February 2023 Issue 9

Heart of the South West Employment and Skills Review

In this edition

Introduction

Welcome to the January 2023 edition of the quarterly Heart of the South West LEP area Employment and Skills Review.

The UK economy continues to slip into recession, with early signs suggesting a cooling of the labour market and rise in youth unemployment, while the cost-of-living crisis continues to bite.

According to PWC's research, 86% of UK adults say they are concerned about day to day living costs. Inflation remains high, at 9.2% nationally in December 2022.

This edition of the Employment and Skills Review includes a look at employment, the labour market environment (including wages and vacancies), the levels of labour supply across both the working age population and those in or seeking employment, and levels of economic inactivity, unemployment and the number of people claiming benefits - primarily for the reason of being unemployed.

This quarter's special feature looks at numeracy skills in the Heart of the South West.

The Employment and Skills Review is produced by Gabrielle Climie at the University of Exeter on behalf of the Heart of the South West Skills Advisory Panel.

Contact: G.Climie2@exeter.ac.uk

Take 10

1 Employee numbers have begun to drop both locally and nationally, but are above pre-pandemic numbers, while self-employment is still well below where it had been before the pandemic.

2 Full-time work levels remain comparatively stable. Part-time employment remains well below pre-pandemic levels but has begun to recover.

3 Agriculture and fishing employment saw a major decrease locally, while employment increased in construction, banking, finance and insurance, and public administration, education, and health. Professional occupations and process, plant and machine operatives saw major increases in employment, while caring, leisure and other service occupations saw a considerable decrease in employment.

4 Wages in the Heart of the South West have historically been considerably lower than the national average. Torbay and Devon are particularly low ranked compared to other county level local authorities, an ongoing trend.

5 The number of unemployed people per vacancy has increased but still indicates a tight labour market. Demand for care and healthcare roles continue to dominate locally.

6 Redundancy rates have begun to increase and while the Heart of the South West sees a lower redundancy rate than the national average, redundancies are at their highest level since 2021.

7 Unemployment levels have begun to rise but are lower than in 2021. Economic inactivity levels remain high, with a major upswing in activity among 50- to 64-year-olds cancelling out the decrease seen in the previous edition of this report.

8 Claimant numbers have begun to rise slightly across the LEP area. However, the claimant rate remains stable with minimal changes compared to the last edition: the rate is lower than this time last year.

9 Student populations locally are highly concentrated around Exeter and Plymouth. Torbay and Somerset have unusually high concentrations of 18 year-olds: this is likely due to the data covering students still in 16-19 education.

10 This edition's special feature covers numeracy skills

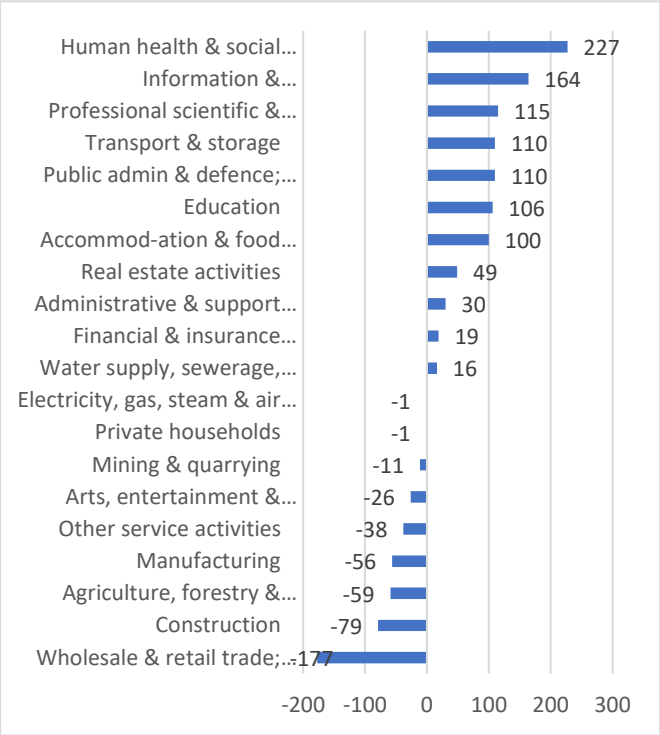
Employment & Jobs

The UK economy faces further challenges in the face of the cost-of-living crisis, high inflation, and the economy moving into recession.

Jobs and industry sector

Taking workforce jobs[1] first, the latest count suggests there were 597,000 more workforce jobs in the UK in September 2022 than in September 2020. This is over twice as many as the increase between June 2019 and June 2022 (268,000).

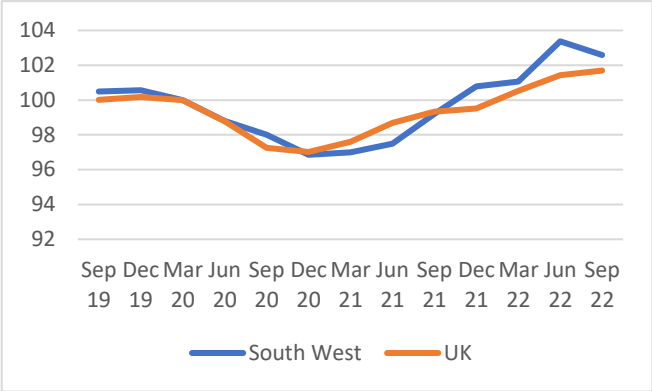
Figure 1 Change in number of workforce jobs; UK: September 2019 to September 2022



Source: ONS - Summary of labour market statistics

The total number of workforce jobs has now surpassed the pre-pandemic level by some way. Administrative and support service workforce jobs saw a far smaller increase than between June 2019 and June 2022 while Information and communication saw an increase more than 50% larger than previously.

Figure 2 Workforce jobs, South West and England, September 2019 to September 2022; Index (March 2020 = 100)



Source: ONS – Workforce Jobs by Region and Industry

The ONS does not publish estimates for workforce jobs for geographies lower than regions. The South West of England has recovered to above pre-pandemic levels of workforce jobs (Figure 2). Human health and social work activities, transport and storage, education, accommodation and food service activities and information and communication all saw considerable increases compared to before the pandemic. The largest sectoral decreases in the region were wholesale and retail trade and construction, the same as the national pattern.

Employees

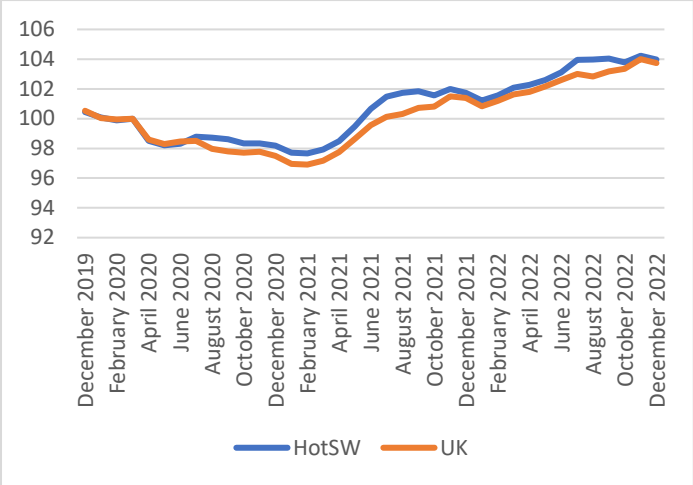
In addition to workforce jobs, the ONS - in partnership with HMRC - publishes statistics for the number of employees registered for PAYE. Unlike the former, the PAYE series counts people rather than jobs. According to this source, the number of payrolled employees in the UK remains above that of the start of the pandemic.

When indexed against March 2020, the Heart of the South West outperforms the UK for PAYE recovery. While the number of employees in the LEP area fell faster than the UK average in the early stages of the pandemic it recovered earlier.

As revealed in the most recent figures the South West has seen a small increase on the number of payrolled employees compared to the start of the pandemic.

[1] Employee and self-employment jobs.

Figure 3 Payrolled employees; Heart of the South West and the UK, December 2019 to December 2022; Index (March 2020 = 100)



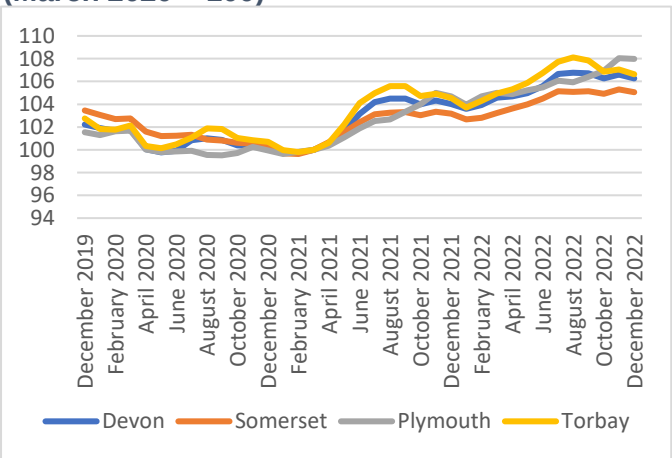
Source: ONS and HMRC

According to this data there were 745,047 payrolled employees in the Heart of the South West in December 2022. By residential local authority area, this headline figure is broken down by:

- 328,225 in Devon CC
- 242,982 in Somerset
- 119,132 in Plymouth
- 54,708 in Torbay

These figures are largely smaller than in the previous edition of this report, with the exception of Plymouth (Figure 4).

Figure 4 Payrolled employees; Heart of the South West Upper Tier Local Authorities, December 2019 to December 2022; Index (March 2020 = 100)



Source: ONS and HMRC

Self-employment

According to the workforce jobs series, national employee jobs in September 2022 were 3.2% higher than their pre-pandemic level while self-employment jobs were 9.0% lower. These gaps are larger than in June 2022, covered by the previous report. Self-employment jobs are now higher in number than in December 2021 and March 2022 but have decreased since the previous report.

The Annual Population Survey suggests that the number of people locally who are self-employed is currently 2.8 percent lower than pre-pandemic. This is a decrease compared to the previous edition and suggests that there are now less than 4,000 fewer self-employed than pre-pandemic.

This compares well to self-employment at the national level – which is still 14.3% lower than before the pandemic.,

This is important as self-employment is an important source of employment locally. The LEP saw a self-employment rate of 12.6% between October 2021 and September 2022 compared to the national average of 9.2%. Self-employment is highest in West Devon (26.4%), Mendip (21.3%), and Torridge (20.6%).

People in employment

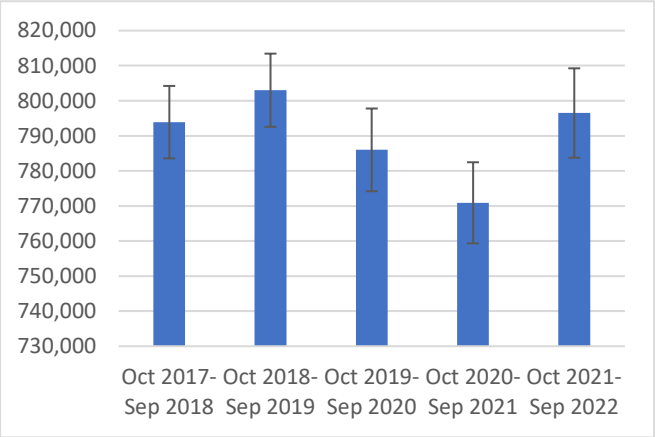
In addition to workforce jobs and payrolled employees, the ONS monitors economic activity via the Labour Force Survey. The number of people in employment measured by the LFS consists of people aged 16 and over who did one hour or more of paid work in the week leading up to their interview. A person with more than one job would only be counted once in these statistics.

The LFS is the foundation for the Annual Population Survey (APS) - a key source of labour market statistics at the local level. According to the APS, 796,000 people living in the Heart of the South West and aged between 16 and 64 were in employment during October 2021 to September 2022 (an employment rate of 76.4%); and 818,400 people in this age group were employed in workplaces in the area. This means that there are more people working in businesses in the

area than living here. The gap between these two has increased but remains within the confidence value for the workplace analysis. However, this is worth further observation, should a trend towards people living outside of the area but working inside, begin to develop.

The APS suggests that there were around 25,600 more Heart of the South West residents in employment between October 2021 and September 2022 than during October 2020 to September 2021 (Figure 5).

Figure 5 Total employment (resident base); Heart of the South West: October 2017 to September 2022



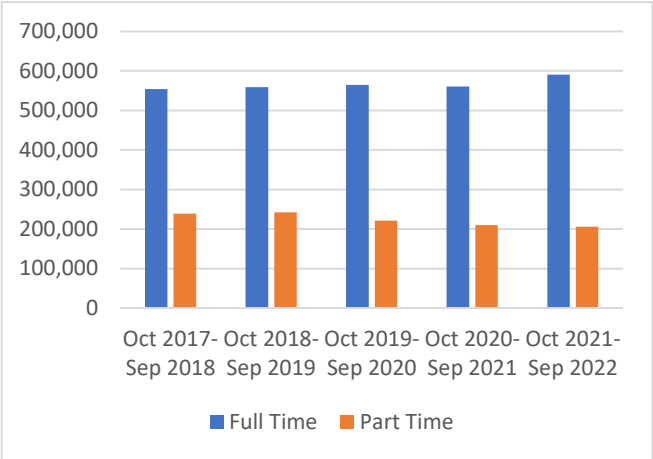
Source: Annual Population Survey - NOMIS

Full and Part time employment

Between the most recent data (October 2021 to September 2022) and before the pandemic, the number of people working full time nationally increased by 397,100, but the number of people working part-time dropped by 467,300. This is a larger increase in full-time work and smaller decrease in part-time than in the previous edition of this report.

The number of people working part-time has fallen since the start of the pandemic, but has had an overall downwards trend for the past four years (Figure 6).

Figure 6 Full and part time employment (16-64); Heart of the South West, October 2017 to September 2022



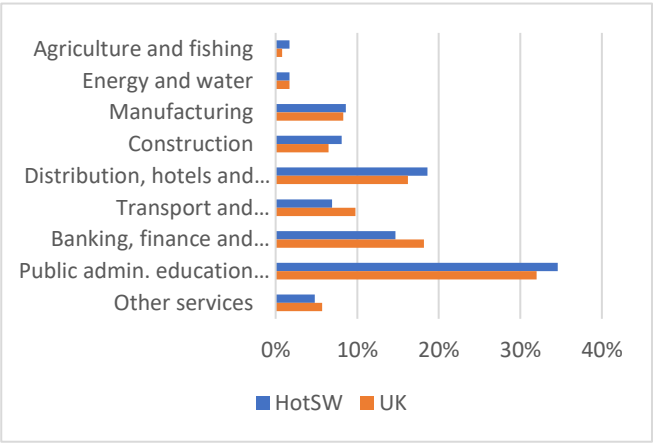
Source: Annual Population Survey, NOMIS

Within the Heart of the South West the number of people working full time locally has generally followed a gradual upward trend (Figure 6), but with changes largely not statistically significant.

Industry

The industrial profile of the LEP area can be looked at through the Annual Population Survey or the Business Register and Employment Survey (BRES) which offers more detail down to the 5 digit SIC (industry classification) level. The next data release for the BRES is due in the autumn, and so this edition cover the Annual Population Survey data on employment by industry. The change between 2020 and 2021 in the BRES data can be found in the previous edition of this report.

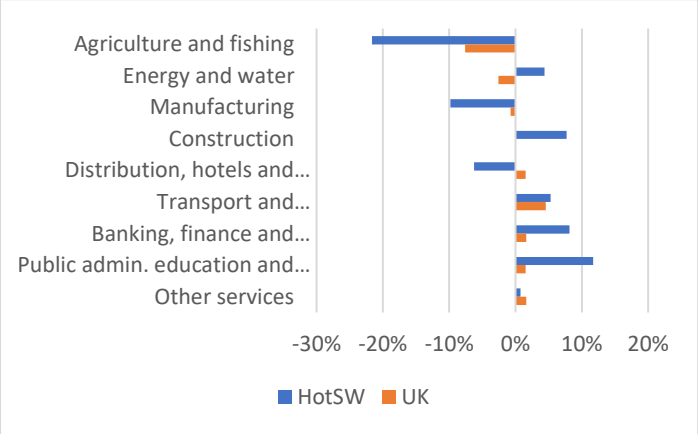
Figure 7 Industrial Employment Profile, Heart of the South West and UK, October 2021 to September 2022



Source: Annual Population Survey (APS) – NOMIS

The LEP profile (Figure 7) notes the strengths that the Heart of the South West has in distribution, hotels, and restaurants plus public administration, education and health. It has comparatively lower levels of employment in transport and communications, and banking, finance and insurance. In Figure 8, the changes in these sectors over the previous year can be seen.

Figure 8 Change in employment by industrial sector, Heart of the South West and England, October 2020 to September 2021 to October 2021 to September 2022



Source: Annual Population Survey (APS) – NOMIS

The major decrease in Agriculture and fishing compared to the national average is notable considering the proportionally larger amount of employment that it accounts for in the LEP area. The decrease in distribution, hotels and restaurants employment is concerning for similar reasons. The increase in public administration, education and health reflects trends of high demand for these sectors.

Occupation

Challenges in the labour market have not affected all occupations equally. Over the September to November 2022 quarter the national employment rate was mostly unchanged[2]. However, this is not reflected in the changes by major group occupation. The largest reductions were seen in caring, leisure, and other service occupations with both the largest numerical and percentage decrease in employment at both local and national level: this is the same occupational sector as the previous edition.

The largest increases were again in professional occupations both locally and nationally, although this increase was 17 percentage points higher for the LEP than for England, a drastic increase from the 5% gap over the prior period. This is related to increased demand for higher level skills. Associate professional occupations and elementary occupations both had trends different from the national average in the same way as the previous edition.

Table 1 shows the year-on-year percentage changes in occupation employment across the Heart of the South West compared with England[3].

Table 1 Change in employment by occupation; Heart of the South West and England; October 2020 to September 2021 to October 2021 to September 2022

Occupation (SOC2010)	HotSW	England
Managers, directors and senior officials	-9%	0%
Professional occupations	30%	13%
Associate prof & tech occupations	4%	-3%
Administrative and secretarial occupations	0%	0%
Skilled trades occupations	-1%	-1%
Caring, leisure and other service occupations	-19%	-11%
Sales and customer service occupations	-1%	-6%
Process, plant and machine operatives	20%	0%
Elementary occupations	-8%	3%

Source: Annual Population Survey - NOMIS

[2] Employment in the UK - Office for National Statistics (ons.gov.uk)

[3] Due to the change in classification from SOC2010 to SOC2020 for the comparator years below, the following data is not a perfectly like-for-like comparison

Labour Market Environment

Wages

Real time data from HM Revenue and Customs puts seasonally adjusted median gross monthly pay across the Heart of the South West during December 2022 at

- £1979 in Devon
- £2050 in Somerset
- £2051 in Plymouth
- £1865 in Torbay

This is consistently below the average for the UK, which over the same time period had a median gross monthly wage of £2220. Torbay has the third lowest monthly median wage in the UK, above the Isle of Wight and Leicester. Devon remains in the second lowest decile but has moved to the lowest spot in this decile.

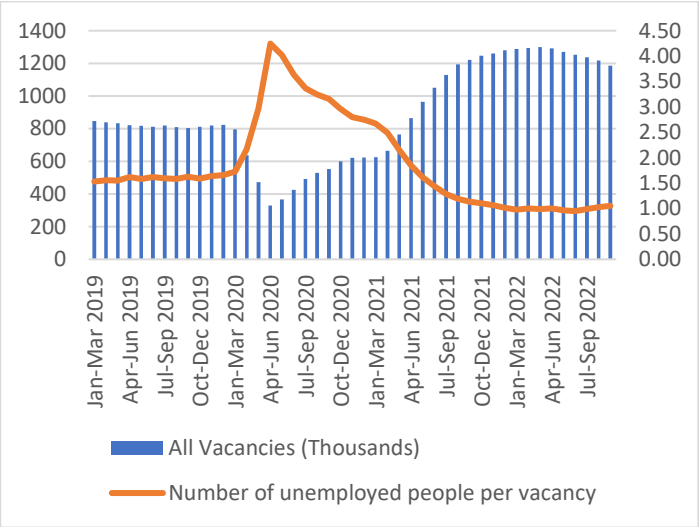
Unlike the national average, all four of the LEP's upper tier local authorities saw a decrease in pay between November and December 2022. This is a matter of serious concern: although the headline figure for inflation has dropped the prices for basic goods such as bread, milk and cheese have continued to soar[4]. At the national level growth in average total pay including and not including bonuses was 6.4% between September 2022 and November 2022[5]. The trends noted in the last edition of this report remain pertinent: this is the highest growth in regular pay after the pandemic period, but in real terms pay continues to fall. Between September and November 2022, total and regular pay both fell by 2.6%, once again among the largest drops since 2001[6].

Average regular pay growth nationally was 7.3% for the private sector and 3.3% for the public sector between September and November 2022[7].

Vacancies

The number of vacancies nationally fell by 75,000 between the July to September 2022 and October to December 2022 periods. This is the sixth consecutive period of negative growth, with vacancies falling in 14 of 18 sectors[8]. There are currently 1.161 million job vacancies nationally, 365,000 above January to March 2020 levels (Figure 7). In September to November 2022, the number of unemployed people per vacancy was at 1.0, up slightly from the previous quarter, but still showing a tight labour market.

Figure 9: UK Vacancies: January to March 2019 to June to August 2022



Sources: ONS Vacancy Survey, and UNEM01 SA: Unemployment by age and duration (seasonally adjusted) - ONS

Real-time vacancy information is generated by Lightcast. This source identified 40,924 unique postings assigned to locations within the Heart of the South West LEP area in December 2022. The following table (Table 2) is extracted from Lightcast's refreshed methodology - and so does not correspond exactly to this table in previous editions of this report.

Demand for support workers is consistently high, as is the demand for care and health care workers, as well as nurses, cleaners, production operatives and delivery drivers. December 2022 shows increased demand for apprentices, and quantity surveyors, and includes the increased demand for administrators seen in December 2021.

[4] UK inflation dips but food prices rise 17% amid squeeze on low-income families | Inflation | The Guardian
[5] Labour market overview, UK - Office for National Statistics (ons.gov.uk)
[6] Ibid.
[7] Ibid.
[8] Vacancies and jobs in the UK - Office for National Statistics (ons.gov.uk)

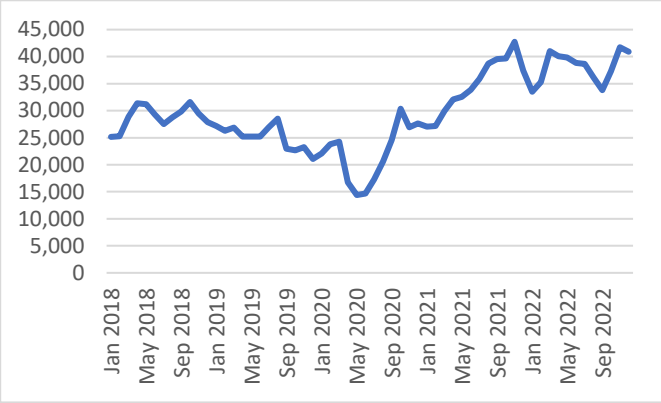
Table 2: Top 10 unique postings for the Heart of the South West: December 2020, December 2021 and December 2022

December 2020 (27,621)	December 2021 (37,410)	December 2022 (40,924)
Support Workers (731)	Support Workers (950)	Support Workers (1224)
Care Assistants (353)	Warehouse Operatives (392)	Care Assistants (591)
Registered Nurses (322)	Care Assistants (385)	Cleaners (368)
Health Care Assistants (278)	Cleaners (363)	Health Care Assistants (347)
Staff Nurses (267)	Staff Nurses (325)	Warehouse Operatives (316)
Warehouse Operatives (173)	Health Care Assistants (300)	Delivery Drivers (250)
Production Operatives (172)	Production Operatives (275)	Production Operatives (244)
Cleaners (160)	Delivery Drivers (215)	Apprentices (201)
Registered General Nurses (160)	Registered Nurses (208)	Administrators (193)
Labourers (126)	Administrators (184)	Quantity Surveyors (180)

Source: Lightcast

The number of job postings changes from month-to-month but is 9.4% higher than the same month last year. Local vacancies spiked again in November 2022, but these have begun to reduce again: the seasonal impact of increased demand should be noted here. Nonetheless, vacancies remain historically high.

Figure 10: Total postings in the Heart of the South West LEP, January 2018 to December 2022



Source: Lightcast

Redundancies

Labour Force Survey data provides valuable coverage of where redundancies are occurring[9], but this data is unavailable below the region level. Regional data only provides numbers and rates with no further breakdown. Between September and November 2022:

- The redundancy rate for the South West (2.8) was lower than the national average (3.4), but both have increased to their highest level since 2021[10].
- By industrial sector, the largest numbers of redundancies were wholesale and retail. The highest rate was in accommodation and food services (7.7) and financial, insurance and real estate activities (7.6).
- Redundancy rates were highest among those aged 25-34 (3.7). The highest number was among 35–49-year-olds.

Redundancies have begun to increase from their previously low levels. With the pressure of the cost-of-living crisis, vacancies dropping away from their historical peak, and the UK tipping into recession, this poses a grim picture.

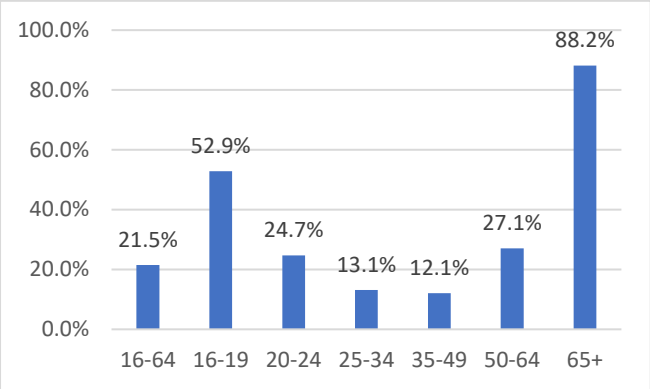
[9] RED02: Redundancies by age, industry and region - Office for National Statistics (ons.gov.uk)

[10] The redundancy rate is the ratio of the redundancy level for the given quarter to the number of employees in the previous quarter, multiplied by 1,000.

Labour Supply

Economic Inactivity

Figure 11 Economic Inactivity Rate by Age, Heart of the South West, October 2021 to September 2022



Source: Annual Population Survey (APS)

The current economic inactivity rate for those aged 16 to 64 in the Heart of the South West is 21.5%, an increase of 0.3% on the previous period.

Overall the LEP area saw a 3.4% increase in economic inactivity over the past year. However, this pattern was not consistent: 20- to 24-year-olds saw a decrease of 7.7%, while 16 to 19 year olds saw an increase of 10.6%, and 35 to 49 year olds saw an increase of 26.6%, nullifying the decrease of over 20% seen in the previous edition. The UK saw a change of 0.2%, too small to be statistically significant, rather than an increase, and while Devon (+1.8%), Somerset (-0.9%), and Torbay (0.0%) saw negligible if any changes, Plymouth saw a dramatic 19.3% increase in economic inactivity. The number of those economically inactive not wanting a job locally has decreased by 4.8% total over the past year, a reverse of the previous trend, but lower than the national average of a decrease of 7.8%. The difference between the percentage of those economically inactive at the national and LEP level is not statistically significant.

In the latest three-month period September to November 2022) decreases in economic inactivity at the national level were primarily seen among 16 to 24 year olds and 50 to 64 year olds, and largely from those who had been students, retired, or long-term sick[11].

In Employment or Wanting a Job

A comprehensive definition of the workforce includes those employed, the unemployed, and the economically inactive who want a job. Using this definition there were around 858,300 individuals comprising the Heart of the South West labour force between October 2021 and September 2022, made up of the following:

- 590,200 people aged 16 to 64 working full time
- 205,700 people aged 16 to 64 working part time
- 22,600 people aged 16+ who are unemployed
- 39,800 people aged 16 to 64 who are economically inactive but want a job

There are 184,500 economically inactive residents who do not want a job: the number of these who could return to the workforce with support is unclear. An indeterminate number of the 346,800 economically inactive residents aged 65 and over may also want a job.

The labour force in the LEP area saw an increase of 21,300 compared to the previous year, an increase of almost seven times more than the increase between July 2020 to June 2021 and July 2021 to June 2022, but a decrease from the 866,100 figure in January to December 2020. This corresponds to people moving back into work after the pandemic as the economy reopened and infection levels dropped.

Unemployment

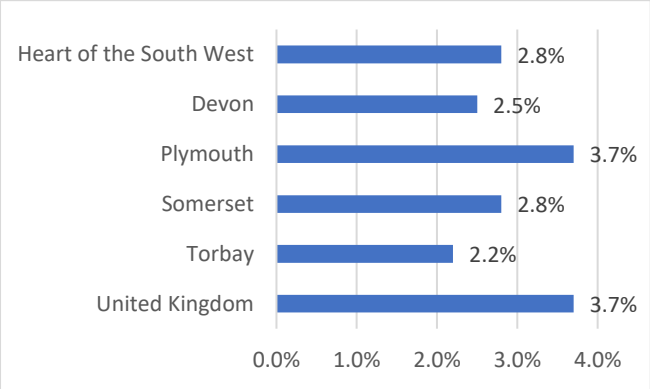
According to the latest Annual Population Survey 22,600 people aged 16 to 64 were unemployed[12] in the Heart of the South West between October 2021 and September 2022, a decrease of 2,600

[11] Employment in the UK - Office for National Statistics (ons.gov.uk)

[12] The ILO definition of unemployment is that "an unemployed person is a person aged 15 or over: without a job during a given week; available to start a job within the next two weeks; and actively having sought employment at some time during the last four weeks or having already found a job that starts within the next three months."

from the previous year. Over half were aged between 25 and 49 (55.8%), approximately a third were aged between 16 and 24 (33.2%), and the smallest group were aged 50 to 64 (11.1%). The LEP area and its county level local authorities have lower unemployment rates than the national average, with the exception of Plymouth.

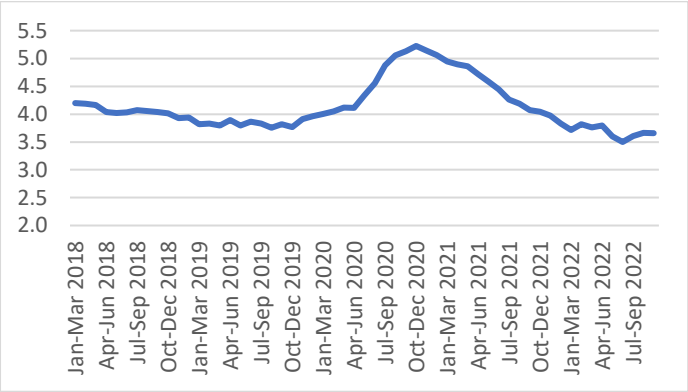
Figure 12 Unemployment rate, aged 16 to 64, October 2021 to September 2022



Source: NOMIS – Annual Population Survey

The most recent LFS data provides the more recent national quarterly figures. The national unemployment rate has risen from its historic low between June and August 2022. The highest recent peak was during the pandemic at 5.2% between October and December 2021.

Figure 13 Unemployment rate in the UK; quarterly January 2018 to November 2022

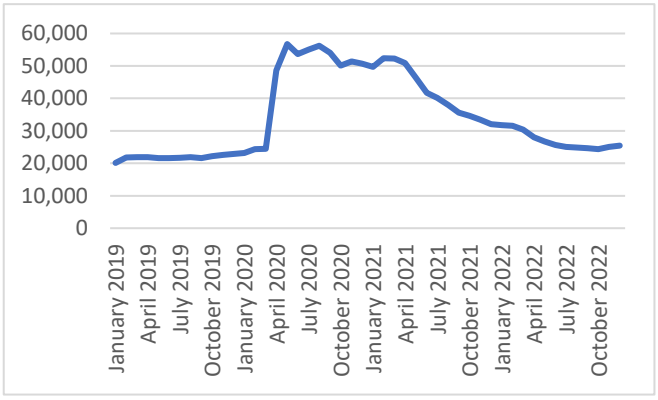


Source: ONS - Summary of labour market statistics

Claimant Count

Many people who are unemployed are eligible for unemployment-related benefits and government support to help them back into work. The claimant count is an administrative count of individuals who are claiming benefits principally as they are unemployed. In December 2022, the claimant count in the Heart of the South West stood at 25,450 people. This remains above the pre-pandemic level (February 2020, 24,400) (Figure 14).

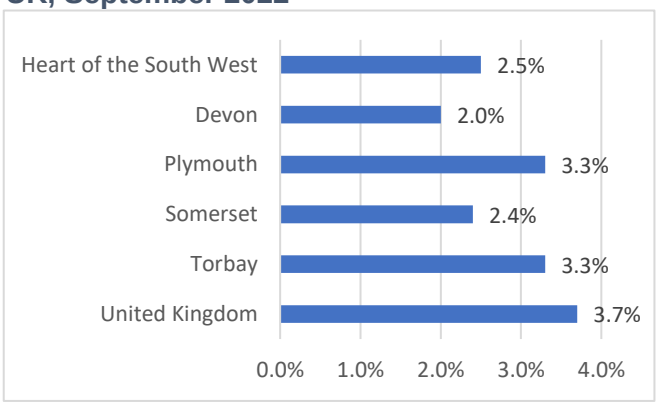
Figure 14 Claimant count – Heart of the South West, January 2019 to December 2022



Source: NOMIS – Claimant Count

The claimant count is also published as a proportion of the resident population aged 16 to 64, producing the claimant *rate*. In December 2022, the local claimant rate was 2.5%, 1.2 percentage points below the national average of 3.7%. Claimant count rates have changed no more than 0.1 percentage point since September 2022, but have dropped by between 0.6 and 0.8 percentage points since December 2021.

Figure 15 Claimant count, Heart of the South West, Upper tier local authorities, and UK, September 2022



Source: NOMIS – Claimant Count

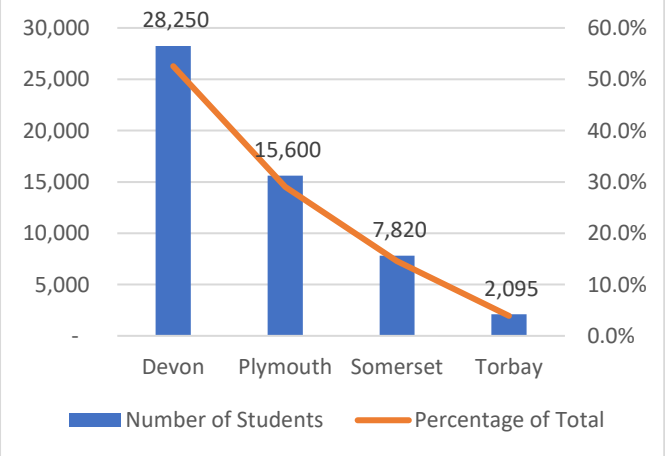
Skills Supply

Student Population

The ONS has released data from the 2021 census on the student population aged between 18 and 30, and how this demographic is distributed across the country. Due to their high mobility, this group has been historically difficult to measure accurately, potentially affecting the accuracy of measuring local authority populations[13].

According to this data source, the Heart of the South West had 53,765 students aged between 18 and 30 at the time of the census. The majority of these students are found in Devon (Figure 16), with 52.5% of the total in the LEP, followed by Plymouth. Somerset has less than a quarter, and Torbay less than a twentieth of the total number. Of the lower tier local authorities, Exeter unsurprisingly stands out with a higher concentration of students (19,400) than Plymouth and Torbay combined. Torridge and West Devon had the lowest numbers of students at 755 and 710 respectively. This corresponds to some extent to the geographical distribution of higher education facilities across the LEP area.

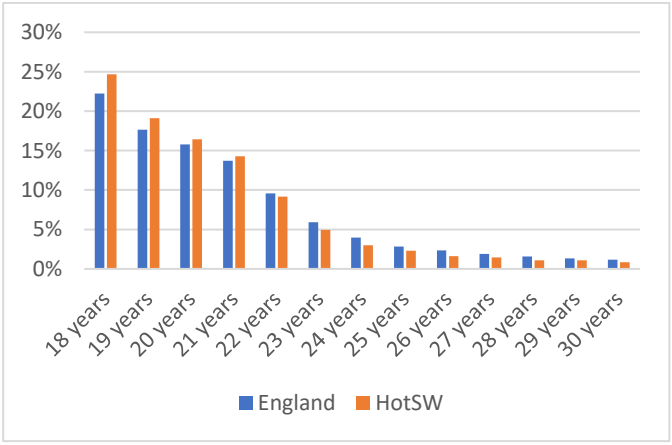
Figure 16 Usual resident population in full-time education aged 18 to 30 years, Heart of the South West LEP and local authorities, Census 2021



Source: ONS – Census 2021 – Resident population in full-time education by age 18 to 30

While there are both older and younger participants in full-time education, the 18 to 30 bracket covers the peak demographic for university students. Even within this group distribution is not equal (Figure 17). More students are 18 than any other age: this is a typical age to complete further education to qualify for university and has the lowest amount of time for students to have dropped out of their courses. The fastest reductions ate between 22 and 23, 23 and 24, and 21 and 22, covering the period where the majority of students would be finishing their courses, with allowances for longer courses and later starts. 30-year-olds made up less than 1 percent of student numbers locally.

Figure 17 Usual resident population in full-time education by age 18 to 30 years, Heart of the South West LEP and England, Census 2021



Source: ONS – Census 2021 – Resident population in full-time education by age 18 to 30

These trends largely mirror the national patterns. However, the Heart of the South West has higher levels of students in the youngest range of the demographic bracket, and fewer students in the oldest age categories. These patterns are exacerbated in the parts of the LEP with fewer students. 41% of Torbay's students were 18, while only 16% were 19. Somerset was similar, with 46% of students aged 18, but only 14% aged 19. It is likely that these students include those who were still in full-time education including further education at the time of the census, and not in post-18 education.

[13] Local authority district case studies of student populations in DPM pilot areas - Office for National Statistics

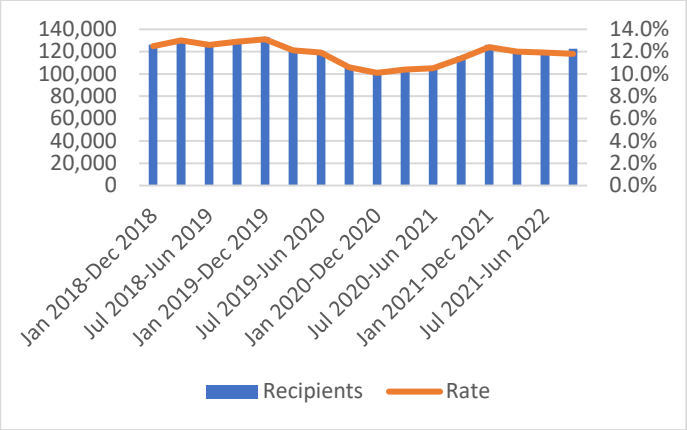
Job-related Training

Skills are not solely developed through the education system: many are learned on the job, and employers train their staff across a variety of skill types from specific technical skills to transferable foundational skills. Employer-provided training is shown to increase productivity and profitability for employers and wage and career prospects for employees, as well as impacts at industry level and wider social benefits[14]. However, access to job-related training differs: constraints such as time, attitude, access and finances apply, as well as differing skill demands by sector. The last two decades have seen a general decline in participation in job-related training, especially among the young, high skilled, and highly educated workforce who historically received more training compared to the rest of the workforce[15].

In the Heart of the South West LEP area, 122,700 workers aged between 16 and 64 had training in the past 4 weeks between October 2021 and September 2022, a rate of 11.8%. This is slightly higher than the national average over this time period of 11.2%, but not statistically significant. A notable dip in training provision was seen during the pandemic (Figure 18): there has been some recovery, but there are already signs of a further downward trend.

When looking at additional factors, those aged between 25 and 64 were slightly less likely (11.6% compared to 11.8%) to receive training, but this was not statistically significant. The difference between training provision for full and part-time workers locally was also not statistically significant. The major difference was between public sector and private services and production. 24% of public sector employees had received job-related training, while this figure dropped to 12.4% for private services, and down to only 7.9% for production.

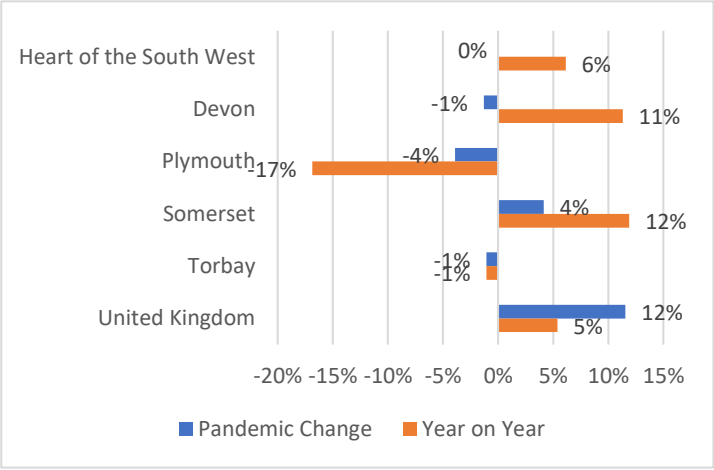
Figure 18 Recipients of job-related training in the previous 4 weeks, Heart of the South West, January 2018 - July 2022



Source: NOMIS - Annual Population Survey

Between October 2020 to September 2021 and October 2021 to September 2022, the Heart of the South West saw an upward trend in provision overall similar to the national average. However, the LEP area has not surpassed the pre-pandemic level of provision and this training is not evenly distributed across the local authorities (Figure 19). Plymouth is unusual in seeing major downward changes, especially on a year-on-year basis.

Figure 19 Change in recipients of job-related training, Heart of the South West, Upper tier local authorities, and UK, Pre-pandemic and Year on Year comparison



Source: NOMIS - Annual Population Survey

[14] 3. Why do enterprises train? | Training in Enterprises : New Evidence from 100 Case Studies | OECD iLibrary (oecd-ilibrary.org)

[15] Centre for Vocational Education Research – Trends in job-related training and policies for building future skills into the recovery (lse.ac.uk)

Special Feature: Numeracy in the UK

Prime Minister Rishi Sunak recently made headlines by advocating compulsory mathematics education up to the age of 18. Meanwhile, the charity National Numeracy have stated that UK numeracy skills have deteriorated. Poor numeracy is associated with a plethora of negative outcomes both at the economic and personal scale from multibillion costs to the UK economy to associations with poverty and poor budget management. Nonetheless, the statement from the Prime Minister was not always well-received, including challenges from the Conservative chair of the Commons education committee[16], and firm insistence that this be based of solid evidence from the general secretary of the Association of School and College Leaders rather than a 'pet project'[17]. Poor numeracy has been a historical challenge for the UK: to face this dilemma at the LEP level an understanding of the current picture is essential. Critically, levels of numeracy across the UK are not only low by international standards but are getting worse[18].

The costs of poor numeracy

Research suggests that poor numeracy correlates to poor financial outcomes across the world, with low numeracy associated with being among the poorest 20% of people in the country and difficulty budgeting - even when accounting for education, and demographic[19]. Correspondingly, there is a robust and significant correlation between numeracy and wealth[20]. The cost-of-living crisis has brought this issue to the forefront: research from KPMG highlighted that 45% of respondents were struggling to budget, 37% were unsure of how much goods cost, and 57% were looking at ways to make their money stretch further[21]. People who reach adulthood with poor numeracy skills are more than twice as likely to be unemployed, and are far less likely to receive promotions, raises or work-related training. Estimates suggest that poor numeracy costs the UK economy approximately £20.2 billion each year[22].

Maths skills are a potential area of development for levelling up. Children who display strong maths skills aged 10 earn significantly more in their 30s[23].Geography can play a role in skills acquisition: in some parts of the UK poorer pupils are over 2 years of education behind their peers by the time they take their GCSEs (Plymouth is among those areas with the largest gap to their peers)[24]. As those who are more numerate accumulate wealth faster than those who are less numerate[25], consistently poor numeracy is liable to exacerbate inequalities. Numeracy offers a key building block for social mobility[26].

There are additional equality and diversity concerns around how maths skills are distributed. Despite receiving 55% of total A levels, female students received just 43% of A levels awarded in STEM subjects. Research suggests that workplace diversity can aid innovation[27], and the potential financial rewards of increased participation in maths qualifications and related subjects (up to and including a potential 19.5%

16 Rishi Sunak's maths-to-18 plans branded 'hugely challenging' by senior Tory MP as criticism mounts (inews.co.uk)
17 https://inews.co.uk/news/education/rishi-sunak-force-pupils-study-maths-until-age-18-2062873
18 national-numeracy-day-2019.pdf (kcl.ac.uk)
19 Low numeracy is associated with poor financial well-being around the world - PMC (nih.gov)
20 Numeracy and wealth - ScienceDirect
21 Rising cost of living places a spotlight on numeracy co - KPMG United Kingdom (home.kpmg)
22 Research reveals how poor maths skills are holding the UK back (kcl.ac.uk)
23 Children with strong maths skills at age 10 earn significantly more in their 30s | Institute for Fiscal Studies (ifs.org.uk)
24 Education and training - GOV.UK (www.gov.uk)
25 Numeracy and wealth - ScienceDirect
26 Bad at maths? The cost of Britain's poor numeracy skills is no laughing matter (cityam.com)
27 Does a different view create something new? The effect of employee diversity on innovation (isihome.ir)

higher than average income for women with economics degrees[28]) could go some way to balancing out the gender pay gap.

Socioeconomic background and ethnicity can also be linked to poorer foundational skills. This is especially relevant for black Caribbean, Irish Traveller, Roma, and Pakistani boys from lower socio-economic backgrounds, as well as many lower socio-economic status white British pupils[29]. This results in limited social mobility and damages scope for racial equality. Adults with poor numeracy are also more than twice as likely to have been teenage parents, to have long-standing illnesses or disabilities, and are more likely to experience depression[30]. The 18 to 24 year old demographic are most likely to be maths-anxious[31], a demographic already likely to be low-income.

Poor numeracy also poses wellbeing and social engagement challenges. Along with the impact of higher unemployment and poorer wages, data from the British Cohort Studies highlights the correlation between numeracy and poor health[32]. Difficulty with numbers can lead to difficulty with dosages, and in the context of the pandemic, difficulty understanding the statistics. This latter issue also invites difficulty with understanding news coverage from election figures to climate change. This is particularly apparent in the digital age, where more numerical data is presented than ever before. For young people, poor numeracy skills are correlated with higher exclusion rates, higher levels of truancy, and social, emotional and behavioural difficulties[33].

Why is tackling poor numeracy a challenge?

One major challenge to the Prime Minister's proposal is maths teaching supply: as noted, targets for maths teacher recruitment have not been met in over a decade[34]. Professor Sir Adrian Smith's review of post-16 mathematics highlights that it is unclear when sufficient specialist capacity would be in place for universal mathematics to be a realistic proposition[35]. A report from the National Foundation for Educational Research (NFER) found that almost two-thirds of schools struggling with teacher shortages had to call in non-specialist teachers to lead maths lessons last year[36], which will have impacted teaching quality. Analysis from the IPPR suggests that schools face challenges around inflation and underinvestment, as well as real-terms pay cuts for staff, increasing pressure on existing staff shortages, despite additional funding[37].

Discussions around boosting the maths of 16-18 year olds needs first to overcome the barrier that a considerable proportion of young people in this age group simply do not have the basic numeracy skills to build upon. Around 40% of 16-year-olds do not achieve both English and Maths at the grade 4 pass level in year 11, and post-16 GCSE Maths resits and Functional Skills qualifications have low pass rates[38]. 60% of disadvantaged pupils do not have basic maths skills by the age of 16[39]. In terms of adults, approximately half the population have the maths skills of an eleven year old[40], and 59% of parents say maths was the hardest lesson to teach their kids during lockdown[41]. This latter report from National Numeracy also

[28] The relative labour market returns to different degrees | Institute for Fiscal Studies (ifs.org.uk)
[29] Education and training - GOV.UK (www.gov.uk)
[30] Numeracy-Counts.pdf (learningandwork.org.uk)
[31] National Numeracy comment on Prime Minister Rishi Sunak's 'maths to 18' policy | National Numeracy
[32] Why is numeracy important | National Numeracy
[33] Why is numeracy important | National Numeracy
[34] Sunak outlines maths to 18 'ambition'...but not before 2025 (schoolsweek.co.uk)
[35] AS review report final clean HA (publishing.service.gov.uk)
[36] Rishi Sunak's maths-to-18 plans branded 'hugely challenging' by senior Tory MP as criticism mounts (inews.co.uk)
[37] Looking out to level up - State of the North 2023 (ippr.org)
[38] Is it time to stop talking about the 'Forgotten Third'? | AQi powered by AQA
[39] FE News | Does 16+2 = Maths Misery for All?
[40] Education and Skills - KPMG United Kingdom (home.kpmg)
[41] New research: It's National Numeracy Day, let's make it count | National Numeracy

highlighted that nearly a third of respondents said they struggle with everyday maths, and over a quarter struggled to understand numbers related to the Covid-19 pandemic[42]. This suggests that the challenge starts much earlier than 16 to 18 education.

The gap between disadvantaged and non-disadvantaged children shows itself as early as four years old, and maths skills are no exception[43]: coverage from Further Education News questions the practicality of further education resolving what 11 years of compulsory mathematics education has failed to, with the disparity in maths skills widening over Key Stage 1 and 2[44].

In his work on Social Mobility, Professor Lee Elliot Major highlighted the fact that hundreds of thousands of students fall short of basic English and Maths standards at 16, with many of these children not having made the expected progress between ages 3 and 5[45]. Numeracy skills are critical throughout the education process and later in life, and yet many do not manage to acquire skills beyond primary school levels, never mind the apparent baseline of GCSE passes or maths in further education.

Maths skills are not simply a matter of access to educational support: confidence and attitude play a considerable role. More than a quarter of adults avoid situations involving numbers[46]. According to charity National Numeracy, part of the problem is how acceptable it has become to boast of poor mathematical skills in what their chairman, Chris Humphries, former executive of the UK Commission for Employment and Skills, refers to as a "peculiarly British disease"[47]. The NIACE Committee report on adult numeracy notes the same phenomenon, with people 'almost wearing it as a badge of honour, in a way they would never admit to saying they couldn't read or write'[48]. Awareness of the misconceptions about the difficulty of maths can be found as far back as the 1963 Newsom report[49], so this is not a new development. Attitudes to maths affect engagement at an early stage: in a survey, just one in five parents said they would be most proud of their child if they were very good at maths and numbers, while twice as many would be most proud if their child were very good at reading and writing[50]. The same proportion of parents that found maths the hardest subject to teach their children during the pandemic lockdowns said that this highlighted their own lack of confidence in numbers[51]. Poor confidence leaves those with poor numeracy skills more vulnerable to debt, unemployment and fraud[52].

Confidence in approaching maths is not evenly distributed. As noted, there is a considerable skills gap between disadvantaged students and their peers, but as students age - gender begins to play a role as well. 80% of teachers surveyed by the Institute for Fiscal Studies agreed that their year 11 high-achieving female students were 'just as able, but not as confident in their ability to learn STEM subjects as boys'[53]. Students and teachers both reported concerns about girls being dissuaded from engaging in further mathematics study due to maths classes (and other STEM subjects) being typically male-dominated in composition, with exacerbating effects from traditional stereotypes[54]. The IFS found that the gap exists not

[42] New research: It's National Numeracy Day, let's make it count | National Numeracy
[43] Early years foundation stage profile results, Academic Year 2021/22 – Explore education statistics – GOV.UK (explore-education-statistics.service.gov.uk)
[44] FE News | Does 16+2 = Maths Misery for All?
[45] FE News | Prime Minister's Ambitious Plan of Maths to 18: Sector Reaction
[46] New research: It's National Numeracy Day, let's make it count | National Numeracy
[47] Almost 50 per cent of adults can't do basic maths (that means half) | The Independent | The Independent
[48] Numeracy-Counts.pdf (learningandwork.org.uk)
[49] Newsom Report (1963) (educationengland.org.uk)
[50] Research reveals how poor maths skills are holding the UK back (kcl.ac.uk)
[51] New research: It's National Numeracy Day, let's make it count | National Numeracy
[52] Rising cost of living places a spotlight on numeracy co - KPMG United Kingdom
[53] Encouraging Girls' Engagement With And Uptake Of Maths And Physics At A-Level | Institute for Fiscal Studies (ifs.org.uk)
[54] Encouraging Girls' Engagement With And Uptake Of Maths And Physics At A-Level | Institute for Fiscal Studies (ifs.org.uk)

because girls lack interest or value the prospects, but because they struggle with confidence and find the risk of being the only girl in a class strongly off-putting, with single-sex school students more likely to study STEM subjects[55]. As adults, 38% of women but only 23% of men would describe themselves as "not a numbers person"[56].

Numeracy in the LEP

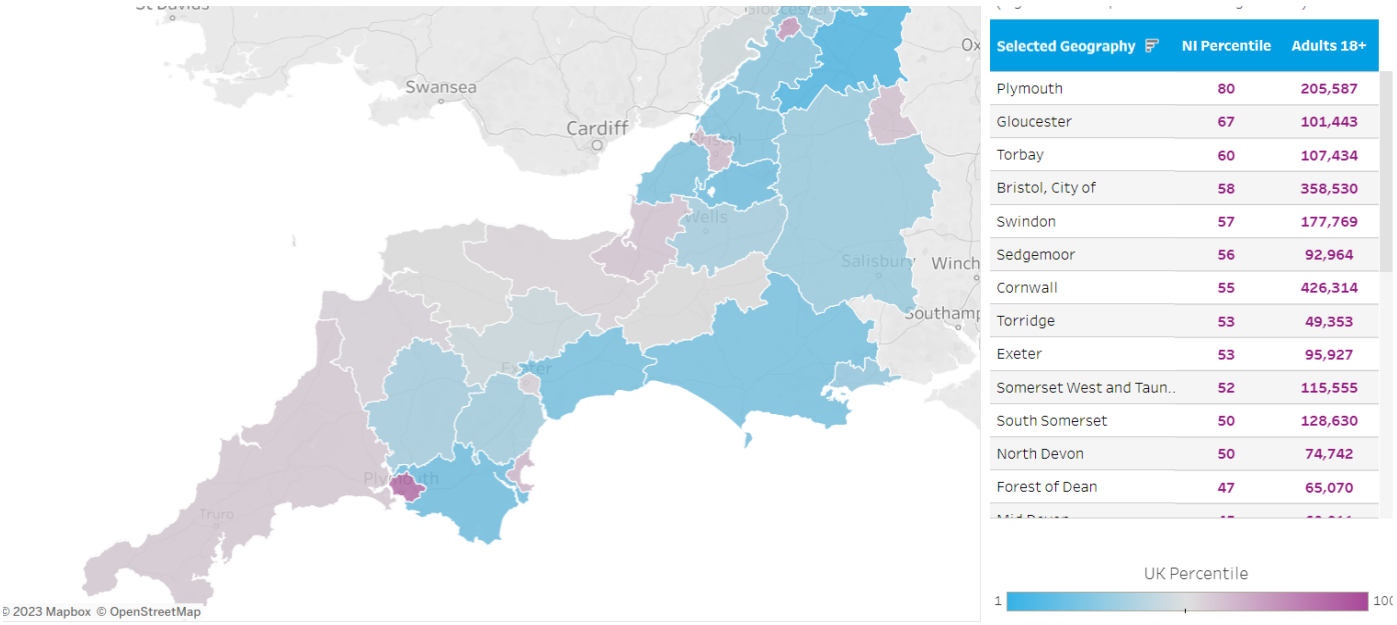
Provision and attainment varies across the country, and the LEP area is no exception. Government statistics on Key Stage 4 attainment are not organised by LEP area, but by region and local authority. The South West overall has a slightly lower average attainment 8 score (the average measure of a student's progress across their 8 best performing subjects, consisting of English and Maths, three highest performing Ebacc subjects, and three other or remaining subjects)for the mathematics component, but a higher percentage of pupils achieving grade 4 or above, which would suggest greater consistency in passes but lower levels of the highest grades: the difference is small enough, however, that the key concerns at the national level are replicated here. Job-related training provision is another potential source of practical numeracy skills. The Heart of the South West LEP area had a higher rate of people receiving job related training in the past 13 weeks than the national average and similar level of those receiving training in the past four weeks between October 2021 and September 2022. Annual Population Survey data on qualifications held is only available on a full yearly level and does not provide a separate figure for numeracy, but for a sense of scope, it is worth noting that the LEP area has a higher-than-average rate of residents with GCSEs grade A* to C or equivalent, the end of compulsory mathematics education.

Numeracy skills are not equally distributed by geography within the LEP. Government figures suggest that poorer pupils in Plymouth are on average 24.5 months behind their peers by the time they take their GCSEs[57]. Plymouth also consistently has the lowest rates of job-related training provision, below the national average. Data from the Learning and Work Institute covers Devon, Torbay and Plymouth local authorities, and highlighted West Devon as an area of concern, with 26% of residents having essential skills needs. East Devon (25.1%) and Teignbridge (25%) also had high skills needs. The lowest level of essential skills needs was found in Exeter at 22.6%[58]. However, all of the higher tier local authorities in the LEP had a higher rate of GCSE A* to C equivalent qualifications. The National Numeracy Index was built by National Numeracy and Experian to predict and rank areas of the UK by numeracy skills and confidence, with higher index values reflecting greater need.

In Figure 20, we can see the index figures across the South West. Consistent with the government data on education delay for disadvantaged pupils and poorer provision of job-related training, Plymouth stands out in bright purple as the area with the highest need. The second highest need level in the LEP is Torbay (60). The lowest need areas in the LEP are South Hams (24), East Devon (26), and Teignbridge (36). Exeter also has a comparatively high index (53) despite scoring well for other qualification levels.

[55] Why don't more girls study maths and physics? | Institute for Fiscal Studies (ifs.org.uk)
[56] national-numeracy-day-2019.pdf (kcl.ac.uk)
[57] Education and training - GOV.UK (www.gov.uk)
[58] New analysis shows huge disparity in adult literacy and numeracy which must be tackled to boost levelling up - Learning and Work Institute

Figure 20 National Numeracy Index for the South West Region Local Authorities



Selected Geography	NI Percentile	Adults 18+
Plymouth	80	205,587
Gloucester	67	101,443
Torbay	60	107,434
Bristol, City of	58	358,530
Swindon	57	177,769
Sedgemoor	56	92,964
Cornwall	55	426,314
Torridge	53	49,353
Exeter	53	95,927
Somerset West and Taun..	52	115,555
South Somerset	50	128,630
North Devon	50	74,742
Forest of Dean	47	65,070

Source: National Numeracy – The National Numeracy Index

Policy and Support

The numeracy challenge is not one easily resolved: government has failed to recruit the required number of maths teachers since at least 2012[59], and there are existing concerns about overcrowding and funding limitations in schools[60], as well as unresolved challenges developing in early years affecting people for the rest of their lives. At the time of the publication of the post-16 maths review in 2017, Professor Sir Adrian Smith argued that we do not yet have the range of pathways or required capacity to provide universal maths education through to 18[61]. National Numeracy stresses that people with low numeracy at any age need to be supported[62]. Nonetheless, various options are available to help address the problem at different points in the educational pathway.

One local route for numeracy skills is Exeter Mathematics School. This is a state-funded 6th form designed for students with an interest in maths, physics and computing, open to students from Cornwall, Devon, Dorset and Somerset. While this offers development opportunities for the 16-18 age group, this is designed for students who are already invested and confident in mathematics skills: although a useful pipeline for these students, this does not address challenges with lack of confidence and low level skills acquisition.

The Multiply programme is designed to support maths and numeracy skills for adults. Multiply is aimed at adults who lack a GCSE grade C/4 or higher in Maths and is designed to support people in career development. These courses are free, and available to local residents on both part-time and intensive levels. This is a useful option for addressing the numeracy challenge, but also requires engaging adult learners, who can struggle for time around work and other commitments, as well as bypassing cultural challenges around whether people feel they need to develop their maths skills. The Learning and Work

[59] Sunak outlines maths to 18 'ambition'...but not before 2025 (schoolsweek.co.uk)
[60] FE News | Does 16+2 = Maths Misery for All?
[61] AS review report final clean HA (publishing.service.gov.uk)
[62] National Numeracy comment on Prime Minister Rishi Sunak's 'maths to 18' policy | National Numeracy

Institute is also working to help build on Multiply and other support schemes for the UK Shared Prosperity Fund.[63]

There is also a plethora of basic skills materials online to support numeracy skills including Skillwise from the BBC[64].

Policy Recommendations

FE News sought out sectoral responses to the proposed additional maths training: these responses offer a variety of possible approaches to the numeracy challenge[65]. Catherine Sezen, AoC Education Director, raised the importance of addressing the entire 16-18 cohort, not just those taking A levels, and the funding challenges at this level, while Sharon Davies, CEO of Young Enterprise, and Louise Hill, COO of GoHenry both stressed the need for practical and financial maths skills. The General Secretary of the Association of School and College Leaders and Joint General Secretary of the National Education Union focused on the need to refresh the curriculum as well as funding challenges.

As part of the Fair Education Alliance, the charity National Numeracy wants to see the increasing regional and economic disparities in numeracy better handled. The FEA call for seven key actions to help narrow the gap[66]:

- A national wellbeing census
- A holistic Children and Families Strategy
- Balanced school accountabilities that recognise underserved schools
- Investment in a variety of vocational qualifications for students with a range of GCSE attainment levels
- Targeted spending, including an uplift to Pupil Premium and extension of Free School Meals to all families receiving universal credit
- Creation of a national learning centre for place-based change
- Meaningful participation by young people in decisions impacting their education

The research from the IFS on girls in STEM also makes policy recommendations. These include changing the way that maths and physics are taught and assessed to make them more appealing, interventions to boost confidence, and female role models to help break stereotypes and provide careers advice[67]. The latter two in particular could also be used to support students from lower socioeconomic backgrounds.

[63] Multiply and UK Shared Prosperity Fund: Prospectus for Local Government - Learning and Work Institute
[64] https://www.bbc.co.uk/teach/skillswise/maths/zfdymfr
[65] FE News | Prime Minister's Ambitious Plan of Maths to 18: Sector Reaction
[66] Every child should leave school confident in maths, but disadvantage in education is growing | National Numeracy
[67] Encouraging Girls' Engagement With And Uptake Of Maths And Physics At A-Level | Institute for Fiscal Studies (ifs.org.uk)

Heart of the South West: At a glance

Indicator	Latest		Trend
	Period	Result	Change on previous year
Total in employment, 16+	Oct 2021 – Sep 2022	843,000	3.1%
Employment rate, 16 to 64	Oct 2021 – Sep 2022	76.4%	+0.3pp
Total employees, 16+	Oct 2021 – Sep 2022	691,400	1.7%
Total in self-employment, 16+	Oct 2021 – Sep 2022	149,300	8.8%
Self-employment rate, 16+	Oct 2021 – Sep 2022	17.7%	+1.0pp
In employment, part-time rate, 16 to 64	Oct 2021 – Sep 2022	25.8%	-1.4pp
In employment, private sector, rate	Oct 2021 – Sep 2022	75.2%	-2.5pp
In employment, job related training, rate	Oct 2021 – Sep 2022	11.8%	+0.4
With NVQ4+, 16 to 64, rate	Jan 2021 – Dec 2021	37.9%	+1.3pp
Unemployed, 16+	Oct 2021 – Sep 2022	22,600	-10.3%
Unemployment rate, 16+	Oct 2021 – Sep 2022	2.6%	-0.4pp
Economically inactive, 16 to 64	Oct 2021 – Sep 2022	223,700	3.4%
Of whom, wants a job	Oct 2021 – Sep 2022	39,800	-4.8%
Economic inactivity rate, 16 to 64	Oct 2021 – Sep 2022	21.5%	+0.1pp
Claimant Count, 16+	Dec-22	25,450	-20.6%
Claimant rate	Dec-22	2.5%	-0.6pp