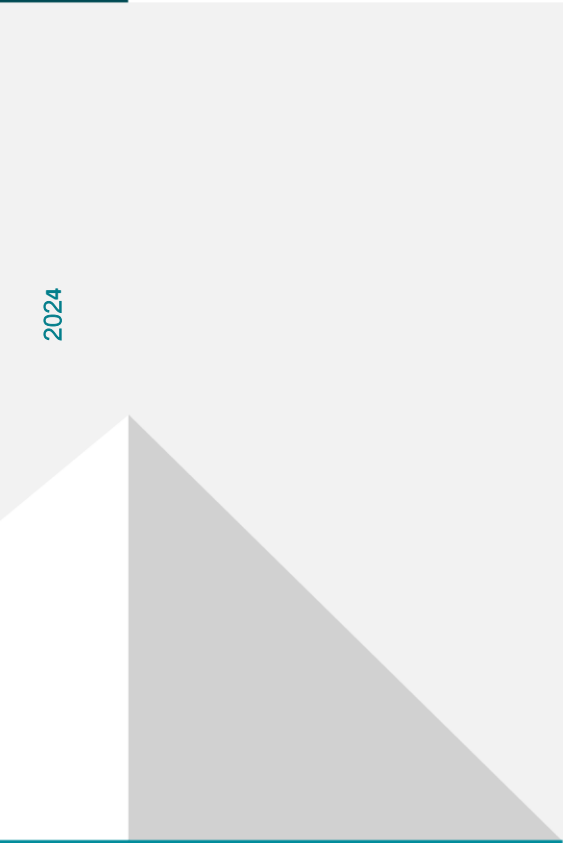


The Impact of Apprenticeship Funding Cuts in Wales

A Cebr report for ColegauCymru and the National Training Federation for Wales (NTfW)

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Methodology

- Our analysis focuses on the economic impact of the loss of 5,750 apprenticeships in Wales due to funding cuts. We measure the impact in terms of the loss in economic output, which includes both immediate impacts, measured through Gross Value Added (GVA) contributions lost through the loss of apprenticeship activity, and longer-term effects on productivity due to delayed entry into the workforce and reduced skill levels. [1]
- Data on apprentices and their characteristics were retrieved from Stats Wales. This included the number of apprentices by age bands, sectors and deprivation levels. We used public data from the ONS Annual Survey of Hours and Earnings (ASHE) to estimate average salary by age ranges in Wales; and the Annual Business Survey (ABS) to estimate the earnings-GVA ratio of workers in Wales. As ONS only collects data on workers aged 18 or more, for the purpose of this analysis, we assume that apprentices start work at 18.
- We grouped apprentices into two segments: those who enrol in an apprenticeship at the age of 18-24 and those who enrol in at the age of 25 or more. The methodology of the two groups are slightly different. When analysing the short-term impacts for the younger age band, we assume that the economic costs consist of the cost of a potential worker not being employed for a short period. In this case, we assume that individuals aged 18-24 will be unemployed for one year without the apprenticeship, while those aged 25 or more (who are assumed to be already employed and pursuing an apprenticeship at their existing workplace) will still work, but they will not benefit from the salary (and thus, productivity) increase that an apprenticeship would have provided. Therefore, for the older age group, both the short- and the long-run impacts are the difference in productivity between an apprentice and a non-apprentice.
- To calculate the longer-term impact for workers aged 18-24, we assume the effects of learners spending one year in unemployment are felt through a lower GVA contribution by affected workers, stemming from the fact that their experience, skills and therefore productivity are one year 'behind' compared to those who were not made redundant. For the purpose of our research, we looked at the long-term impact in two different scenarios.
 - The first scenario looked at a persistent lag of productivity between workers who completed an apprenticeship and workers who didn't. Assuming that this young labour force would have been out of work for one year, we project that, due to the skills gap, the employees lag one year behind in terms of productivity. This means, for example, that a 20-year-old worker would produce the same as a 19-year-old who had not been made redundant.
 - In this scenario, an assumption of partial relative convergence in productivity is made. As GVA per worker increases over time, some of the initial loss will be bridged. However, productivity remains below where it would have been until around the age of 50, at which point the data suggests that average productivity per worker peaks. From this point onwards, we have assumed that the average productivity of the individual under either scenario, is equalised. Put another way, the economic output of the 'actual' and 'counterfactual' workers is equal by this stage, irrespective of the lost year of employment.
 - The second scenario employs a different methodology, allowing for growth in skills to the relevant age once re-employed. Skills that would have been developed in the year of unemployment are gradually caught up over the course of the individual's career. Informed by productivity literature, labour productivity is estimated to converge to a steady-state level by 8.6% per annum. [2] Given this, the effects of the reduced GVA contribution per employee are not permanent. Rather, over the remaining years within the workforce, the individual almost completely recovers their lost productivity.
 - While the interpretation is different, we apply the same long-run scenarios to the workers aged 25 or more. Unlike the younger age group, they are not left unemployed for a year. The loss of productivity only stems from the lack of experience and skills from not being able to secure an apprenticeship. Due to this, the effects of the funding cuts will be less impactful for this age range.
 - For simplicity, we assume that workers in the younger-age group start their apprenticeship at the age of 18 or those in the older-age group start at 25.

[1] GVA, or gross value added, is a measure of the value of production in the national accounts. Conceptually it can be considered the value of what is produced, less the value of intermediate goods and services used to produce it. GVA is distributed in three directions – to employees, to shareholders and to government. It is often used as the proxy for the contribution of a sector or industry to GDP: strictly this relationship is $GVA + \text{Tax on products} - \text{Subsidies on products} = \text{GDP}$.

[2] Ahmad. N., & Naveed. A. (2016). 'Labour productivity convergence and structural changes: simultaneous analysis at country, regional and industry levels'. *Economic Structures*. 5(19).

Results – overall loss in economic output

The economic impact of cutting 5,750 apprenticeships amounts to approximately £50.3 million in lost GVA in the short run, while in the longer term, the potential lifetime loss in economic output could reach up to £215.7 million.

- The average salary of workers aged 18-21 in Wales is £12,570 based on ONS data and Cebr analysis. We estimate that this increases to £19,296 in case someone enrolls in an apprenticeship.

Short-run impact

- Considering the short-run as a one-year period, the potential economic loss associated with a one-year average time spent unemployed is **£21,314 per apprentice** among workers who would have started an apprenticeship at the age of 18. Overall, if we add up all these workers whose jobs were lost due to the funding cuts, this accounts for **£50 million**. This value is inclusive of the government’s 3.5% present value discount rate.
- For those aged 25 and above, previous Cebr modelling showed a wage premium of only 0.1% from completing an apprenticeship. Due to this, the economic loss from the apprenticeship cuts among workers aged

25 and more is very low. The short-term cost amongst the older-age group is £156,450. In total, **the short-run economic cost of cutting 10,000 apprenticeships is close to £50.3 million.**

Long-run impact

- In the long-run, under the first scenario, where there is a persistent lag, the estimated long-term cost of the reduction in productivity is £165 million. The second scenario, where we incorporate the skills growth, leads to a more conservative estimate of economic loss of £108.5 million.
- Summing these figures up, the total economic loss in the first scenario is £215.7 million, while in the more conservative second scenario it amounts up to £158.8 million.

Table 1: The economic costs of the loss of productivity due to the loss of apprenticeships, present value, £

Age group	Short term loss	Long-term loss – Scenario 1 (partial convergence)	Long –term loss – Scenario 2 (convergence with skills development)	Total loss (Scenario 1)	Total loss (Scenario 2)
18-24	50,096,426	161,945,417	107,087,128	212,041,842	157,183,554
25 and above	156,450	3,538,217	1,452,321	3,694,668	1,608,772
Total	50,252,876	165,483,634	108,539,450	215,736,510	158,792,325

Source: ONS, Stats Wales, Ahmad and Naveed (2016) and Cebr analysis

Results – costs of funding cuts by industry

The economic impact of the funding cuts would be most pronounced in the Health sector, followed closely by the professional services and construction sectors

- Table 2 provides the results of the apprenticeship funding cuts broken down by 1-digit level SIC industries. The **economic loss is the highest in Human health and social activities**, which is the third largest sector in Wales. Among 18-year old apprentices, this sector represented more than 30% of all losses. This equates to £63.9 million in scenario 1 and £47.4 million in scenario 2. Among workers starting an apprenticeship at 25, the share is even higher: more than half (56%) of the total loss is associated with this industry (£2.1 million in scenario 1, £0.9 million in scenario 2).
- The Professional, scientific and technical activities sector saw the second largest loss, estimated between £31.6-42.9 million. This represents almost 20% of all losses.
- The construction sector saw the third largest loss. Overall, almost 20% of the economic loss is seen in this sector (20.0% among 18-year old apprentices, 2.4% among 25-year olds). The overall loss is £42.5 million under scenario 1 with no skills development, and £31.4 million under scenario 2 with skills development.
- According to the most recent ONS data, the largest sector in Wales is Manufacturing, with £11.5 billion in GVA generated in 2022. This represents 15.4% of Wales' total GVA. However, only 1.3% of the total GVA loss is experienced in that industry (£6.7 million/ £4.8 million).

Table 2: The economic costs of the loss of productivity by industry

SIC	GVA loss	
	Scenario 1 (partial convergence)	Scenario 2 (convergence with skills development)
Agriculture, Forestry and Fishing	£4,298,998	£3,178,596
Manufacturing	£2,777,577	£2,036,118
Construction	£42,461,621	£31,449,232
Wholesale and retail trade; repair of motor vehicles and motorcycles	£5,351,950	£3,957,087
Transportation and storage	£311,764	£215,752
Accommodation and food service activities	£10,593,109	£7,812,599
Information and communication	£2,047,720	£1,504,980
Professional, scientific and technical activities	£42,914,178	£31,592,955
Administrative and support service activities	£22,188,795	£16,355,087
Human health and social work activities	£66,006,208	£48,288,005
Arts, entertainment and recreation	£7,604,166	£5,604,445
Other service activities	£9,180,424	£6,797,469
Total	£215,736,510	£158,792,325

Source: ONS, Stats Wales, Ahmad and Naveed (2016) and Cebr analysis

Results – costs of funding cuts by deprivation decile

Funding cuts would disproportionately affect the most deprived segments of the Welsh population

Table 3: The economic costs of the loss of productivity by deprivation decile

Deprivation decile	Scenario 1 (partial convergence)	Scenario 2 (convergence with skills development)
Total	£215,736,510	£158,792,325
1st – most deprived	£24,841,522	£18,284,541
2nd	£26,242,717	£19,315,887
3rd	£24,176,549	£17,795,089
4th	£25,126,511	£18,494,307
5th	£21,540,402	£15,854,760
6th	£22,062,882	£16,239,330
7th	£20,257,953	£14,910,816
8th	£18,073,039	£13,302,616
9th	£18,833,009	£13,861,990
10th – least deprived	£14,581,926	£10,732,991

- Table 3 shows the GVA loss broken down by deprivation deciles. The first deprivation decile represents the bottom 10% of the population, the second the 11-20th percentile and so on.
- **The second decile would suffer the most from funding cuts**, as the GVA loss from that demography will be the highest, with £26.2 million under the first scenario, and £19.3 million under the second. This represents 12.2% of all losses.
- **The most deprived decile accounts for the third highest loss**, as 11.5% of GVA loss is from this decile. This equals to £24.8 million and £18.3 million under the first and the second scenario, respectively.
- **The bottom 40% (first four deciles) will experience the most loss**, as the four deciles in this demography have the highest GVA loss due to funding cuts. Adding them up, they represent 46.5% of all losses
- **The GVA loss is expected to be the lowest amongst the least deprived.** The 10th percentile will experience a GVA loss of £14.6 million under the first, and £10.7 million under the second scenario.
- Overall, we can conclude that funding cuts would result in a disproportionate GVA loss within the most deprived deciles. This underscores the heightened vulnerability of this demographic, given that **affected apprentices are predominantly concentrated in the bottom 40%**. Consequently, the funding cuts would unevenly diminish their employment prospects.

Source: ONS, Stats Wales, Ahmad and Naveed (2016) and Cebr analysis

Health and social care apprenticeships

- Figure 1 illustrates the number of apprenticeships in the healthcare and public service sector, which includes social care and youth work. The average number of apprenticeships from 2015 to 2023 is 9,656 but this peaked in 2017/2018 at 12,060. Furthermore, healthcare and public services has the highest share of apprenticeships across all sectors with the share of apprenticeships remaining above a third from 2015 to 2023.
- A potential funding cut could lead to **2,613 fewer apprenticeships**, limiting skilled workers entering the sector, impacting **productivity** where **72% of organisations report productivity gains from apprentices.** [1]
- Over the last ten years, the NHS in Wales has consistently missed the target of treating 95% of A&E patients in under 4 hours [2]. The British Medical Authorities believe this has been caused by a rapidly aging Welsh population and a lack of full-time healthcare staff. Apprenticeships are an affordable path to training, essential for addressing workforce gaps.
- According to findings from the Care Management Show, 92% of care companies that hire apprentices report having a more motivated workforce, while 80% have observed a significant rise in employee retention because of apprenticeships.[3] Consequently, reducing the number of available apprenticeships would negatively impact the social care system, as these programs are considered a cost-effective way to train new employees and address existing skill shortages within the sector.[4]

Figure 1: Apprenticeship starts in healthcare and public services

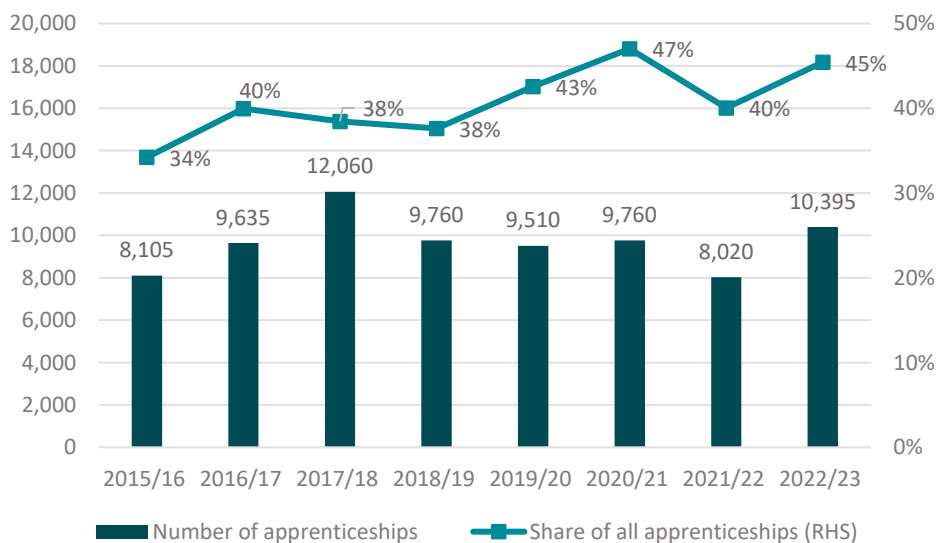


Figure 2: Apprenticeship starts in healthcare by programme in 2022/23



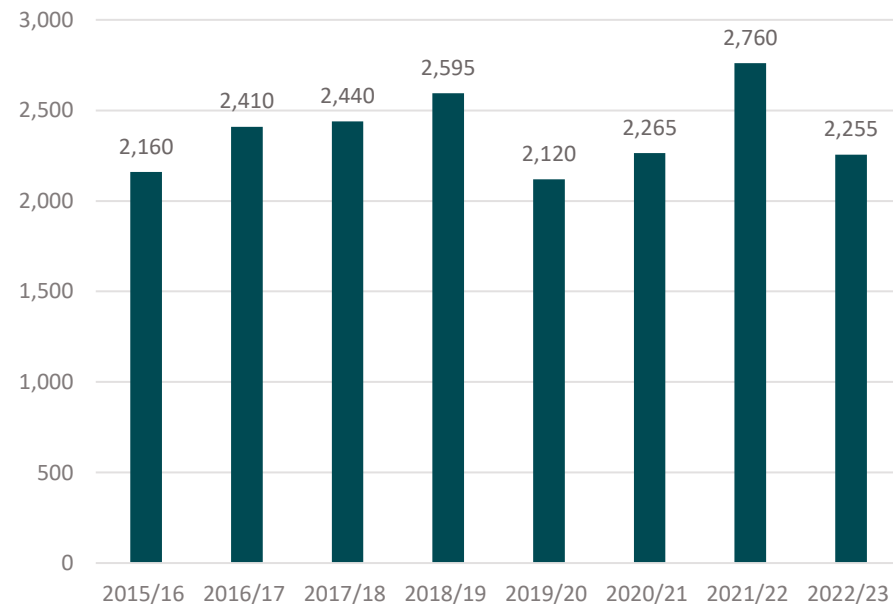
Source: Stats Wales

[1] [NHS](#) [2] [BMA](#) [3] [caremanagementshow.](#) [4] [uvac](#)

Construction apprenticeships

- Figure 3 displays the number of apprenticeships in the construction industry from 2015 to 2023. The average number of apprenticeship starts in construction is consistently above 2,000 apprentices each year, with a peak of 2,760 in 2021/22.
- Following a funding cut, our analysis estimates a reduction of 565 apprentices in the construction industry, representing 25% of the 2022/23 construction apprenticeship total. This decrease is projected to reduce Gross Value Added(GVA) by up to £42.5 million, which is equivalent to 20% of the total GVA loss we anticipate from the funding cuts.
- According to the Construction Industry Training Board, Wales currently has an inflow of 8,900 construction workers per year but an outflow of 9,200, creating a net loss. Meeting industry demand will require an additional 2,200 workers annually through 2028. Funding cuts to apprenticeships would exacerbate these shortages, limiting the industry's ability to keep pace with infrastructure and development needs

Figure 3: Apprenticeship starts in construction industry



Source: Stats Wales

- According to MCG construction, “by providing comprehensive training and support, employers can mould apprentices into skilled professionals who align with their company's values, culture and practices”. Additionally, “apprentices' innate adaptability to innovation allow businesses to remain competitive in a constantly evolving industry.” [1]
- 78% of employers report higher productivity among apprentices because of the skills they have learned on the job, additionally, 74% of employers report that apprentices do not only have higher productivity but produce higher quality work. [2] This demonstrates the benefits gained by the construction industry when they employ apprentices, which in some part will be lost if apprenticeships are reduced.

[1] [MCG Construction](#)

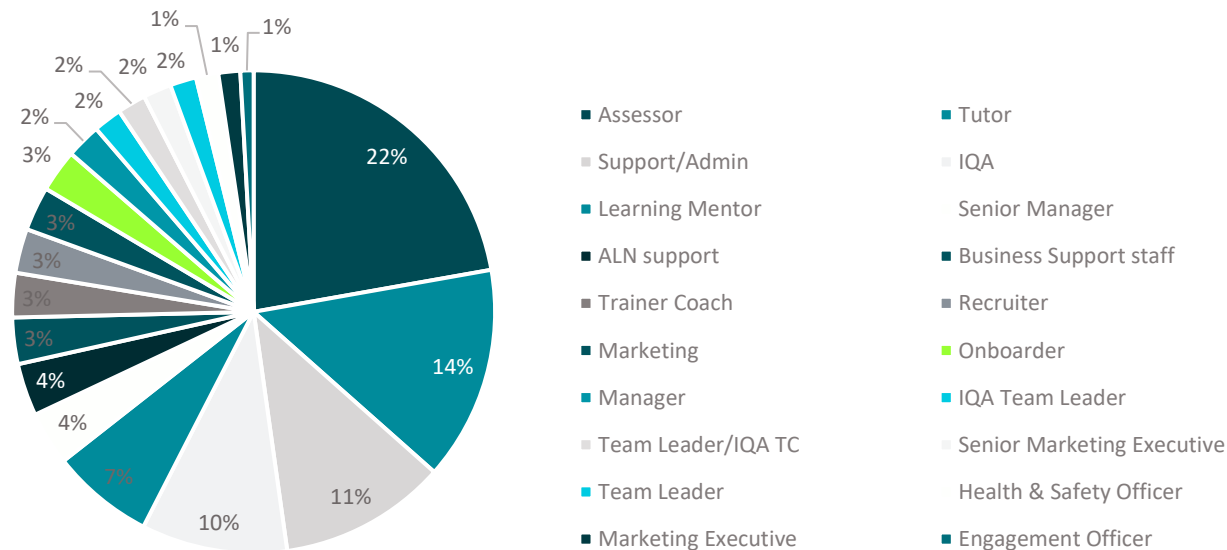
[2] [SL2](#)

Impact on training providers

Combined **loss of 87.7 FTE positions** among **all training providers, including subcontractors**. The total salary loss across these redundancies amounts to **£2.42 million**, with an estimated **GVA impact of £4.85 million** on the Welsh economy.

- We evaluate the economic impact of redundancies among training providers resulting from apprenticeship funding cuts. Using data supplied by NTFW on redundancies and average salaries, we estimate that there has been a **loss of 61.7 Full-Time Equivalent (FTE) positions so far among direct contact commission holders** (training providers). The total salary loss from these redundancies is estimated at **£1.67 million**.
- We estimate that these redundancies resulted in a loss of **£3.36 million in GVA for the Welsh economy**. **Figure 4 illustrates the distribution of this loss across the different positions**.
- The largest job losses are among Assessors, Tutors, and Learning Mentors, which are essential for apprenticeship delivery. This makes it clear that the impact goes beyond administrative roles, directly affecting the capacity to train new apprentices.

Figure 4: Distribution of GVA loss from redundancies by role



- Funding cuts have also led to significant redundancies among subcontractors supporting apprenticeship programs, resulting in an estimated 26 FTE positions lost across various critical roles. These redundancies primarily affect roles like Assessors, Administrators, IQAs (Internal Quality Assurers), and Recruitment Officers—all essential to the delivery and quality assurance of training services.
- The total salary loss among subcontractors is calculated at £743,500, with an associated GVA loss of approximately £1.49 million.

Source: NTFW

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