Understanding the funding shortfall in sixth form education

Final Report for the Sixth Form Colleges Association
October 2018
Summary of findings

The government freeze on sixth form funding combined with a sharp increase in running costs has led to a significant funding shortfall in Sixth Form Colleges

- Funding for 16-19 education in Sixth Form Colleges has declined by 22% in real terms since 2010/11 (£4,850 per student per annum compared to £6,230).
- Over the same period, there was a 6.5% increase in the number of students per Sixth Form College, but a 15% reduction in the average number of teaching staff per college.
- The average Sixth Form College recorded a net deficit of £110 per student in 2016/17 compared to a net surplus of £190 per student in 2010/11 (in real terms).
- Accounting for inflation, an extra £760 per student per annum would be needed in 2020/21 to continue providing a high quality education (i.e. to enhance student support services, provide 3 hours of additional non-qualification time, and protect subjects that are under threat/have recently been dropped).
- A further £140 per student would be required in 2020/21 to meet the cost of the proposed increase in employer contributions to the Teachers’ Pension Scheme.
Introduction and objectives

London Economics were commissioned by the Sixth Form Colleges Association to analyse the funding shortfall in sixth form (16-19) education in Sixth Form Colleges (SFCs) - in terms of the shortfall between the resources available for the delivery of the current (2016-17) curriculum and:

- The funding that was available to deliver the 2010/11 curriculum (before the reduction in 16-19 funding and substantial increase in running costs); and

- The funding required to deliver an internationally-competitive curriculum, that would involve:
  - Widening the current curriculum, by increasing student support services (e.g. additional mental health services, investment in education technology), increasing non-qualification time by 3 hours per learner per week (e.g. employability, enrichment and pastoral activities), and retaining/re-introducing 3 subjects with low student numbers that are under threat/have recently been dropped; and
  - Deepening the current curriculum, by increasing total weekly contact hours per learner to 25 hours*; and

All of these funding shortfalls are calculated in terms of funding per learner (per year)*.

* Please refer to the Annex for more information on the methodological approach underlying the analysis.
Size and scope of the curriculum: 16-19 learners

- From approximately **150,000** students aged 16-19 attending Sixth Form Colleges in 2010/11, there has been an increase in student numbers of approximately **12,500** over the period to 2016/17 (equivalent to **8.5%**)*.

- On average, the student roll within Sixth Form Colleges has increased from **1,702** to **1,806** on average per college – equivalent to an increase of **6.5%**.

**Total # of 16-19 learners across SFCs**

<table>
<thead>
<tr>
<th>Year</th>
<th># of 16-19 learners</th>
</tr>
</thead>
<tbody>
<tr>
<td>2010/11</td>
<td>149,742</td>
</tr>
<tr>
<td>2016/17</td>
<td>162,541</td>
</tr>
</tbody>
</table>

**Average # of 16-19 learners per college**

<table>
<thead>
<tr>
<th>Year</th>
<th># of 16-19 learners</th>
</tr>
</thead>
<tbody>
<tr>
<td>2010/11</td>
<td>1,702</td>
</tr>
<tr>
<td>2016/17</td>
<td>1,806</td>
</tr>
</tbody>
</table>

**Source:** Based on 16-19 funding allocations for 2010/11 and 2016/17 (see Department for Education (2010) and Education Funding Agency (2016)).

**Note:** The number of learners in 2010/11 includes all learners included in the 16-18 funding allocations published by the (former) Young People’s Learning Agency (YPLA) for that year. This includes learners aged 16-18, as well as learners aged 19-24 with learning difficulties and/or disabilities. Similarly, the number of learners in 2016/17 includes all learners included in the 16-19 funding allocations published by the (former) Education Funding Agency (EFA) for that year. This includes learners aged 16-19, as well as learners aged up to 25 who have been issued an Education, Health and Care plan by their Local Authority.

This inclusion of learners in both age groups was based on the fact that the EFA funding data did not provide a breakdown of funded learners across these groups.

*The information is based on 88 Sixth Form Colleges in 2010/11, and 90 in 2016/17. We merged data college-level data for both years based on the list of colleges operating in 2016/17, and excluded any colleges that were operating in 2010/11 but were no longer operating in 2016/17. For colleges that merged between the two years, we included the merged (i.e. new) institution in 2016/17, but not the original separate institutions in 2010/11.

For more information, please refer to the Annex.
Following the decline in funding since 2010/11 (and despite the 6.5% increase in student numbers), Sixth Form Colleges have responded by reducing the number of staff – from an average of 163 per college in 2010/11 to 145 in 2016/17. This 11% decline in staff was concentrated amongst teaching staff (decreasing from 97 to 82 on average (15%)).

The reduction in teaching workforce has resulted in a 28% increase in the average learner-to-teaching staff ratio across the sector (from 18:1 to 23:1).

There has been a 15% decline in the average number of teachers in Sixth Form Colleges since 2010/11 – alongside a 6% increase in the number of students.
What has happened to college income?

The increase in learner-per-teacher ratios is a direct result of the reduction in funding available to Sixth Form Colleges – and the subsequent reduction in the number of teaching staff.

Between 2010/11 and 2016/17, total funding available to SFCs declined by £680 per student in nominal terms (12.3%).

In total, Colleges received approximately £430,000 less in 2016/17 compared to 2010/11 (equivalent to 11 teachers). This is despite educating 104 more students on average between the two years.

However in real terms (adjusting for inflation), the £5,530 that was available in 2010/11 is equivalent to £6,230 in real terms in 2016/17. This means that, in real terms, there has been a £1,380 reduction in income over the period – equivalent to a 22% decline.

The real decline was concentrated in the core YPLA/EFA funding category – a decline of 21% - and a 46% in other funding body grants (predominantly Skills Funding Agency/Higher Education Funding Council).

In real terms, there has been a 22% decline in funding for Sixth Form Colleges since 2010/11 – equivalent to £1,380 per student per annum.
What has happened to college expenditures?

- In line with the reduction in income, there has been a reduction in both staff and non-staff expenditure in 2016/17 compared to 2010/11.
- In real terms, there has been a 23% reduction in teaching staff expenditure; a 9% reduction in support staff expenditure; a 21% reduction in administration staff expenditure; a 33% reduction in operational staff expenditure; and a 17% reduction in non-staff expenditure.
- Of the total of £1,080 expenditure reductions (per learner) that Sixth Form Colleges have been forced to make following the erosion of funding, 61% has come from front line teaching activity (i.e. teaching staff costs), with a further 10% from other staff costs. The remaining 29% has been achieved through reductions in non-staff expenditures.

![Bar chart showing average college expenditure per 16-19 learner per year, by type.](chart.png)

**Source:** Based on 2010/11 and 2016/17 college financial accounts (see Skills Funding Agency and Education Funding Agency (2012) and Education and Skills Funding Agency (2018)).

**Note:** All values are rounded to the nearest £10, and have been adjusted – from total values per college – to the level of expenditure associated with 16-19 provision only. Please refer to the Annex for more information.

The reduction in teaching staff expenditures accounts for 61% of the total decline in college expenditures. Reduction in other staff expenditure: 10%. Reduction in non-staff expenditure: 29%.
What has happened to college’s net financial position?

- However, the large reductions in expenditure were not large enough to outweigh the decline in income per learner since 2010/11.
- As a result, compared to an average surplus* of +£190 per learner in 2010/11 (in real terms), Sixth Form Colleges incurred a net deficit of -£110 per learner in 2016/17.

Average college surplus/deficit per 16-19 learner per year

<table>
<thead>
<tr>
<th>2010/11 - actual</th>
<th>2010/11 - adjusted for inflation</th>
<th>2016/17</th>
</tr>
</thead>
<tbody>
<tr>
<td>+£190</td>
<td></td>
<td>-£110</td>
</tr>
</tbody>
</table>

Source: Based on 2010/11 and 2016/17 college financial accounts (see Skills Funding Agency and Education Funding Agency (2012) and Education and Skills Funding Agency (2018)).

Note: All values are rounded to the nearest £10, and have been adjusted – from total values per college – to the level of expenditure associated with 16-19 provision only. Please refer to the Annex for more information.

*Generating a surplus is important as colleges must have sufficient reserves to deal with fluctuations in funding from the ESFA. Reserves are also needed to ensure the college estate is properly maintained, assets replaced when they reach the end of their useful life and to cover for unplanned contingencies.

The reduction in income resulted in a deterioration of college’s net financial position, from an average surplus of +£190 per learner in 2010/11 to an average deficit of -£110 per learner in 2016/17.
What is the funding shortfall in sixth form education?

Our analysis focuses on estimating two core types of funding shortfall – all compared to 2016/17 funding levels:

1. We estimated the additional income required to reverse the historical erosion of the curriculum that has happened since the reduction in 16-19 funding and substantial increase in running costs since 2010/11. This includes the additional funding necessary to improve Sixth Form College’s financial sustainability by eliminating current college deficits (in 2016/17) and reversing the erosion of financial surpluses that has occurred since 2010/11.

2. We also estimated the additional income necessary to deliver an internationally-competitive curriculum, consisting of:
   a. Widening the current curriculum, by increasing student support services (e.g. additional mental health services, investment in education technology), increasing non-qualification time by 3 hours per learner per week (e.g. employability, enrichment and pastoral activities), and retaining/re-introducing 3 subjects with low student numbers that are under threat/have recently been dropped; and
   b. Deepening the current curriculum, by increasing weekly contact hours per learner to 25 hours (on top of the increase in non-qualification time under the widened curriculum).

The incremental costs of this ‘internationally-competitive’ curriculum were estimated by assessing the additional teaching and other staff costs necessary to deliver these enhanced activities, as well as the teaching, support and operational non-staff costs required*.

Again, the resulting estimated funding shortfall includes the additional funding necessary to eliminate current college deficits and to ensure SFC’s financial stability by reversing the erosion of financial surpluses that has occurred since 2010/11.

* Please refer to the Annex for more information on the methodological approach underlying the analysis.
What is the funding shortfall in sixth form education? - £ per learner per year

In terms of the funding shortfall per learner per annum, on top of the £4,580 of total college income per learner in 2016/17:

- An extra £1,380 in additional funding would be needed to reverse the erosion of the curriculum and college surplus since 2010/11 (including £1,080 to return to the previous curriculum, £110 to eliminate the current college deficit, and £190 to return colleges to financial surplus);

- An extra £710 would be required to widen the curriculum, i.e. to protect threatened subjects, increase non-qualification time by 3 hours per week, and deliver enhanced student support (consisting of £410 to provide a broader curriculum, £110 to eliminate the current college deficit, and £190 to return colleges to financial surplus); and

- An extra £1,820 would be required to widen and deepen the curriculum (split into £410 associated with widening and £1,110 associated with deepening the curriculum, as well as the above £110 to eliminate the current college deficit and £190 to return colleges to financial surplus).

**Source:** London Economics’ analysis

**Note:** All values are rounded to the nearest £10. Please refer to the Annex for more information on the underlying methodology.
What is the funding shortfall in sixth form education? - £ per learner per year

All of the above rates of funding shortfall were expressed in 2016/17 prices. Accounting for inflation over subsequent academic years, this would imply a projected funding shortfall in the 2020/21 academic year of:

- **£1,490** in additional funding by to reverse the erosion of the curriculum since 2010/11;
- **£760** to widen the current curriculum; and
- **£1,970** to widen and deepen the current curriculum.

This analysis does not incorporate the proposed increase in employer contributions to the Teachers’ Pension Scheme (from 16.48% to 23.6%). To meet this cost, funding for Sixth Form Colleges would have to increase by a further **£140** per student in each scenario in 2020/21*.

By 2023/24, these estimates would increase to:

- **£1,560** in additional funding by to reverse the erosion of the curriculum since 2010/11;
- **£790** to widen the current curriculum; and
- **£2,070** to widen and deepen the current curriculum.

Source: London Economics’ analysis

Note: All values are rounded to the nearest £10. Values for 2020/21 and 2023/24 have been adjusted for medium-term inflation forecasts (for the Consumer Price Index) per fiscal year published by the Office for Budget Responsibility (2018).

* Please refer to the Annex for more information on the methodological approach underlying the analysis.
What has happened to the 16-19 curriculum and college finances since 2010/11, and what is the funding shortfall compared to the 2010/11 curriculum?

- Funding for 16-19 education in Sixth Form Colleges has declined by 22% in real terms since 2010/11 (£4,850 per student compared to £6,230 per student).
- Over the same period, there was a 6.5% increase in the number of students per Sixth Form College, but a 15% reduction in the average number of teaching staff per college. This has resulted in a 28% increase in the average learner-to-teaching staff ratio.

- Compared to 2016/17 funding levels, an extra £1,380 in additional funding per learner per year would be needed to reverse the erosion of the curriculum and college surplus since 2010/11.
- Accounting for inflation, this increases to an additional funding requirement of £1,490 for the 2020/21 academic year, and £1,560 by 2023/24.
What is the funding shortfall compared to an internationally-competitive curriculum?

- A total of £710 per student per annum would be needed to widen the 2016/17 curriculum (i.e. to enhance student support services, provide 3 hours of additional non-qualification time, and protect subjects that are under threat/have recently been dropped). After expected inflation, this increases to £760 by 2020/21, and £790 by 2023/24.

- To widen and deepen the curriculum (by further increasing total contact hours to internationally-competitive 25 hours per week, from the current average of 18 hours*) would cost an extra £1,820 per student per annum in 2016/17 prices, £1,970 in 2020/21 prices, and £2,070 in 2023/24 prices.

- A further £140 per student would be required in 2020/21 to meet the cost of the proposed increase in employer contributions to the Teachers’ Pension Scheme (and £150 by 2023/24).

---

* The current 18 hour average is based on data from the Sixth Form Colleges Association’s Curriculum Survey. The Survey was undertaken in 2014, achieved responses from a total of 47 Sixth Form Colleges, and data for 2016/17 constitute college’s own predictions for that academic year at the time. The average captures weighted average hours of contact time per learner per week, weighted by the number of students by programme (and calculated on average across all colleges).
Authors

Dr Gavan Conlon, Partner, London Economics
020 3701 7703, gconlon@londecon.co.uk

Ms Maike Halterbeck, Associate Director, London Economics
020 3701 7724, mhalterbeck@londecon.co.uk

@LE_Education
References

Department for Education (2010). '16 to 19 funding allocations: Allocations for 2010/11'.

Education Funding Agency (2016). '16 to 19 allocation data: 2016 to 2017 academic year'.

Education and Skills Funding Agency (2018). 'ESFA financial management: college accounts'.
https://www.gov.uk/guidance/esfa-financial-management-college-accounts


https://www.ons.gov.uk/economy/inflationandpriceindices/datasets/consumerpriceindices

Skills Funding Agency and Education Funding Agency (2012). 'Financial benchmarking software 2010 to 2011'. (Unpublished)
Methodology: Data collection and assembly

To undertake the analysis, we merged a wide range of college-level data, including information on:

- **Learner numbers and funding levels for 16-19** in 2010/11 and 2016/17, based on data from the Young People’s Learning Agency (for 2010/11) and the Education Funding Agency (for 2016/17) (see Department for Education (2010) and Education Funding Agency (2016));

- **Income, expenditure and staff levels** per college for 2010/11 and 2016/17. The data also include information on the total number of students per college (i.e. across all ages and education programmes), allowing us to calculate 16-19 students as a proportion of the total student body, at college level¹ (see Skills Funding Agency and Education Funding Agency (2012) and Education and Skills Funding Agency (2018));

- **Maximum weekly contact time per teacher**, based on responses to the SFCA’s 2010/11 and 2017/18 Working Arrangements for Teaching Staff Survey²;

- **Contact time per student per week**, by programme and type (i.e. qualification taught time, tutorial time, enrichment activity, personal support time, or other staff led activity), based on the SFCA’s Curriculum Survey (undertaken in autumn 2014), covering actual contact hours for 2010/11 as well as projections for 2016/17; and

- The additional number of teaching staff, support staff and additional non-staff cost associated with widening the curriculum (in terms of retaining/re-introducing 3 subjects with low student numbers that are under threat/have recently been dropped, and increasing student support services to the required levels), based on the SFCA’s Funding Survey of Sixth Form Colleges (undertaken in summer 2018).

¹ Note that the financial college accounts have all been provided directly by colleges themselves; hence, there might exist some errors and inconsistencies within the data on occasion. In particular, there appear to be some errors in the student number measures indicated by colleges as part of these financial data. These result in inconsistencies between the 16-19 student numbers and funding income indicated in the YPLA and EFA funding allocations in the years of interest.

² Note that the survey was not undertaken for the 2016/17 academic year, so we assumed the same maximum weekly contact time per teacher for 2016/17 as was reported in the 2017/18 survey results.
Methodology: Data collection and assembly

We merged the above college-level data sources based on the list of colleges operating in 2016/17. Hence, we excluded any colleges that were operating in 2010/11 but were no longer operating in 2016/17. For colleges that merged between the two years, we included the merged (i.e. new) institution in 2016/17, but not the original separate institutions in 2010/11.

The below table provides a summary of each of the above datasets, and highlights the number of Sixth Form colleges from each source that are included in the analysis.

<table>
<thead>
<tr>
<th>Data source</th>
<th>Year(s) covered</th>
<th># of SFCs included in the analysis</th>
<th>Key data variables</th>
</tr>
</thead>
<tbody>
<tr>
<td>YPLA 16-19 funding allocations</td>
<td>2010/11</td>
<td>88</td>
<td>Number of 16-19 learners and associated funding levels</td>
</tr>
<tr>
<td>EFA 16-19 funding allocations</td>
<td>2016/17</td>
<td>90</td>
<td></td>
</tr>
<tr>
<td>College financial accounts</td>
<td>2010/11</td>
<td>86</td>
<td>College income, expenditure number of staff and total student body</td>
</tr>
<tr>
<td></td>
<td>2016/17</td>
<td>83</td>
<td></td>
</tr>
<tr>
<td>SFCA Working Arrangements for Teaching Staff Survey</td>
<td>2010/11</td>
<td>71</td>
<td>Maximum contact hours per teacher per week</td>
</tr>
<tr>
<td></td>
<td>2017/18</td>
<td>56</td>
<td></td>
</tr>
<tr>
<td>SFCA Curriculum Survey</td>
<td>2010/11 (actual)</td>
<td>45 (2010/11)</td>
<td>Contact time per week per student (by activity &amp; type)</td>
</tr>
<tr>
<td></td>
<td>2016/17 (projected)</td>
<td>40 (2016/17)</td>
<td></td>
</tr>
<tr>
<td>SFCA funding survey</td>
<td>2016/17</td>
<td>35</td>
<td>Additional teaching staff, support staff and non-staff cost associated with widening the curriculum</td>
</tr>
</tbody>
</table>
Methodology: Income, expenditure and staff associated with 16-19 provision

Since Sixth Form Colleges typically offer other programmes in addition to their core 16-19 (Key Stage 5) provision (e.g. Higher Education courses), our analysis required an estimation – based on total financial and staff data per college – of the income, expenditure and number of staff in each college that is associated with 16-19 provision only.

For this, we make use of the student number data included in the financial data for both years, containing separate student numbers for (EFA/SFA) funded 16-19 and 19+ students, Higher Education 19+ students (funded by HEFCE), and 16-19 and 19+ Apprenticeship learners. In particular, for each college:

- For **2010/11**, we divide the number of 16-18 students funded by the (former) Learning and Skills Council and successor bodies by the total number of funded learners reported in the financial accounts; and
- For **2016/17**, we divide the number of 16-18 non-apprenticeship funded learners by the total number of funded learners reported in the financial data.

The resulting proportions (i.e. 16-19 learners as a % of total learners) are then applied to all income and expenditure items, as well as staff numbers, to estimate the costs, income and staff (in full-time equivalent (FTE)) associated with 16-19 provision only.

Finally, in order to estimate the difference between income and costs in 2010/11 and 2016/17 in real terms, we adjust the average income and cost per learner in 2010/11 for inflation, using data on the change in the UK Consumer Price Index between 2010 and 2016 (see Office for National Statistics, 2018).
### Methodology: Costing the ‘internationally-competitive’ curriculum

- To estimate the costs of **widening** the curriculum (relative to 2016/17), we use data collected by the SFCA as part of its recent **Funding Survey**, asking colleges to estimate the additional resources that would be required to:
  - Retain/re-introduce 3 subjects with low student numbers that are under threat/have recently been dropped,
  - Increase non-qualification time by 3 hours per student per week from current levels, and
  - Increase student support services (e.g. by introducing additional counselling and mental health support).

- In terms of the resources required, the survey asks respondents to indicate:
  - The additional **number of teaching and support staff** (in FTE) required for these curriculum expansions (which we multiply by the average staff cost per teaching staff and support staff (in 2016/17), respectively, to arrive at monetary estimates); and
  - The associated additional **non-staff cost** needed.

- All of these costs are estimated separately **per college** (for the 32 colleges that responded to the Funding Survey and for which all of the necessary data are available).
Methodology: Costing the ‘internationally-competitive’ curriculum

- To estimate the costs to SFCs associated with deepening the curriculum, again separately by college, we calculate the number of teaching staff (in FTE) that would be required to increase weekly contact hours per learner to 25 hours*, as follows:

\[
\text{# of teachers} = \frac{\text{# of learners} \times \text{contact time per student}}{\text{Contact time per teacher} \times \text{Class size}}
\]

where:
- \textbf{# of learners} relates to the number of 16-19 learners per college (1,806 on average in 2016/17);
- \textbf{Contact time per student} refers to the intended 25 hours per learner per week;
- \textbf{Contact time per teacher} refers to the maximum weekly contact hours per teacher (23.6 hours on average in 2016/17); and
- \textbf{Class size} captures the average class size across all programmes offered per college (16.6 in 2016/17).

- We then assess the additional costs associated with the resulting increased number of teaching staff required, in terms of the added:
  - \textbf{Staff costs} (including the staff costs of the additional teachers, but also the associated additional support staff and administration staff costs required to support the enhanced activities), and
  - \textbf{Non-staff costs} (including other operating expenditures associated with teaching, support and operation).

Each of these cost types are calculated by dividing the total cost by the total number of teaching staff (by cost type and college, based on estimate college costs and staff after the widening of the curriculum).

* This is on top of the increase in non-qualification time by 3 hours estimated as part of the costs of widening the curriculum (see the previous slide). Hence, we estimate the costs of raising contact hours from an average of 21 hours (the current average of 18 hours plus the 3 hours of non-qualification time under the widened curriculum) to 25 hours per learner per week. Note that the analysis is based on a total of only 16 colleges for which all of the required data are available.
To estimate the proposed increase in employer contributions to the Teachers’ Pension Scheme (TPS) (from 16.48% to 23.6%)

- We assessed the current costs (in 2016-17) incurred by Sixth Form Colleges on teaching salaries per learner (which are presented as gross estimates including any on-costs and pension contributions)

- Using information on the level of employer National Insurance contribution and current TPS contributions, we split the gross costs associated with teacher salaries into the direct salary cost and additional payroll costs per learner

- We adjusted the payroll costs to account for the additional pension contributions, and subsequently estimated the total teacher salary cost and payroll costs per learner that would be expected to be incurred by Sixth Form Colleges following the proposed increase in employer contributions to the TPS – in 2016-17 prices

- This total teacher salary cost and additional payroll cost was then inflated to 2020/21 prices (using the same inflation forecasts from the Office for Budget Responsibility as before) - to generate an estimate of the additional cost per learner per annum in 2020/21 prices

- We estimated that to meet the additional payroll cost associated with these additional payroll contributions, funding for Sixth Form Colleges would have to increase by a further £140 per student in 2020/21