responses has increased this year, from 33,353 records in SIR 26 to 40,594 records in SIR 27.

decreased slightly from 19% in SIR 26 to 17% in SIR 27.

**Figure 34. Sexual orientation of staff by provider type**




Source: Frontier Economics analysis of SIR 27 data

## Disability

Figure 35 shows the disability status of the FE workforce. As in SIR 26, the vast majority of staff at each provider type do not have a disability.

Independent providers have seen a decrease in the proportion of

in SIR 27.[25] Correspondingly, independent providers have seen the

**Figure 36**

## Annual pay

Figure 37 below shows the distribution of annual pay for staff in FE colleges. For comparability purposes, this analysis has been limited to full-time staff, and those who were in their job for the whole of the 2018-19 academic year.

As a result of these restrictions, the sample sizes in various pay bands for non-college providers are very low; we therefore restrict Figure 37 to college providers only.[26]

**Figure 37. Annual gross pay distribution, FE colleges**

Source: Frontier Economics analysis of SIR 27 data

Note: to ensure comparability, we report the annual pay for full-time staff only, and only include pay for contracts in existence throughout the whole of 2018-19.

The college pay distribution is similar to that in SIR 26. It is clustered in the range £15,000 -

all provider types and £40,

**Figure 43. Regional pay discrepancies, change over time (colleges only)**

Source: Frontier Economics analysis of SIR 21-27 data

Note: to ensure comparability, we report the annual pay for full-time staff only, and only

**Figure 44. Gender pay gap by provider type**

| Provider type | Median pay - male staff | Median pay - female staff | Male-female % pay gap |
|---|---|---|---|
| All providers | £30,300 | £27,300 | 10.1% |
| College | £30,400 | £27,300 | 10.3% |
| Independent | £26,000 | £25,000 | 3.8% |
| Local authority | £27,000 | £27,900 | - |

## Retention

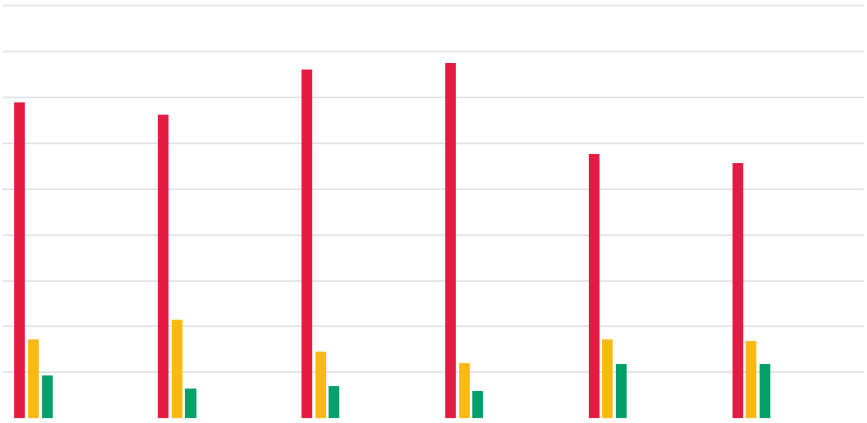
In this section, we focus on permanent staff, for whom the concept of retention is most meaningful.[32] Figure 46 below shows the overall retention pattern of permanent staff in SIR 27.

**Figure 46. Retention pattern distribution**

Source: Frontier Economics analysis of SIR 27 data

Figure 46 shows that the large majority of staff in the FE sector have only worked 0 to 5 years. This pattern does not change significantly when we consider the distribution of years worked within each gender (Figure 47), or within each ethnicity (Figure 48). We have omitted the di Figure 47 due to small samples.

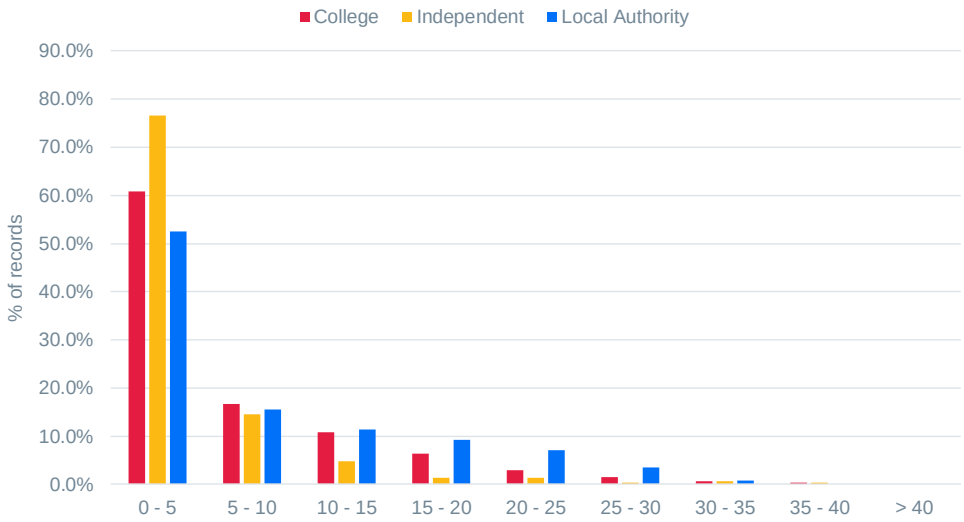
**Figure 48. Retention pattern distribution, by ethnicity**



Source: Frontier Economics analysis of SIR 27 data

Across provider types, we can see that colleges and local authorities tend to have a higher proportion of workers who have stayed longer at their jobs (Figure 49). Independent providers have a higher proportion of workers who have worked fewer years at their job.
have been omitted due to the low sample size.)

**Figure 49. Retention pattern distribution, by provider type**




Source: Frontier Economics analysis of SIR 27 data

Figure 50 shows the retention patterns within each occupation.[33] We can see that for every occupation type, the majority of staff have only worked 0 to 5 years. There are some slight variations in the exact percentages across occupation types, but in general the proportion of those who have worked beyond 10 years is about 20-30% for all occupations, except for assessors.

[33] Apprentices excluded.

# 4. PROFILE OF FE TEACHING STAFF

In this section we look specifically at the characteristics of teaching staff within FE, the largest occupational category accounting for 41% of staff.

## Age

Figure 52 below compares the proportion of teaching staff in different age bands compared to all staff, across all provider types. Other than a notably lower proportion of teaching staff who are under 25, there are only minor differences between the age distributt age /

## Subject taught

Figure 54 below shows the proportion of teaching staff (in FTE terms) in the SIR 27 dataset for each subject. The three largest subjects by proportion of staff are Health, public services and care; Arts, media and publishing; and Preparation for life and work.

**Figure 54. Proportion**

## Annual pay

**Figure 59**

**Figure 60. Median pay by subject (teaching staff only)**

| Subject | Median pay |
|---|---|
| Agriculture, horticulture and animal care | £28,100 |

Figure 62

## Continuing professional development

Figure 63 shows the distribution of hours spent by teaching staff on continuing professional development (CPD), in SIR 25-27.

**Figure 63. Hours spent by teaching staff on continuing professional development, SIR 25-27**

Source: Frontier Economics analysis of SIR 25-27 data

45% of teachers spent 26-30 hours per year on CPD in 2018-19, of which 96% spent exactly 30 hours.

Despite previous expectations of at least 30 hours per year spent by each teacher on CPD, 31% of teachers appear to have spent fewer than 30 hours on CPD in 2018-19. This is also higher than 27% in SIR 25 and 24% in SIR 26.[40]

Compared to SIR 26, the number of CPD hours in SIR 27 appears to have dispersed. The proportion of those with less than 20 CPD hours per year have increased from 16% to 25%, but the proportion of those with more than 50 CPD hours have also increased from 8% to 15%.

The median number of hours spent on CPD has not changed substantially over time. It has increased only slightly from 29.5 in SIR 26 to 29.8 in SIR 27. As for the mean CPD hours, after decreasing from 46 in SIR 25 (due to the small number of staff reporting a high number of CPD hours in SIR 25) to 35 in SIR 26

## Qualifications

In this section, we look at two key qualifications held by teachers:

1) Highest subject-
   Degree in Mathematics (which would be classed as a Level 6 qualification).
2) Highest general teaching qualification; for example, a PGCE (which would be classed as a Level 7 qualification).

*Subject-specific qualifications*

Figure 64 looks at the highest qualification held by teachers in their main

teachers have qualifications at Level 5 or below.

**Figure 65. Teaching staff highest qualification held in main subject area, selected subjects**



Source: Frontier Economics analysis of SIR 27 data

*General teaching qualifications*

Figure 66 below shows the proportion of teachers with different levels of general teaching qualifications. As in SIR 25 and SIR 26, the most common category is Level 7, which includes PGCEs.

The distribution of general teaching qualifications is broadly similar to that observed in previous years. We observe that the proportion of teachers with Level 4 teaching qualifications has continued to decline, while the proportion with Level 3 teaching qualifications has continued to increase. The proportion of those with Level 5 teaching qualifications also increased between SIR 26 to SIR 27, leaving it just under the proportion of those with Level 7 teaching qualifications in SIR 27.

**Figure 66. Teaching staff**

## Offender / SEND / community learning

In this section, we look at three specific areas of learning covered by some FE teachers:

- Learning and Skills Service (OLASS).
- SEND learning: teaching those with special educational needs and disabilities.
- Community learning: providing teaching to the community, for example through public classes.

The majority of contracts which specify that the individual is involved in offender, SEND, or community learning are classified as teaching staff. Figure 67 below shows the occupational distribution for each category.

Of those involved in SEND learning, a substantial minority are learner-facing technical staff, of which the majority are learning support staff. About 25% of learning support staff contracts state that the individual is engaged in SEND learning.[41]

**Figure 67. Staff breakdown by occupational group, staff engaged in offender/SEND/community learning**

As the majority of contracts for those involved in offender, SEND, or community learning are classified as teaching staff, we focus only on teaching staff for our analysis below.

*Number of teachers*

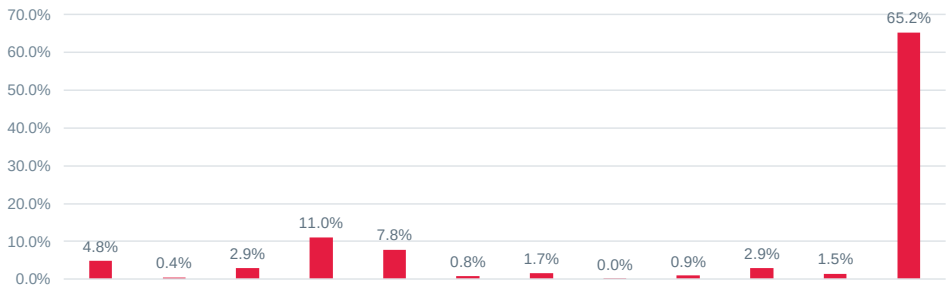
A relatively small number of teachers are involved in each of these different types of teaching. As shown in

## Qualified Teacher Learning and Skills (QTLS)

In this section, we look at the Qualified Teacher Learning and Skills (QTLS) certification.

Figure 71 shows the distribution of QTLS certification by occupation. Perhaps unsurprisingly, we see that majority of those with QTLS certification are teaching staff. However, there is also a non-negligible minority of QTLS certifications held by learner-facing technical staff (11%) and middle managers (7.8%).

**Figure 71. QTLS distribution**




Source: Frontier Economics analysis of SIR 27 data

# 5.

## Number of providers and records

Overall, the number of colleges that submitted data as part of the SIR data return has increased from 84 in SIR 22 to 110 in SIR 27. See Figure 73 for a breakdown.

Despite the total number of providers increasing, the number of Sixth Form Colleges in the sample has declined. Sixth Form Colleges are also the only college type to have reduced numbers in SIR 27. In line with earlier sections, we therefore exclude Sixth Form Colleges from subsequent comparisons across time to minimise the effect of a changing sample composition.

**Figure 73. Number of providers by provider type, SIR 22 and SIR 27**

| Provider type | Number of providers SIR 22 | Number of providers SIR 27 |
|---|---|---|
| General Further Education College | 64 | 93 |
| Agriculture and Horticulture College | 6 | 6 |
| Sixth Form College | 12 | 6 |
| Specialist Designated College | 2 | 4 |
| Art, Design and Performing Arts College | 0 | 1 |
| **Total** | **84** | **110** |

Source: Frontier Economics analysis of SIR 22 and SIR 27 data

Figure 74 shows the number of records submitted for each type of college in SIR 22 and SIR 27. Again, the numbers have increased for every type of college except for Sixth Form Colleges.

**Figure 74. Number of records by provider type, SIR 22 and SIR 27**

| Provider type | Number of records SIR 22 | Number of records SIR 27 |
|---|---|---|
| General Further Education College | 54,103 | 76,455 |
| Agriculture and Horticulture College | 3,500 | 3,689 |
| Sixth Form College | 3,125 | 1,479 |
| Specialist Designated College | 172 | 578 |
| Art, Design and Performing Arts College | 0 | 165 |
| **Total** | **60,900** | **82,366** |

Source: Frontier Economics analysis of SIR 22 and SIR 27 data

In both SIR 22 and SIR 27, a small number of colleges made up a sizeable proportion of the records submitted. For example, in SIR 22 the top 10 providers submitted 33.1% of the records; in SIR 27, the top 10 providers submitted 22.8% of the records.

## Number of employees

Colleges have grown since SIR 22, when measured by the average number of employees. Figure 75 below shows the median number of employees in SIR 22 and SIR 27 for all colleges and for each type of college separately.

**Figure 75. Median number of staff (headcount) by provider type, SIR 22 and SIR 27**

Source: Frontier Economics analysis of SIR 22 and SIR 27 data

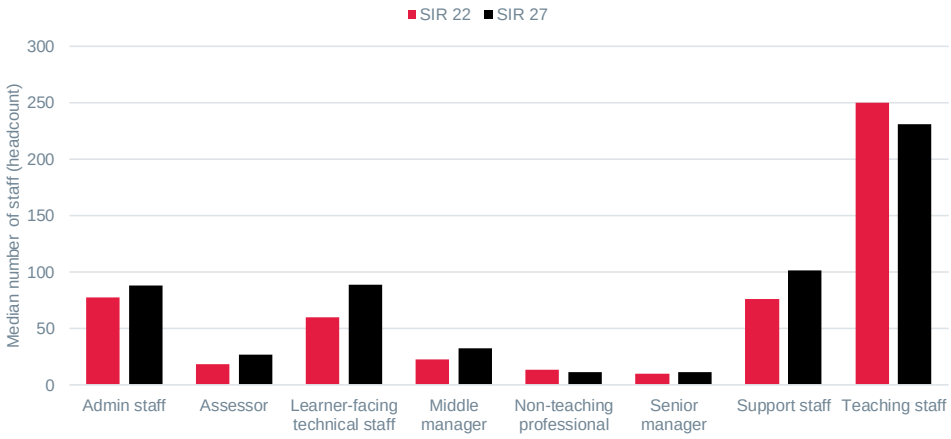
Note: GFEC = General Further Education College; AHC = Agriculture and Horticulture

**Figure 76. Number of FE college mergers by year (1993-2019)**

Source: Association of Colleges

We have also looked at the median number of employees in specific occupational categories (Figure 77).While the median number of total employees at colleges rose between SIR 22 and SIR 27, the median number of teaching staff fell from 250 to 231. The biggest (absolute) changes in headcount numbers were seen in learner-facing technical staff (60 to 89) and support staff (76 to 102). The median number of senior managers increased from 10 to 11 between SIR 22 and SIR 27.

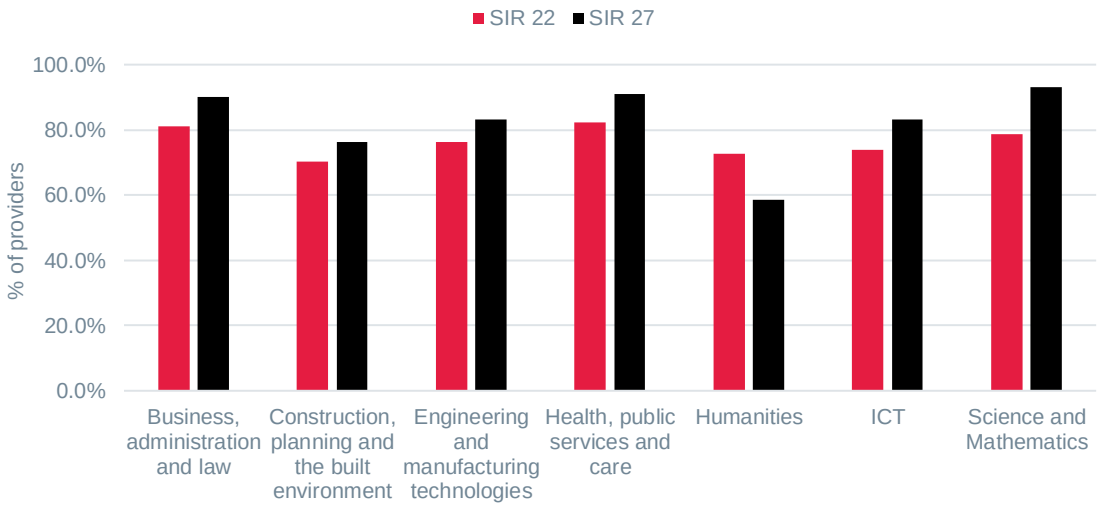
**Figure 77. Median number of staff (headcount) by occupation, SIR 22 and SIR 27**




Source: Frontier Economics analysis of SIR 22 and SIR 27 data

Note: totals may not equal totals reported in Figure 75 above, due to observations for which occupational category is unknown.

**Figure 78. Proportion of providers offering selected subjects, SIR 22 and SIR 27**




Source: Frontier Economics analysis of SIR 22 and SIR 27 data

Note: subject names have changed over time. We have only included subjects in this table that were reported on a comparable basis in SIR 22 and SIR 27. We have also combined Science and Mathematics in SIR 27 to enable a comparison with SIR 22 (when Science and Mathematics were reported together under one subject name). See the annex for details of the SIR 22 and SIR 27 subjects included under the consolidated subject categories reported in this table. % of providers refers to the proportion of providers which have at least one contract for the subject in question in the year in question.

In Figure 79, we show the average number of FTE contracts per provider, *for those providers which offer the subject in question*.

Figure 79 shows a mixed picture. For business, administration and law, as well as ICT, we see that the FTE contracts per provider have decreased though the number of providers offering this subject has increased. On the other hand, some subjects like engineering and manufacturing technologies, as well as science and mathematics saw an increase in the average FTE contracts per provider. The pattern of the decline in the humanities continues here too; not only did the proportion of providers offering humanities decrease, the average FTE contracts per provider pertaining to the humanities have also decreased as well.

**Figure 79. Average number of FTE contracts per provider, selected subjects, SIR 22 and SIR 27**

## Demographics

The demographics of the FE college workforce have not changed substantially since SIR 22. (Figure 81)

The workforce remains predominantly female; 61% of all staff are female in both SIR 22 and SIR 27. However, the proportion of women in teaching and senior management roles has decreased between SIR 22 and SIR 27 by 3-4 percentage points each.

Although4enG[2(2841.92 reW*nBT/F1 11.52 Tf1 0 0 1 42.6 706.66 Tm00 G[)3/F1 11.52 Tf1 0 0 1 17.06 691.

## Pay

# ANNEX DATA PROCESSING

This annex will describe the data processing we have carried out in order to compile the final SIR 27 dataset.

## Original dataset

The analysis in this report is based on Staff Individualised Record (SIR) data from the academic year 2018-19 7

We standardised the FTE variable by converting all figures into percentages. We do this by assuming that any entry greater than 0 and less than 1 was intended as a proportion, and therefore multiply these entries by 100 to convert them into percentages.

For permanent staff with FTE equal to exactly 1, with above £20,000 annual pay, we assumed that the 1 was meant to represent 100% rather than 1%.[48]

Replaced FTE as missing where the figure is above 120% (this is outside the range defined by the data specification). This includes both (i) cases of FTE being greater than 120%

19/20.

**7. FTE and annual pay**

Replaced as missing the annual pay and FTE variables where pay = 0, FTE = 0, and the contract is not classified as voluntary.

**8. Appointment/leaving date**

Removed all observations with an appointment date after the end of the academic year (31/07/2019).

Removed all observations with a leave date before the beginning of the academic year (01/08/2018).

We assumed an appointment date of 01/08/2018

We recognise that this will affect the interpretation of our results, and that caution is required. For example, if we observe a change of 10% in average pay for a given group of staff between SIR 21 and SIR 27, this may be because individual members of staff at specific providers are earning 10% more now than they did in SIR 21, but it may also mean that new providers are now included in the data who happen to pay higher wages than the previous average (and always did).

As a way to strike a balance between the two approaches, we have dropped Sixth Form Colleges (SFCs) in most of our comparisons over time. Despite the sample size and provider counts increasing over time, the number of SFCs and records from SFCs have been declining over the iterations of SIR. Removing SFCs is therefore a way to remove some of these composition effects, without excessively reducing the data quantity as SFCs do not constitute a large proportion of our data.s