



Consulting

Trends in Vocational, and General Secondary Education

The Case for VAT Exemption for FE Colleges Providing Education to 16–
18-Year-Olds

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 +44 (0)20 7107 5215
 consulting@lse.ac.uk
 lse.ac.uk/consultancy

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LSE Consulting
Houghton Street
London WC2A 2AE

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Introduction

Further Education (FE) colleges play a crucial role in the UK's educational landscape, offering a wide range of academic, vocational, and technical courses for students aged 16 and over. These institutions serve more than 1.5 million students annually and act as key pillars in the effort to improve skills, promote lifelong learning, and support local economic development. By providing A-levels, T Levels, apprenticeships, adult education, and professional qualifications, they are essential to developing the skills required in the UK workforce.

Beyond their institutional importance, FE colleges contribute fundamentally to human capital development—the accumulation of knowledge and skills that enhance individual productivity and long-term economic well-being. As Deming (2022) argues, investments in education significantly increase future earnings and contribute to broader social outcomes. In this context, strengthening the post-16 education system, including through fiscal and regulatory reform, emerges as a strategic policy lever with implications for opportunity, productivity, and social cohesion.

However, FE colleges in England face long-standing challenges related to funding and financial sustainability. One notable issue is the VAT (Value Added Tax) treatment of FE colleges, which places them at a relative disadvantage compared to schools and academies that are able to reclaim VAT on non-business activities. FE colleges operate as exempt charities, typically incorporated as statutory corporations or charitable companies. While they are exempt from corporation tax, they cannot recover VAT on most of their purchases related to their exempt education activities. This constraint reduces the resources available for frontline teaching and learning, and it is estimated that the VAT cost to the sector amounts to approximately £200 million annually (AoC).

In contrast, schools and academies benefit from the Section 33 VAT refund scheme under the VAT Act 1994, which allows them to reclaim VAT incurred on non-business activities funded by public money. This discrepancy in VAT treatment has long been a concern, contributing to perceived inequities in funding and creating distortions in the education system. For example, multi-academy trusts that operate both schools and post-16 provision benefit from VAT recovery for school-based activities but not for their FE college provision, influencing organisational decisions and limiting investment capacity.

Reducing early school leaving has become a key policy target across OECD and EU countries. It is viewed as essential to achieving the goals of "smart growth" and "inclusive growth." In a labour market increasingly shaped by globalization, technological change, and automation, the demand for advanced technical and transversal skills—such as teamwork, problem-solving, and adaptability—continues to grow. Consequently, keeping young people in education for longer is a means not only to improve their employability but also to reduce inequality and foster inclusive economic growth.

One of the most robust findings in the social sciences is the strong causal link between educational attainment and earnings. Landmark research by Angrist and Krueger (1991) demonstrated that individuals legally required to stay in school longer enjoy higher incomes over their lifetimes. Similarly, Deming (2022) estimates that an additional year of education boosts earnings by approximately 10%. Prolonged schooling also supports the development of both foundational skills (literacy and numeracy) and higher-order competencies such as critical thinking, collaboration, and time management—skills that are vital in today's knowledge-based economy.

However, educational attainment is not just about economic returns. It is a powerful engine of social mobility. Those who achieve higher levels of education tend to access better jobs, earn higher wages, and experience greater job stability. Extending compulsory education can help mitigate social disparities by improving outcomes for students from disadvantaged backgrounds, especially those who might otherwise disengage early. As Oreopoulos (2007) points out, many adolescents underestimate the long-term consequences of leaving school early; policies that extend education can counteract this short-sightedness and enhance both individual welfare and national human capital.

At the macroeconomic level, human capital accumulation is a key driver of long-run economic growth. Hanushek and Woessmann (2020) emphasize that the financial returns to education are significantly amplified when quality is assured. Increasing the number of years spent in school must therefore be accompanied by improvements in teaching quality, learning outcomes, and student engagement—particularly for those most at risk of early school leaving. Only then can extended compulsory education translate into real gains in productivity and equity.

Understanding the implications of VAT treatment on FE colleges requires a comprehensive assessment of the legal framework, financial impact, and policy options. In the following sections, we analyse the current VAT system, compare international approaches, and evaluate potential reforms through an economic and financial lens. Ultimately, this report seeks to inform policymakers and stakeholders on how the VAT system can be adapted to better support FE colleges and ensure a fairer distribution of public resources in post-16 education. By highlighting both the financial burden and the strategic role of FE colleges, we aim to contribute to a more equitable and efficient funding framework that aligns with the government's skills and productivity agenda.

The remainder of this report is structured as follows. First, it examines the strategic importance of the post-16 education system in the UK, with a particular focus on the role of Further Education (FE) Colleges in promoting human capital and social equity. The next section reviews the economic and redistributive effects of extending compulsory education beyond the age of 16, drawing on international empirical evidence. This is followed by a comparative analysis of the UK's education funding and recent trends in basic skills performance, as reflected in the 2022 PISA results. A dedicated section then explores the

legal and fiscal framework governing VAT in FE Colleges, highlighting the disparities with other educational institutions. The final section presents a simulation of the long-term budgetary impact of reforming the VAT treatment of capital investment in FE Colleges, offering policy recommendations to support a fairer and more effective funding model for post-compulsory education.

Policy Relevance: Extending Education Beyond Age 16 to Strengthen Human Capital and Equity

Lacuesta et al. (2025) underscore the role of public policy in addressing early school leaving and expanding upper secondary attainment as a strategy to close educational and socioeconomic gaps. In the context of Further Education (FE) Colleges in the UK—which serve a large share of students aged 16–18—ensuring adequate funding, including the consideration of VAT exemptions, is crucial to strengthening their capacity to deliver inclusive, high-quality education.

FE colleges often serve students from less advantaged backgrounds who may be at greater risk of disengaging from education. Policies that encourage continued enrolment after age 16 are therefore critical to aligning education with labour market needs and ensuring that these institutions remain central to both social mobility and skills development. Extending compulsory education and enhancing the attractiveness of vocational pathways (especially when integrated with workplace learning) can help reduce dropout rates, increase qualification rates, and improve long-term employment outcomes.

Box 1: Understanding Cross-Country Comparisons in Education

To make international comparisons of education systems and outcomes meaningful, a standardized classification is essential. This chapter uses the **UNESCO International Standard Classification of Education (ISCED)** as a common reference. ISCED enables national qualifications to be aligned with internationally comparable levels based on the complexity of skills acquired, degree of specialization, typical age of entry, and program structure.

Under ISCED, **compulsory education** generally comprises:

ISCED 1 – Primary Education: Begins between ages 5 and 7. Focuses on foundational skills in literacy and numeracy, typically taught by a single generalist teacher. Duration: 4 to 6 years.

ISCED 2 – Lower Secondary Education: Begins between ages 10 and 13. Instruction is more subject-based, delivered by specialized teachers. Duration: approximately 4 years.

Post-compulsory education, which starts once students are legally eligible to work, includes:

ISCED 3–4 – Upper Secondary and Post-Secondary Non-Tertiary Education: Entry usually occurs between ages 14 and 16. These programs prepare students either for higher education or direct labour market entry. Curricula are more diversified, and instruction is delivered by highly specialized teachers.

ISCED 5–8 – Tertiary Education:

ISCED 5: Short-cycle tertiary programs (e.g., two-year vocational or technical diplomas).

ISCED 6: Bachelor's degree programs.

ISCED 7: Master's level qualifications.

ISCED 8: Doctoral degrees and equivalent qualifications.

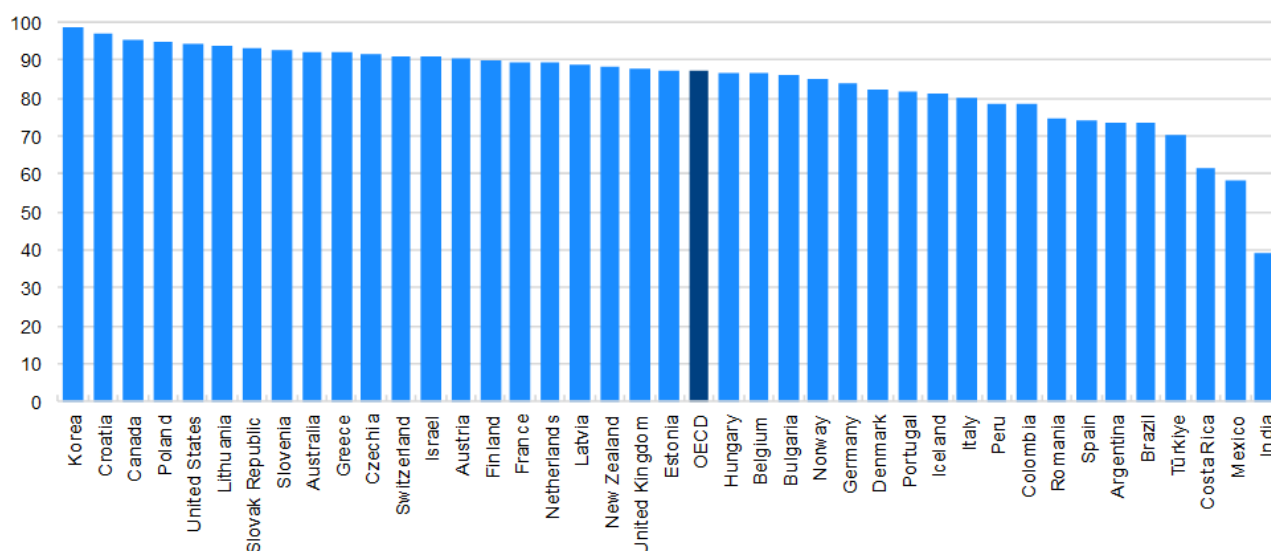
This framework allows for robust cross-country comparisons of educational attainment, ensuring that analysis is grounded in a shared understanding of educational progression.

At this transition point—after the end of compulsory schooling—students must choose among general academic studies, vocational training, or early entry into the labour market. This decision, typically made gradually, has lasting consequences for earnings, employment quality, and further educational opportunities. As Lacuesta et al. (2025) note, public policies that support students at this juncture—especially those promoting access to vocational education—can mitigate inequality and increase the returns to educational investment.

Figure 1 presents the percentage of 25–34-year-olds who have attained at least upper secondary education (ISCED 3 or higher) across OECD countries. The United Kingdom reports an attainment rate close to the OECD average (86%), with nearly 87% of young adults in this age group having completed at least upper secondary education. While the UK performs reasonably well in overall attainment, it still lags behind high-performing systems like Korea or Slovenia, where completion rates exceed 95%. This highlights the scope for improvement in retaining and supporting students through completing qualifications beyond age 16.

Introducing more substantial incentives for post-16 participation could help raise attainment further, particularly in vocational streams. In this regard, policies such as VAT exemptions for FE Colleges could play a key role in reducing costs and increasing investment in these institutions, allowing them to offer more tailored support, improved facilities, and broader access for students at risk of disengagement. As the graph illustrates, raising upper secondary attainment is possible and essential for countries like the UK that aim to remain globally competitive while promoting social equity.

Figure 1: Share of individuals 25-34 years with at least upper secondary education (2023)



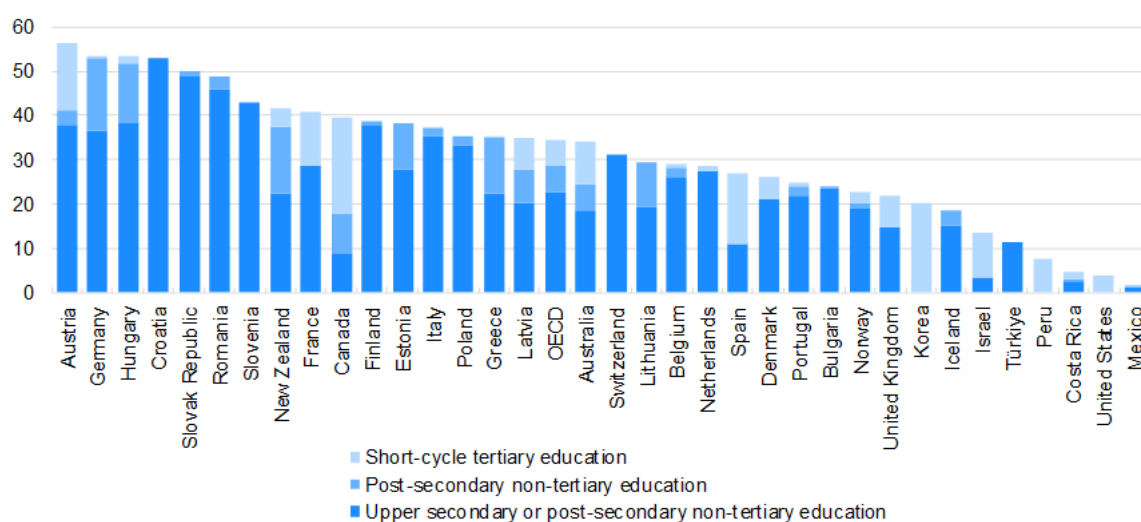
Source: OECD Education at a Glance 2024.

In most systems, upper secondary education serves as a stepping stone to tertiary studies or as a direct route to employment via vocational education and training (VET). Figure 2 shows that the share of young adults whose highest qualification has a vocational orientation varies markedly across countries—from over 50% in Austria and Germany to below 25% in Korea, Portugal, and the United Kingdom. On average, about one in three 25–34-year-olds in the OECD holds a vocational credential as their highest qualification.

Despite having a developed tertiary sector in the UK, vocational education remains underutilised as a terminal qualification route. This relatively low proportion suggests a missed opportunity to strengthen upper-secondary VET as a viable alternative for students who may not transition into academic higher education. Given the pressing need to expand the supply of skilled labour and to reduce early school leaving, particularly in the 16–18 age group, a more robust and attractive vocational track could help close this gap.

On average, about one in three individuals across OECD countries obtains a vocational qualification as their highest educational attainment. This highlights the relevance of strengthening VET provision, especially in systems like the UK's, where vocational pathways remain comparatively underdeveloped.

Figure 2: Share of individuals 25–34 years with vocational orientation (2023)



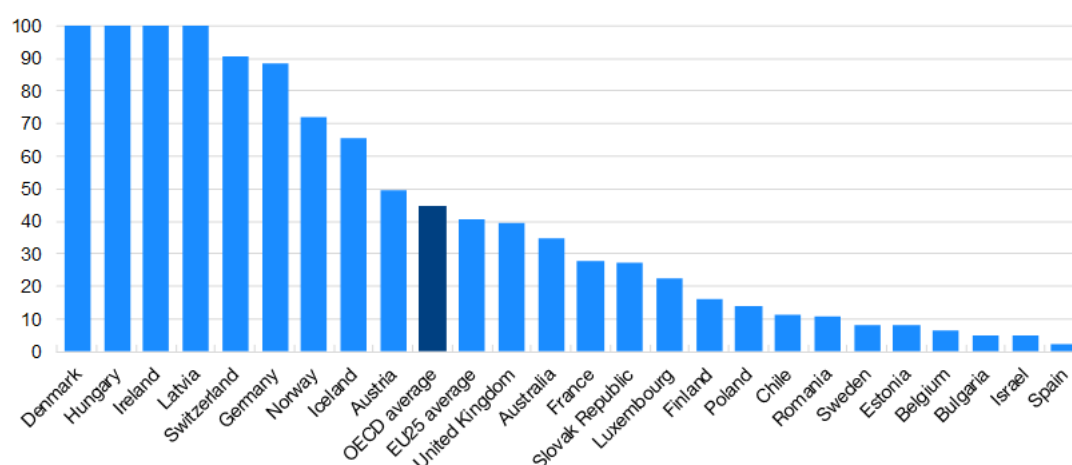
Source: OECD Education at a Glance 2024.

A distinguishing feature of high-performing vocational education systems is their effective integration of work-based learning, often delivered through dual training or structured apprenticeship models. These approaches enable students to acquire occupational and transversal competencies, such as teamwork, communication, and time management, within authentic work environments. They also help forge stronger connections between education providers and employers, aligning training with labour market needs (OECD, 2023). Figure 3 highlights stark international variation in the share of upper secondary vocational students enrolled in combined school- and work-based programmes. Countries like Denmark, Hungary, and Switzerland lead the way, with more than 90% of vocational students participating in such dual-track models. These systems have become synonymous with effective school-to-work transitions and lower youth unemployment.

In contrast, the United Kingdom sits just below the EU and OECD averages, with around 40% of vocational students engaged in combined programmes. While this represents a relatively higher level of integration than in countries like Spain or Israel (where participation is below 10%), it also underscores considerable room for improvement. Strengthening the availability and visibility of work-based components in vocational tracks could help the UK improve student outcomes, raise the perceived status of vocational education, and meet employer demands for job-ready skills, particularly for 16–18-year-olds.

To this end, expanding access to dual programmes and enhancing employer partnerships should be central to any strategy aimed at improving the effectiveness and attractiveness of further education in the UK.

Figure 3: Share of upper secondary vocational students enrolled in combined school-and work-based programmes (2021)



Source: OECD Education at a Glance 2024.

FE Colleges serve a fundamental role in this extended education system. They offer both academic and vocational pathways to a highly diverse student population. Many students come from economically disadvantaged backgrounds and rely on public provision to complete their compulsory education. FE Colleges are liable to pay VAT on various operational and capital expenditures. This reduces the funds available for investment in educational resources, infrastructure, and student services and creates an uneven playing field in providing what is essentially the same public service: education for 16- to 18-year-olds.

Across many OECD and EU countries, vocational education is strongly supported through fiscal and policy instruments, often including VAT exemptions or other tax incentives. For example, in countries like Germany and Austria, dual VET programmes that combine classroom instruction with workplace training are highly subsidised and integrated into the national education system. These countries have invested in aligning education systems with labour market needs, reducing dropout rates, and promoting transitions into stable employment. Dual VET programs are characterized by integrating theoretical instruction in schools and practical training in firms. Students enrolled in these programs spend much time learning on the job, often through paid apprenticeships. In countries such as Germany, Switzerland, and Austria, dual VET is the dominant model at the upper secondary level and is closely linked to their relatively low youth unemployment rates.

In many continental European countries, dual vocational education and training (VET) systems have steadily gained ground over the past two decades. This growth is often tied to policy efforts aimed at facilitating smoother transitions from school to the labour market. Notably, the structure of dual VET in these countries diverges from apprenticeship models commonly found in Anglo-Saxon systems like the UK, where programmes tend to be predominantly employer-driven and are generally less embedded within national education frameworks.

There is a well-established body of evidence supporting the idea that dual VET pathways lead to more successful school-to-work transitions compared to classroom-based alternatives. Studies consistently show that students graduating from dual systems are more likely to enter employment quickly, secure longer-term contracts, and benefit from greater job stability. While the evidence on wage advantages remains inconclusive, one key factor behind these positive outcomes is the high rate at which training companies retain apprentices after program completion.

Table 1 from OECD Education at a Glance 2024 illustrates the distribution of tertiary educational attainment among adults aged 25 to 64, distinguishing between short-cycle tertiary programmes, bachelor's degrees, master's degrees, and doctorates. The United Kingdom stands out, with 53% of adults holding some form of tertiary qualification, exceeding both the OECD average (41%) and the EU-22 average (37%). This comparatively high attainment reflects the UK's historically strong university system and the broad accessibility of bachelor's-level programmes. Notably, 27% of adults in the UK hold a bachelor's or

equivalent qualification, placing the country above average and confirming the success of its academic higher education system.

However, what is particularly relevant for this project is the relatively high proportion (9%) of adults in the UK whose highest qualification is a short-cycle tertiary degree—significantly higher than the OECD average (7%) and more than double the EU-22 average (4%). Short-cycle vocational programmes—many of which are delivered by Further Education (FE) Colleges—play a critical role in the UK's skills ecosystem. These programmes serve as a bridge between upper secondary education and the labour market, or as a stepping stone toward further academic qualifications. They are particularly relevant for students who may not follow a traditional university track but seek valuable, job-ready credentials.

In this context, FE Colleges are key enablers of upward mobility, especially for students from non-traditional or disadvantaged backgrounds. The data also confirms that a meaningful share of the UK's higher education graduates come from vocational routes, reinforcing the case for targeted policy support. Given the financial constraints FE Colleges face, particularly VAT liabilities that do not apply to other providers of post-16 education, fiscal measures such as VAT exemption are essential to maintain and strengthen this pathway. While the UK does not operate a full dual VET system comparable to those in Germany or Austria, it compensates through the widespread availability of short-cycle tertiary programmes offered by FE Colleges. These programmes, although structurally different, play a similarly vital role in equipping young people with labour market-relevant skills and facilitating smooth transitions into employment or further study.

Table 1: Educational Attainment of People Aged 25 to 64 (2023) Percentage of Adults with Tertiary Education

Country	Short-Cycle Tertiary Education	Bachelor's or Equivalent	Master's, Licentiate, or Equivalent	Doctorate or Equivalent	Total
United Kingdom	9	27	15	2	53
France	14	12	15	1	42
Germany	1	19	12	2	33
Italy	0	6	15	1	22
Spain	13	11	16	1	41
United States	10	25	13	2	51
OECD	7	20	14	1	41
EU-22	4	15	18	1	37

Source: OECD Education at a Glance 2024

Students from low-income families, first-generation students, and those from immigrant backgrounds are overrepresented in FE Colleges, particularly in vocational tracks. These institutions thus function as key mechanisms for social mobility. Penalising them through VAT liabilities undermines the broader goals of the education system and public policy commitments to equality of opportunity.

Finally, fiscal measures like VAT exemption should be viewed not as costs to the Exchequer but as investments in the country's future human capital. They would allow FE Colleges to redirect resources towards improved facilities, enhanced student support, and innovative programmes.

Table 2 presents first-time graduation rates in tertiary education for individuals under age 30, disaggregated by type of programme: short-cycle tertiary, bachelor's, and master's degrees. Importantly, these figures exclude students who had previously obtained a tertiary qualification, offering a clearer picture of the initial pathways young adults pursue. The “under

30” metric reflects the share of the total population below age 30 that has graduated from tertiary education for the first time—providing a meaningful indicator of early educational attainment across countries.

According to the 2019 data, the United Kingdom recorded a first-time tertiary graduation rate of 43% among individuals under 30, placing it above both the OECD average (38%) and the EU-22 average (37%). This signals relatively strong performance in encouraging early tertiary completion. However, the UK lags behind countries like Spain (54%) and the United States, where broader use of short-cycle programmes appears to contribute to higher overall attainment at younger ages.

From a structural perspective, the UK’s distribution of graduates is highly concentrated in bachelor’s degrees (76%), consistent with countries like Germany (86%). Yet the UK also stands out for its substantial use of short-cycle tertiary programmes, which account for 23% of first-time tertiary graduates—well above the OECD average (16%) and nearly double the EU-22 average (13%). Only Spain (43%) and the US (40%) have higher shares, reflecting a stronger institutional emphasis on vocationally oriented qualifications.

This relatively high reliance on short-cycle provision in the UK—delivered primarily through Further Education (FE) Colleges—underscores the importance of vocational pathways within the tertiary landscape. These programmes are designed to equip students with labour market-relevant technical and professional skills, offering a practical and accessible route for those who do not immediately pursue university degrees. They also serve as stepping stones for further study, allowing graduates to transition into bachelor’s or even master’s programmes later.

The UK’s graduation profile reflects a balanced but under-recognised strength in short-cycle tertiary provision, which plays a key role in expanding educational access and workforce readiness. Since FE Colleges are the leading providers of these programmes, fiscal measures—such as VAT exemptions—are vital to ensure financial sustainability. Supporting these institutions is a question of equity and a strategic investment in the country’s skills base and human capital pipeline. As highlighted in Table 2, the UK’s relatively high first-time tertiary graduation rate among under-30s (43%) is largely attributable to the strong performance of short-cycle vocational programmes. With 23% of first-time graduates completing such programmes—well above the OECD average—the UK demonstrates how targeted investment in vocationally oriented FE provision can yield significant returns in terms of both attainment and employability.

Table 2: Percentage of First-Time Graduates by Educational Level (2021) and First-Time Graduation Rate of Under 30s (2019)

Country	% First-Time Graduates			First-Time Graduation Rate		
	Short-Cycle Tertiary Education (2–3 years)	Bachelor's Degree	Master's or Equivalent	Total Excluding International Students	Men	Women
United Kingdom	23	76	1	43	36	49
France	-	-	-	-	-	-
Germany	1	86	12	37	34	41
Italy	2	83	15	35	29	43
Spain	43	45	12	54	47	60
United States	40	60	-	-	-	-
OECD	16	76	8	38	31	46
EU-22 *	13	78	10	37	30	45

*Note: The EU-22 data refer to 2019

Source: OECD Education at a Glance 2023, p. 241; OECD Education at a Glance 2021, p. 208

<https://www.oecd.org/education/education-at-a-glance/>

These short-cycle tertiary programmes are essential for equipping students with specialised technical and vocational skills directly linked to labour market needs. As Cabrales and Sanz (2025) highlight, such programmes play a pivotal role in supporting students who may not pursue traditional university degrees but seek credible and valuable qualifications. In the context of the UK, FE Colleges are the primary providers of these short-cycle programmes. They serve as a vital bridge between secondary and higher education, facilitating upward mobility, particularly for students from non-academic or disadvantaged backgrounds. Therefore, the relatively high graduation rate of young people in the UK is inseparable from the robust FE sector that supports them through vocational and technical routes.

The broader diversity of institutional types—including public universities, private providers, and FE Colleges—has allowed many OECD countries to widen access to tertiary education. Yet, access alone does not guarantee equity. Students from low-income families, first-generation university-goers, and individuals from immigrant backgrounds continue to face systemic challenges in completing their studies. These groups are overrepresented in vocational education tracks and short-cycle programmes, making it all the more urgent to ensure that the institutions serving them are fiscally supported, not penalised.

These findings underscore the rationale for policy interventions aimed at extending educational participation beyond age 16. Section 3 explores the broader research base supporting this strategy, focusing on the long-term social and economic benefits of reducing early school leaving and sustaining engagement through to tertiary-level qualifications.

International Experience in Extending education: Upper Secondary and Vocational Education

This section draws on international causal evidence to underscore the economic and social benefits of keeping young people in education beyond the age of 16. While the policy context varies across countries, the core findings remain highly relevant to England, where persistent gaps in upper-secondary participation—particularly among disadvantaged groups—continue to hinder efforts to expand human capital and improve long-term productivity. Given the role of FE Colleges in addressing these challenges, the evidence below helps to frame the rationale for enhanced policy support, including fiscal measures such as VAT reform.

The seminal work by Angrist and Krueger (1991) on educational reforms in the United States demonstrated that one additional year of schooling increases individuals' annual earnings by approximately 10% on average. Using an instrumental variable methodology, the authors provided causal evidence that additional education facilitates access to more stable and higher-quality jobs, while reducing the likelihood of unemployment and dependency on social welfare.

In Canada, Oreopoulos (2004, 2006) examined similar reforms and found that an extra year of compulsory schooling led to significant gains in labour income and decreased reliance on welfare benefits. By keeping students in school longer, these reforms effectively reduced dropout rates and promoted skill development that improved labour market success. In Canada, individuals compelled to remain in school for one additional year increased their annual earnings by between 9% and 15%, and were 10% less likely to fall below the poverty threshold and 7% less likely to be long-term unemployed.

These studies consistently show that extending education has a pronounced redistributive effect, especially for students who would otherwise have dropped out. Oreopoulos (2006) also found that the risk of low-skilled employment was reduced by 6%. In a cross-country analysis of the U.S., Canada, and the U.K., Oreopoulos (2007) estimated that compulsory schooling laws raise lifetime wealth by roughly 15%, even after accounting for foregone income. Additional positive effects included a 2-3 percentage point reduction in poor self-reported health, a 6% decrease in poverty risk, and a significant improvement in life satisfaction and self-reported happiness. These impacts were particularly strong among initially low-educated groups, reinforcing the role of compulsory education as a mechanism for intergenerational equity.

Furthermore, Oreopoulos, Page, and Stevens (2006) found that one more year of compulsory education for parents reduced the probability of grade repetition by 7 percentage points and early dropout by 5 points among their children. In the UK, Oreopoulos and Salvanes (2011)

evaluated a reform that raised the school-leaving age from 14 to 15. They found a 10% reduction in welfare benefit usage and an 8% decrease in poverty as a result.

A more recent comparative analysis by Hofmarcher (2021) across 32 European countries examined how reforms extending compulsory education influenced the average years of schooling completed. A clear discontinuity was identified at the point of reform implementation, suggesting a shift in educational trends and an increase in the proportion of youth completing at least one additional year of education. Hofmarcher (2021), presents a summary of 37 reforms in 23 countries. Of these, 32 extended compulsory education while five reduced it. The average age affected ranged from 7 to 10 years of education, with most reforms resulting in an increase of one to three years. Hofmarcher estimated that one extra year of education reduced the risk of poverty by 29% and economic hardship by 17%, while also improving perceptions of material stability. The data suggest that reforms motivated students to continue their studies beyond the minimum threshold, possibly to differentiate themselves educationally in a more competitive environment.

In Indonesia, Shidiqi and Choi (2024) evaluated the 1994 reform that expanded compulsory education from 6 to 9 years. Using a regression discontinuity design, they found that the reform significantly raised the probability of completing both lower and upper secondary education, especially in urban areas and among students from low-educated households. The probability of completing lower secondary rose by 8%, and completing the full 12 years of schooling rose by 10%. A key finding of the study was the redistributive nature of the reform. Students with low-educated parents were 15% more likely to complete secondary education due to the reform, while those with highly educated mothers were 13% more likely to finish upper secondary school. This highlights the equity-enhancing potential of compulsory schooling extensions.

In Norway, Black, Devereux, and Salvanes (2024) studied a 1960s reform that raised compulsory schooling from 7 to 9 years. Their regression discontinuity and difference-in-differences design showed that students from disadvantaged backgrounds completed an average of 0.14 more years of education and earned 3.7% higher income at age 40. They also identified intergenerational benefits, with children of treated cohorts showing better educational outcomes.

Psacharopoulos (2024) provides a comprehensive historical review of returns to education, showing stable private returns of around 10% per year of schooling. He also highlights the importance of social returns and the use of exogenous policy reforms (e.g., compulsory schooling laws) to identify causal impacts. Karlson and Landersø (2025) analysed two key Danish reforms. The 1958 reform improved access and quality of secondary education, particularly in rural areas. It significantly raised educational attainment and earnings, especially for students from low-educated households, and reduced intergenerational educational persistence. In contrast, the 1972 reform that extended schooling from 7 to 9

years reduced transmission but had no measurable impact on cognitive skills or income, emphasizing that not all extensions yield the same benefits.

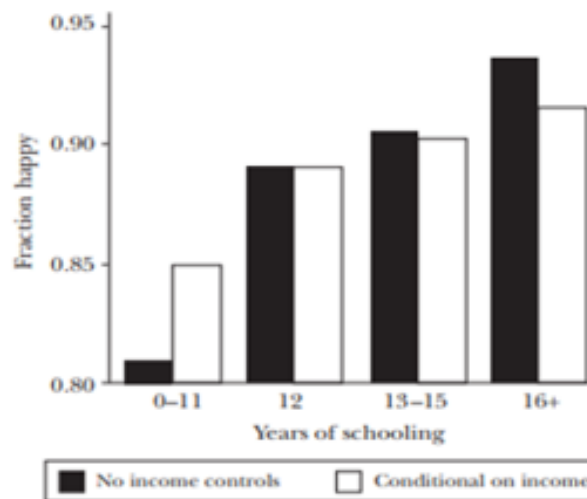
This year Prize Nobel Award winning, Acemoglu et al. (2025), analysed the 1936 Norwegian reform, which increased primary education investment in rural areas. The results showed increased educational attainment and earnings for women, as well as intergenerational improvements in educational outcomes and IQ scores. Most notably, the reform triggered a persistent increase in electoral support for the Labor Party in treated areas, illustrating the political consequences of successful educational investments. This evidence base strengthens the rationale for policies that extend compulsory education as part of broader efforts to increase human capital, reduce early school leaving, and promote equity—goals that are directly relevant to this project's focus on the design and financing of post-16 education systems, including FE Colleges in the UK. These international experiences highlight both the individual-level returns and the broader social and political benefits of such policies.

Impact on Health and Wellbeing

Well-being and Happiness

The authors explore how education is associated with happiness and overall well-being. Figure 4 shows the relationship between educational attainment and self-reported happiness among individuals aged 25 to 45 in the United States, based on General Social Surveys (1972–2000) data. The results indicate that high school graduates report being happy 8% more often than high school dropouts, while college graduates report being 5% happier than those with only a high school diploma. After adjusting for income levels, these differences decrease to 4% and 2% respectively, suggesting that while part of the effect is mediated through higher earnings, education has an independent positive impact on well-being.

Figure 4: Fraction Happy about Life by Years of Completed Schooling before and after Conditioning on Income

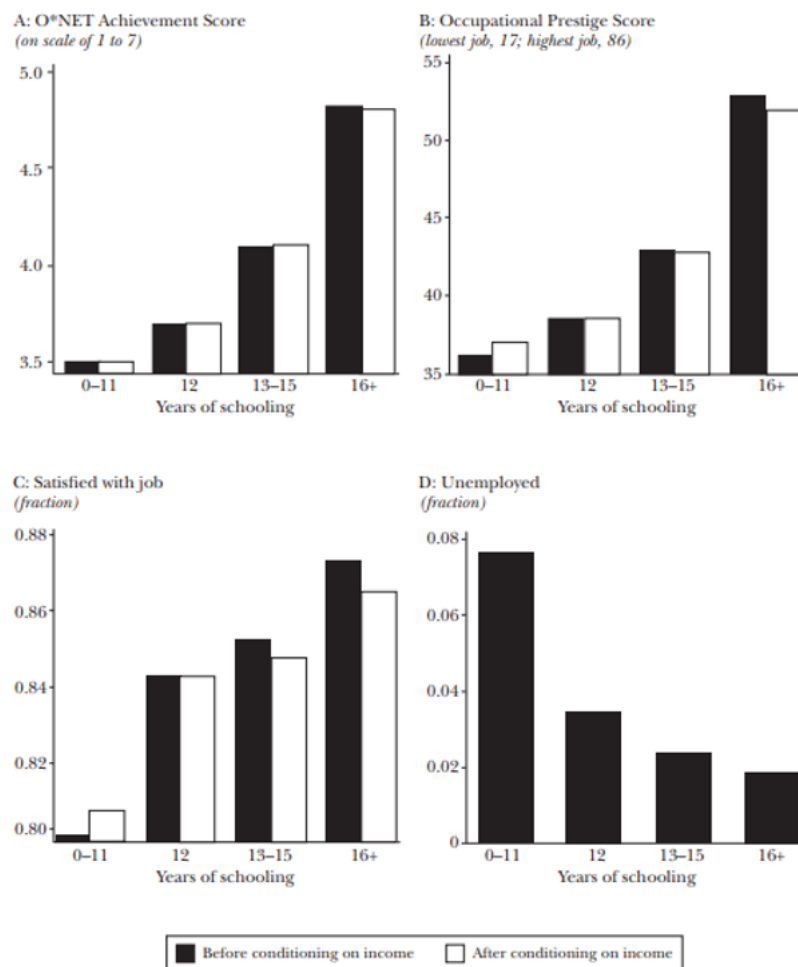


Source: Oreopoulos and Salvanes (2011) <https://www.aeaweb.org/articles?id=10.1257/jep.25.1.159>

Job Satisfaction and Occupational Prestige

Figure 5 presents the relationship between education level and job satisfaction, using descriptors from the Occupational Information Network (O*NET) such as Achievement, Independence, Relationships, Recognition, and Working Conditions. Workers with more years of schooling tend to be in jobs that offer greater autonomy and intrinsic satisfaction. The analysis also shows that individuals with at least one year of college obtain jobs that score, on average, 4.5 points higher in occupational prestige compared to those with only a high school diploma. For college graduates, the difference increases to 10 points, indicating a strong correlation between education and access to more prestigious employment.

Figure 5: Labour market outcomes by years of completed schooling before and after conditioning on Income



Source: Oreopoulos and Salvanes (2011) <https://www.aeaweb.org/articles?id=10.1257/jep.25.1.159>

Health and Lifestyle

The health benefits of education are well documented across multiple studies. This article highlights that individuals with higher levels of education tend to adopt healthier behaviours and make more effective use of health information. Figure 5, Panel A, shows that education is positively associated with better self-reported health. Individuals with higher education levels report better health outcomes than those with less education, even after controlling for income. Moreover, education is linked to lower incidence of chronic conditions, such as diabetes and hypertension, as well as fewer hospitalisations. This suggests that higher educational attainment contributes to improved health management over the life course.

Trust and Social Capital

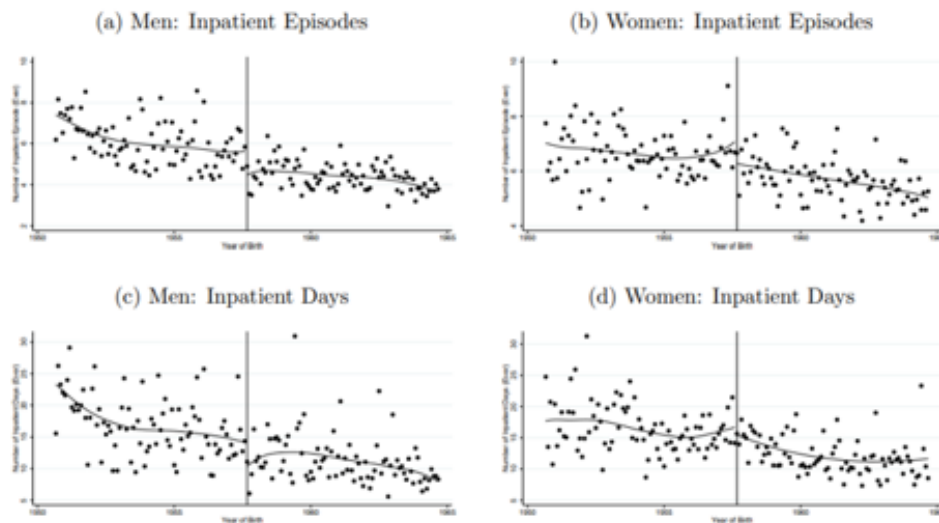
The final panel of Figure 5 illustrates a positive relationship between education and social trust. Individuals with higher education levels are more likely to express trust in others—a critical factor for social cohesion and the development of social capital. Education not only enhances cognitive skills, but also promotes pro-social behaviour and stronger community engagement.

In sum, Oreopoulos and Salvanes (2011) conclude that the non-pecuniary returns to education—such as better health, job satisfaction, and family stability—are essential to understanding the true value of schooling.

Gehrsitz and Williams (2024) examine the long-term impact of the 1972 education reform in Scotland, which raised the minimum school-leaving age from 15 to 16. This exogenous policy change provided a unique opportunity to estimate the causal effect of one additional year of schooling on health and well-being throughout the life course. Using a regression discontinuity design, the authors find that an extra year of education significantly reduced hospital admissions for lifestyle-related diseases, such as cardiovascular conditions and alcohol-related illnesses, by 0.37 standard deviations. The effects were particularly concentrated among middle-aged men, becoming detectable from around age 30 and intensifying between 45 and 55.

In addition, the reform led to a notable decline in cancer incidence linked to tobacco and alcohol consumption, again especially among men. Unlike other studies that report mixed effects on subjective health indicators—such as self-reported general health or consumption habits—Gehrsitz and Williams (2024) focus on objective health outcomes derived from administrative hospital records.

Figure 6 illustrates the drop in hospitalisation rates for lifestyle-related diseases among middle-aged men in Scotland. The vertical line marks the policy reform's implementation, after which a significant reduction in hospital admissions is observed, with the impact growing stronger in the 45–55 age range.

Figure 6: Impact of the 1972 Scottish Education Reform on Hospital Admissions

Source: Gehrsitz and Williams (2024) <https://docs.iza.org/dp17050.pdf>

This study contributes new evidence to the existing literature by showing how the health benefits of education unfold over the life course, highlighting the long-term public health returns of investing in education. According to the extended Grossman model of health demand (1972), additional schooling increases the efficiency of health investment, facilitating better use of health information and earlier adoption of preventive behaviours. This translates into a cumulative reduction in hospitalisations for chronic conditions such as hypertension and diabetes, whose prevalence increases with age.

Higher educational attainment is also associated with greater life expectancy and fewer comorbidities. Education is crucial in shaping health knowledge, encouraging health-promoting behaviours, increasing preventive services (Feinstein et al., 2004), and discouraging risky behaviours such as smoking (Clark and Royer, 2013). Overall, education has been found to reduce smoking, substance use, depression, obesity, and other poor health outcomes, while promoting regular physical activity. The causal impact of education on health and healthy behaviours appears particularly strong among men (Conti et al., 2010).

Education also reduces crime, increases social trust, and enhances civic participation. Farquharson et al. (2024) cite evidence showing that individuals with more education exhibit lower mental health issues and criminal behaviour, and greater political engagement. For example, Feinstein (2002) estimated that raising education levels among unqualified workers could save €700 million annually in crime-related costs.

Parental education also benefits children. Currie and Moretti (2003) and Black et al. (2005) found that children of educated mothers perform better academically and behaviourally.

Huebener (2025) showed that a year of additional maternal education reduced adolescent smoking by 17% and teenage obesity by 21% in post-WWII Germany.

Not all reforms are universally positive. Entorf and Dohmen (2025) analysed reforms in LMICs (e.g., Bolivia, Colombia, Ghana, Vietnam), finding that while education increased openness and consequential thinking, it sometimes reduced emotional stability, grit, and patience. Still, 40% of income gains were attributed to changes in non-cognitive skills.

In summary, integrating regulated education and employment from the age of 16 can serve as a second-chance mechanism that aligns with economic realities and educational objectives. It supports the acquisition of cognitive and non-cognitive skills, keeps at-risk students within the system, and helps meet the dual goals of reducing early school leaving and increasing the country's overall human capital. Table 3 summarises the findings of the impact of extending schooling following the economic literature.

Taken together, this body of evidence shows that sustained participation in post-16 education yields not only private benefits in terms of earnings and employment, but also broader public gains through improved health, reduced inequality, and higher economic growth. In the UK context, where FE Colleges are central to delivering post-compulsory education for underserved populations, failing to support these institutions financially—including through VAT reform—risks undermining national goals for productivity, equity, and social mobility.

Table 3: Summary of Studies on the Impact of Schooling Extension

Author(s)	Publication	Country	Output Measure	Effect Direction	Effect Size	Intervention	Comments	Method	Target Population	Sample Size
Angrist & Krueger	Quarterly Journal of Economics (1991)	USA	Labor income, schooling	↑ income & schooling using quarter of birth as IV	+7.5% annual earnings	Angrist & Krueger	Quarterly Journal of Economics (1991)	USA	Labor income, schooling	↑ income & schooling using quarter of birth as IV
Oreopoulos, Page, Stevens	Journal of Labor Economics (2006)	USA	Grade repetition, school dropout, children's education	↓ repetition & dropout due to parents' compulsory schooling	-2 to -7 pp in repetition; -3 to -5 pp in dropout	Oreopoulos, Page, Stevens	Journal of Labor Economics (2006)	USA	Grade repetition, school dropout, children's education	↓ repetition & dropout due to parents' compulsory schooling
Oreopoulos	American Economic Review (2006)	UK	Labor income, schooling	↑ schooling & income	+10–15% annual earnings	Oreopoulos	American Economic Review (2006)	UK	Labor income, schooling	↑ schooling & income
Heckman, Stixrud & Urzua	Journal of Labor Economics (2006)	USA	Income, employment, health, youth behaviour	↑ non-cognitive skills → ↑ labour & social outcomes	Comparable to cognitive skills in income/health	Heckman, Stixrud & Urzua	Journal of Labor Economics (2006)	USA	Income, employment, health, youth behaviour	↑ non-cognitive skills → ↑ labour & social outcomes
Oreopoulos	Journal of Public Economics (2007)	USA, Canada, UK	Lifetime income, perceived health, well-being, poverty, unemployment	↑ education improves income, health, happiness; ↓ poverty/unemployment	+15% lifetime wealth; -2.5 pp disability; +5.2 pp life satisfaction	Oreopoulos	Journal of Public Economics (2007)	USA, Canada, UK	Lifetime income, perceived health, well-being, poverty, unemployment	↑ education improves income, health, happiness; ↓ poverty/unemployment
Oreopoulos & Salvanes	Journal of Economic Perspectives (2011)	Global (mostly OECD)	Life satisfaction, health, fertility, family stability, civic engagement	↑ multiple non-pecuniary outcomes	+5 pp life satisfaction; -10 pp on social assistance use; ↓ teen fertility	Oreopoulos & Salvanes	Journal of Economic Perspectives (2011)	Global (mostly OECD)	Life satisfaction, health, fertility, family stability, civic engagement	↑ multiple non-pecuniary outcomes

Trends in Vocational, and General Secondary Education

The Case for VAT Exemption for FE Colleges Providing Education to 16–18-Year-Olds

Author(s)	Publication	Country	Output Measure	Effect Direction	Effect Size	Intervention	Comments	Method	Target Population	Sample Size
Hofmarcher	European Economic Review (2021)	23 European countries	Poverty risk, economic hardship, self-reported health, schooling years	↓ poverty (29%), hardship (17%); ↑ health & trust	Clear discontinuity in mean years of education	Hofmarcher	European Economic Review (2021)	23 European countries	Poverty risk, economic hardship, self-reported health, schooling years	↓ poverty (29%), hardship (17%); ↑ health & trust
Black, Devereux, Salvanes	AEJ: Applied Economics (2024)	Norway	Schooling years, income at age 40, children's education	↑ in all outcomes, esp. for low SES	+0.14 schooling years; +3.7% income; children's educational gains	Black, Devereux, Salvanes	AEJ: Applied Economics (2024)	Norway	Schooling years, income at age 40, children's education	↑ in all outcomes, esp. for low SES
Shidiqi & Choi	J. of Development Economics (2024)	Indonesia	Secondary completion, schooling years, educational mobility	↑ schooling; strongest among low-SES; ↑ mobility	+8 pp lower secondary; +10 pp upper secondary; ↓ parent-child correlation	Shidiqi & Choi	J. of Development Economics (2024)	Indonesia	Secondary completion, schooling years, educational mobility	↑ schooling; strongest among low-SES; ↑ mobility
Psacharopoulos	Education Economics (2024)	Global	Private/social education returns	Constant ~10% private return; public investment justified	~10% yearly private return; large social benefits	Psacharopoulos	Education Economics (2024)	Global	Private/social education returns	Constant ~10% private return; public investment justified
Gehrsitz & Williams	IZA DP No. 17050 (2024)	UK (Scotland)	Hospitalization, cancer, health, mortality	↓ in hospitalizations & cancer; ≈ subjective health	-0.37 SD in male hospitalizations	Gehrsitz & Williams	IZA DP No. 17050 (2024)	UK (Scotland)	Hospitalization, cancer, health, mortality	↓ in hospitalizations & cancer; ≈ subjective health

Trends in Vocational, and General Secondary Education

The Case for VAT Exemption for FE Colleges Providing Education to 16–18-Year-Olds

Author(s)	Publication	Country	Output Measure	Effect Direction	Effect Size	Intervention	Comments	Method	Target Population	Sample Size
Karlson & Landersø	Scand. J. of Economics (2025)	Denmark	Schooling, cognitive test, income, intergen. mobility	↑ mobility from 1958 & 1972 reforms	1958: +14 pp ≥9 yrs; -0.14 parent-child regression coefficient	Karlson & Landersø	Scand. J. of Economics (2025)	Denmark	Schooling, cognitive test, income, intergen. mobility	↑ mobility from 1958 & 1972 reforms
Acemoglu et al.	JEEA (2025)	Norway	Schooling, income, political support, children's IQ	↑ education & income (esp. women); ↑ Labour vote	+0.47 schooling yrs (men); +6.7% income (women); +3.9 pp Labour vote	Acemoglu et al.	JEEA (2025)	Norway	Schooling, income, political support, children's IQ	↑ education & income (esp. women); ↑ Labour vote
Huebener	J. of Human Resources (2025)	Germany	Teen smoking, overweight, health, chronic illness	Maternal schooling ↑ child health; no paternal effect	Smoking: -3.8 pp; Overweight: -3.6 pp; ↑ general health	Huebener	J. of Human Resources (2025)	Germany	Teen smoking, overweight, health, chronic illness	Maternal schooling ↑ child health; no paternal effect
Entorf & Dohmen	Economics of Education Review (2025)	Bolivia, Colombia, Ghana, Vietnam	Non-cognitive skills (Big Five, grit, patience), schooling, income	↑ openness, consequential thinking; ↓ grit, patience, risk	+0.95 years schooling; 40% of income effect via non-cognitive change	Entorf & Dohmen	Economics of Education Review (2025)	Bolivia, Colombia, Ghana, Vietnam	Non-cognitive skills (Big Five, grit, patience), schooling, income	↑ openness, consequential thinking; ↓ grit, patience, risk

Educational Financing Indicators in the UK, OECD and the EU

The previous sections have shown that extending education to age 18, strengthening vocational pathways, and promoting higher participation in tertiary education are relevant policy goals in the UK and across OECD countries. However, these objectives cannot be achieved without a financing system that aligns with them. This section examines how current patterns of educational investment—particularly in upper-secondary and short-cycle tertiary education—shape institutional capacity and influence the ability of education systems to deliver on goals of equity, quality, and inclusion.

While FE Colleges are excluded from Section 33 VAT refunds, this does not imply the absence of dedicated public funding for post 16 vocational education and training (VET). According to the National Audit Office (2020), in 2018–19, FE colleges in England received £6.5 billion in total income, with £5.1 billion (78%) coming from public sources. Separately, data from the House of Commons Library reports that £6.1 billion was allocated to 16–19 education by the Education and Skills Funding Agency (ESFA) in 2020–21 (Hubble, Bolton & Lewis, 2021).

More recent figures cited by stakeholders in the sector estimate that the government now allocates approximately £7.4 billion annually to 16–19 education programmes. Of this amount, around £3.5 billion is directed to the 181 FE sector colleges and £0.5 billion to 44 sixth form colleges. While these figures underline a significant financial commitment to the sector, FE colleges remain at a disadvantage compared to other publicly funded educational institutions, as they cannot reclaim VAT on purchases, effectively reducing the usable portion of that funding.

Within this broader context, the case for granting VAT exemption to Further Education (FE) Colleges emerges not only as a question of fiscal fairness but as a necessary policy correction to support a sector that plays a central role in delivering post-16 education to disadvantaged students, especially those pursuing vocational qualifications. FE Colleges disproportionately serve students from low-income families, first-generation university-goers, and immigrant backgrounds. These are precisely the groups most in need of tailored support to remain in education beyond the age of 16. The current VAT regime, however, penalises the very institutions that work most intensively with those at risk of educational exclusion—undermining not only the principle of fiscal equity, but also broader goals of social mobility and inclusive growth.

Comparative data from the OECD and EU-25 countries help contextualise the UK's education investment profile. In 2021, the UK allocated 6.7% of its GDP to education—well above the OECD average of 5.9% and the EU-25 average of 5.4%. This positions the UK among the

highest investors in education in relative terms. However, the composition of this spending matters: a large share is directed towards university-level education, which is partially funded through tuition fees and private contributions.

As Table 4 illustrates, tertiary education in the UK receives more funding from private sources than in most European countries. With 2.1% of GDP devoted to higher education—including public and private sources—the UK ranks second only to the United States. In the UK, spending on upper secondary education—including both general and vocational tracks—is comparable to peers (1.3%). Yet, post-secondary non-tertiary education remains a small component in most countries' budgets, despite its importance in preparing students for either the labour market or further study. These spending distributions interact closely with the educational pathways discussed earlier in this report, particularly the goal of extending participation beyond age 16 and strengthening vocational routes (Table 4).

A second lens through which to view education financing is per-student expenditure, shown in Table 5. At the tertiary level, the UK ranks near the top among OECD countries, with per-student spending exceeding \$29,000—well above the OECD average of \$18,100. However, this figure masks disparities within tertiary education itself. Institutions delivering short-cycle programmes—many of which operate outside traditional university systems—often receive lower per-student allocations despite serving large numbers of students with diverse academic profiles and higher levels of need. In upper secondary education, per-student spending in the UK is more modest and closer to the international average, suggesting limited room to expand capacity or introduce innovative approaches without additional resources (Table 5).

These patterns become even more relevant in light of the policy challenges outlined in previous sections. Sustaining student engagement beyond the age of 16, reducing early school leaving, and improving school-to-work transitions—particularly through vocational pathways—all require educational environments that are not only accessible but also well-resourced. While high aggregate investment signals political will, targeted funding is essential to ensure that critical stages and segments of the system are not left behind.

In this context, institutions such as Further Education Colleges, which often deliver both vocational upper secondary and short-cycle tertiary programmes, play a pivotal role. Their position at the intersection of secondary and tertiary education makes them especially relevant for students navigating non-traditional or skills-based pathways. Ensuring that these institutions are adequately funded—and not disadvantaged by structural elements such as VAT liabilities—is essential for achieving system-wide coherence and equity.

In sum, international educational investment comparisons highlight the strengths and imbalances in national systems. The data suggest that a more calibrated allocation of resources—attentive to demographic needs, institutional roles, and educational transitions—can enhance both the efficiency and the fairness of public education spending. As countries

strive to modernize their education systems, promote upward mobility, and equip youth with labour market–relevant skills, the financial architecture underpinning these objectives must evolve in parallel.

Table 4: Total Expenditure on Educational Institutions as a Percentage of GDP (2021)

Country	Early Childhood	Primary	Secondary					Post-Secondary Non-Tertiary	Higher Education			Total Education Spending (including R&D)
			Lower Secondary	Upper Secondary			All Secondary		Higher Vocational	University	Total Higher Education (Including R&D)	
				General Programme	Vocational Secondary	Total Upper Secondary						
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(1+2+7+8+11)
United Kingdom	0,4	1,9	1,0	0,9	0,4	1,3	2,3	-	0,1	1,9	2,1	6,7
France	0,7	1,2	1,3	0,7	0,5	1,2	2,5	0,0	0,4	1,3	1,6	6,1
Germany	1,1	0,8	1,3	0,4	0,6	1,0	2,3	0,2	0,0	1,3	1,3	5,8
Italy	0,5	1,2	0,6	-	-	1,2	1,8	-	0,0	1,0	1,0	4,6
Spain	0,8	1,4	1,0	0,6	0,4	1,1	2,0	-	0,2	1,1	1,4	5,7
United States	-	1,6	0,9	0,9	-	0,9	1,8	0,0			2,3	
OECD	0,9	1,4	1,0	0,5	0,5	1,0	1,9	-	0,1	1,4	1,5	5,9
EU-25	0,9	1,3	1,0	0,4	0,5	1,0	1,9	0,1	0,1	1,3	1,3	5,4

Source: OECD Education at a Glance 2024

Table 5: Total Expenditure on Educational Institutions per Full-Time Equivalent Student (2021). In USD Equivalents Using PPPs for GDP

Country	Primary	Secondary					Primary and Secondary	Higher Education			Total Education Spending (including R&D)
		Lower Secondary	Upper Secondary			All Secondary		Higher Vocational	University	Total Higher Education (Including R&D)	
			General Programme	Vocational Secondary	Total Upper Secondary						
	(1)	(2)	(3)	(4)	(5)	(6)	(8)	(9)	(10)	(11)	(12)
United Kingdom	12 513	12 716	14 609	14 370	14 539	13 695	13 141	29 292	29 552	29 534	16 052
France	9 673	12 139	15 279	18 142	16 266	13 874	12 119	17 468	19 315	18 880	13 545
Germany	11 587	14 197	15 681	20 394	18 098	15 614	14 343	7 981	20 788	20 760	15 767
Italy	12 008	9 760	-	-	11 059	10 569	11 096	4 697	12 746	12 663	11 439
Spain	9 077	10 658	10 482	14 188	11 668	11 159	10 173	10 770	15 354	14 361	11 123
United States	14 321	15 302	16 775		16 775	16 018	15 186	-	-	36 172	19 973
OECD	10 658	11 941	11 379	13 216	12 312	11 942	11 352	12 266	19 775	18 105	12 647
EU-25	10 337	12 111	10 967	13 072	11 664	11 696	11 123	11 317	18 571	17 578	12275

Source: OECD Education at a Glance 2024

Foundational Skills and Educational Transitions: Implications from PISA 2022

PISA assessment does not measure vocational or post-secondary education outcomes directly; it provides a critical foundation for understanding the preparedness of students entering Further Education (FE) Colleges. Conducted by the OECD every three years, PISA evaluates the competencies of 15-year-old students in mathematics, reading, and science, offering internationally comparable indicators of education system quality and equity. The 2022 cycle, released in December 2023, coincided with a period of pronounced global disruption due to the COVID-19 pandemic—but the results point to a longer-term decline in performance, particularly in mathematics, the focus of the PISA 2022 edition. Mathematics proficiency is a key determinant of future economic success, with significant implications for labour market outcomes. Research by Hanushek et al. (2015) demonstrates that individuals with higher mathematical competencies earn significantly higher wages. Findings from PIAAC (the OECD's equivalent of PISA for adults aged 15-65) reveal that individuals with one standard deviation higher mathematical proficiency earn 17.8% more in the OECD. This highlights the strong correlation between quantitative skills and earnings potential.

The 2022 results reveal a significant decline in foundational skills, particularly in mathematics, where average OECD scores fell from 494 in 2012 to 472 in 2022—the steepest drop in two decades (Table 5). This loss, equivalent to more than one year of learning, raises structural concerns about the long-term resilience of education systems and the adequacy of basic competencies acquired during compulsory schooling. Even higher-performing countries such as the United Kingdom (489 points) have not been immune to this trend. These developments are particularly relevant in light of earlier discussions on the challenges of expanding participation beyond age 16 and strengthening vocational alternatives. A growing share of students reaches the end of compulsory schooling without mastering core competencies, placing additional pressure on the upper secondary and post-secondary systems to offer access, remedial support, and differentiated instruction.

The relevance of PISA to the VAT FE Colleges Project lies in the long-term implications of declining foundational skills for the effectiveness, role, and funding of further education systems. Students who perform poorly in mathematics at age 15 are likelier to enter FE colleges with low prior attainment, increasing demand for remedial education, differentiated instruction, and student support services.

Table 6: Results in PISA 2009, 2012, 2015, 2018, and 2022

		2009	2012	2015	2018	2022
Mathematics	United Kingdom	492	494	492	502	489
	France	497	495	493	495	474
	Germany	513	514	506	500	475
	OECD	487	481	470	478	465
Science	United Kingdom	495	494	490	489	472
	France	514	514	509	505	500
	Germany	498	499	495	493	487
	OECD	520	524	509	503	492
Reading	United Kingdom	502	497	496	502	499
	France	501	501	493	489	485
	Germany	494	499	498	504	494
	OECD	496	505	499	493	474

Source: OECD, PISA 2023

The distribution of mathematics scores across countries in the 2022 PISA assessment offers a comparative snapshot of foundational skills at the end of compulsory education. While global attention has often focused on the top performers—such as Japan, South Korea, and Estonia—the broader picture reveals that many high-income countries are grappling with declining numeracy levels among 15-year-olds. These trends are particularly relevant in light of earlier discussions on the structural role of FE Colleges, which are increasingly required to address skill deficits among students entering post-16 education.

As shown in Table 6, the United Kingdom reported a mean mathematics score of 489—above the OECD average of 472, broadly in line with countries like Ireland, Belgium, and Denmark. This performance places the UK among the stronger systems within the OECD but still well below East Asian leaders, trailing behind countries such as Estonia and Switzerland. In contrast, France (474), Germany (475), Spain (473), and Italy (471) all performed below the OECD average, marking a continuation of the downward trend observed over the past decade. Countries that maintain strong foundational education outcomes are better positioned to support equitable transitions into further education and employment. The United Kingdom, maintained strong PISA results, scoring 489 in mathematics, 494 in reading, and 500 in

science. These results align with the UK's top-tier performance in PIRLS 2021, the international reading assessment for primary school students, published in May 2023. Unlike Estonia and Ireland, Poland and the UK are large countries, where education management can be more complex. However, their strong PISA results demonstrate that well-implemented education policies can yield significant improvements even in large-scale education systems.

Moreover, PISA reveals widening disparities in student performance. In 2022, 31% of students across the OECD failed to reach Level 2 proficiency in mathematics—up from 24% a decade earlier. Level 2 is generally regarded as the baseline for functional numeracy, enabling individuals to solve problems involving whole numbers, fractions, and percentages in everyday contexts. Students performing below this threshold are considered at serious risk of educational disengagement and face limited prospects in both further learning and the labour market.

The situation is particularly concerning in the United Kingdom, where 24% of 15-year-olds scored below Level 2 in mathematics in 2022. While this figure is lower than the OECD average, it marks a noticeable increase from 19% in 2018 and is the highest level of low achievement recorded in the UK since PISA assessments began. At the other end of the spectrum, 11% of UK students reached the highest proficiency levels (Levels 5 or 6), indicating a polarised distribution that combines strong performance among a minority with persistent weaknesses among a significant share of students. The proportion of students achieving top results has remained relatively stable over time, suggesting that the expansion of low performance is not offset by wider excellence.

This bifurcation is particularly relevant for Further Education (FE) Colleges, which serve large numbers of students who fall into the lower end of the performance distribution. These students often enter post-16 education with substantial learning gaps that require intensive support, remediation, and differentiated instruction—placing additional financial and pedagogical pressure on institutions. It is important to invest more effectively in student support services, curriculum innovation, and teaching quality, ensuring that young people at risk of low attainment are given a second chance to acquire the skills they need to succeed.

From a policy perspective, the increasing share of low performers underlines the urgency of strengthening foundational skills in secondary education and reinforcing the capacity of FE institutions to address educational deficits. As shown by Hanushek et al. (2015), proficiency in mathematics at age 15 is one of the most powerful predictors of adult wages and labour market success. Each 20-point increase in the PISA mathematics score is associated with significantly higher lifetime earnings, which magnifies the long-term economic costs of educational underperformance. Declining achievement levels among teenagers not only undermine the expected returns to vocational education, but also dilute the broader promise of social mobility through post-compulsory education.

Table 7: Distribution of Students in PISA by Performance Levels

Country	2009	2012	2015	2018	2022
United Kingdom					
Reading – Low Level	18%	17%	18%	17%	20%
Reading – High Level	8%	9%	9%	12%	10%
Mathematics – Low Level	20%	22%	22%	19%	24%
Mathematics – High Level	10%	12%	11%	13%	11%
Science – Low Level	15%	15%	17%	17%	20%
Science – High Level	11%	11%	11%	10%	10%
France					
Reading – Low Level	20%	19%	21%	21%	27%
Reading – High Level	10%	13%	13%	9%	7%
Mathematics – Low Level	22%	22%	23%	21%	29%
Mathematics – High Level	14%	13%	11%	11%	7%
Science – Low Level	19%	19%	22%	21%	24%
Science – High Level	8%	8%	8%	7%	8%
Germany					
Reading – Low Level	19%	15%	16%	21%	25%
Reading – High Level	8%	9%	12%	11%	8%
Mathematics – Low Level	19%	18%	17%	21%	30%
Mathematics – High Level	18%	18%	13%	13%	9%
Science – Low Level	15%	12%	17%	20%	23%
Science – High Level	13%	12%	11%	10%	10%
United States					
Reading – Low Level	18%	17%	19%	19%	20%
Reading – High Level	10%	8%	10%	13%	14%
Mathematics – Low Level	23%	26%	29%	27%	34%
Mathematics – High Level	10%	9%	6%	8%	7%
Science – Low Level	18%	18%	20%	19%	22%

OECD Average

Reading – Low Level	20%	19%	20%	22%	26%
Reading – High Level	7%	8%	8%	8%	7%
Mathematics – Low Level	24%	24%	25%	24%	31%
Mathematics – High Level	12%	12%	10%	11%	9%
Science – Low Level	19%	19%	22%	22%	24%

Source: OECD 2023. PISA 2022 Results (Volume I). Figure I.3.1, Figure I.3.4, and Figure I.3.5.

Student Performance and Socioeconomic Status in PISA

The link between socioeconomic background and educational achievement remains a persistent challenge across OECD countries. The PISA 2022 data reinforce the importance of equity-focused policies, particularly in systems where post-compulsory education—such as that provided by Further Education (FE) Colleges—plays a pivotal role in compensating for early disadvantage.

Table 8 shows the distribution of students across international socioeconomic quintiles, based on the PISA index of economic, social, and cultural status (ESCS). The United Kingdom stands out for having the highest concentration of students in the top quintile (40.0%) and the lowest share in the bottom quintile (1.9%), suggesting a relatively privileged sample. However, this distribution also reflects broader socioeconomic stratification within the country, with a relatively small number of students officially classified as disadvantaged internationally.

Yet despite this narrow base, the UK achieves relatively strong results in supporting low-income students. Table 9 presents average mathematics scores by quintile, showing that students in the lowest socioeconomic quintile in the UK scored 422 points—well above the OECD average of 396 and even outperforming their peers in countries like France (395), Italy (400, not shown), and Germany (406). This suggests that, although the UK may have fewer internationally classified “disadvantaged” students, those who are disadvantaged tend to receive more effective educational support.

Moreover, the performance gap between the highest and lowest quintiles in the UK is 107 points, narrower than in France (131), Germany (128), or Italy (112), indicating comparatively stronger educational equity. Middle-quintile students in the UK also scored relatively well (469 points), highlighting a consistent level of performance across socioeconomic strata.

These results are particularly relevant for Further Education (FE) Colleges, which disproportionately serve students from lower socioeconomic backgrounds. The PISA data show that while the UK performs well overall, a significant minority of students still enter post-16 education with substantial foundational skill gaps. FE Colleges are tasked with closing

these gaps—often without the fiscal tools available to other educational providers. As these institutions cater to students whose performance is concentrated in the lower quintiles, they require both targeted pedagogical strategies and robust funding mechanisms.

On average, students from the highest international socioeconomic quintile in the OECD scored 517 points in mathematics. However, there is considerable variation across countries. Germany (534 points) and the United Kingdom (529 points) had significantly higher scores for their wealthiest students, whereas Italy (512 points) and Spain (511 points, not shown) were closer to the OECD average. The results suggest that wealthier students have access to stronger educational resources or more effective teaching methods in countries like Germany and the United Kingdom, giving them a competitive advantage.

Overall, PISA 2022 reinforces the importance of policies aimed at improving educational equity. Countries that provide targeted support for disadvantaged students—such as early childhood education, additional resources for low-income schools, and financial assistance for students—tend to achieve better results in terms of reducing inequality.

Table 8: Proportion of Students by International Socioeconomic Quintiles

	Lowest Quintile	Second Quintile	Middle Quintile	Fourth Quintile	Highest Quintile
	% (S.E.)	% (S.E.)	% (S.E.)	% (S.E.)	% (S.E.)
United Kingdom	1.9 (0.3)	9.7 (0.4)	21.7 (0.8)	26.7 (0.7)	40.0 (1.0)
France	3.2 (0.3)	11.7 (0.4)	22.5 (0.8)	28.5 (0.6)	34.2 (1.0)
Germany	6.0 (0.4)	15.2 (0.6)	21.7 (0.5)	26.2 (0.7)	30.9 (1.1)
United States	3.9 (0.5)	11.5 (0.8)	20.7 (1.0)	24.8 (0.6)	39.0 (1.9)
OECD	4.9 (0.1)	11.8 (0.1)	20.4 (0.1)	25.7 (0.1)	37.1 (0.2)

Source: OECD, PISA 2022, Tables I.B1.4.6 & I.B1.4.8. https://www.oecd-ilibrary.org/education/pisa-2022-results-volume-i_53f23881-en

Table 9: Mathematics Performance by International Socioeconomic Quintiles

	All Students	Lowest Quintile	Second Quintile	Middle Quintile	Fourth Quintile	Highest Quintile
	Score (S.E.)	Score (S.E.)	Score (S.E.)	Score (S.E.)	Score (S.E.)	Score (S.E.)
United Kingdom	489 (2.2)	422 (11.9)	452 (4.5)	469 (3.5)	484 (3.0)	529 (3.7)
France	474 (2.5)	395 (6.7)	421 (3.7)	441 (2.7)	474 (2.7)	526 (2.9)
Germany	475 (3.1)	406 (5.9)	435 (3.9)	458 (3.4)	482 (3.5)	534 (3.4)
United States	465 (2.5)	413 (8.9)	423 (6.3)	430 (3.5)	456 (4.5)	507 (4.2)
OECD	472 (0.4)	396 (1.5)	427 (0.7)	449 (0.6)	474 (0.5)	517 (0.5)

Source: OECD, PISA 2022, Tables I.B1.4.6 & I.B1.4.8. https://www.oecd-ilibrary.org/education/pisa-2022-results-volume-i_53f23881-en

How does VAT for FE Colleges differ from schools and universities in the UK?

Further Education (FE) colleges in the UK play a pivotal role in providing vocational and academic education to a diverse student population. Main FE colleges provide 16-19 education, adult education, apprenticeships and special needs, while a small number operating in very specialist niche areas, including prison education, courses for international students, on-line courses, provision for 14–16-year-olds, and fully commercial training courses.

The Value Added Tax (VAT) treatment of these institutions has been a subject of considerable discussion, especially considering recent legal decisions and policy changes. VAT in the UK is governed by the Value Added Tax Act 1994, under which certain supplies, including educational services, may be exempt from VAT. Specifically, Schedule 9, Group 6 of the Act details the conditions under which educational services are VAT-exempt (HMRC, 1994). To qualify for VAT exemption under Group 6, the provider must be an eligible body, such as a school, university, or qualifying FE college; the services must be educational in nature; and the activity must not primarily be commercial. According to Her Majesty's Revenue and Customs (HMRC) VAT Notice 701/30, eligible bodies include schools and academies, colleges of further education (statutory corporations or institutions funded by public authorities), higher education institutions, and non-profit organizations with an educational purpose (HMRC, 2016).

FE colleges often fall under the eligible body category, allowing them to offer educational services without charging VAT to different activities. Specifically, the following types of income are typically exempt from VAT when provided by eligible FE colleges: enrolment fees for regulated qualifications, tuition for part-time adult education courses, provision of essential course materials, student examination and registration services, and government-funded courses (e.g., GCSEs, A-Levels, NVQs). Nevertheless, certain services fall outside the scope of VAT exemption, including commercial lettings (e.g., renting out rooms or sports facilities to third parties), retail sales (e.g., textbooks, stationery not essential to the course), consultancy services, catering services open to the public, and hairdressing salons operated as part of training but serving paying customers.

FE colleges often carry out both exempt and taxable activities. As such, they are considered partially exempt and must allocate input VAT according to the partial exemption method outlined in HMRC Notice 706 and 706/2. They also must use standard or special methods (e.g., turnover-based or floor-space-based) to calculate recoverable VAT and submit an annual adjustment to reconcile estimated input VAT recovery (HMRC 2011a and 2011b).

There are differences in VAT treatment between public and private FE providers. The public sector FE Colleges (Statutory Corporations) qualifies as eligible bodies under VAT legislation. Because of this, they benefit from VAT exemption on regulated education and closely related goods and services. However, they are required to charge VAT on commercial activities, so they recover only a proportion of their input VAT under partial exemption rules. The private sector FE Providers (Commercial Entities) may not qualify as eligible bodies unless they operate on a non-profit basis and meet strict educational purpose criteria. This makes their educational services subject to VAT if the provider does not meet eligibility criteria. But they are typically able to recover input VAT on fully taxable activities. The above causes a competitive disadvantage in private FEs when competing with exempt public providers. The following table 10 summarizes the differences between public and private FE providers.

Table 10: Differences between public and private FE providers

Aspect	Public FE College	Private FE Provider
Eligible Body Status	Usually eligible	Not always eligible
Exemption for Tuition	Yes	Only if eligible
VAT on Commercial Activities	Yes	Yes
Input VAT Recovery	Partial (prorated)	Full (if fully taxable)

A significant development in the VAT treatment of FE colleges arose from the case of *Colchester Institute Corporation v HMRC* [2020] UKUT 0368 (TCC). Historically, HMRC has

treated government funding received by FE colleges as non-business income. This perspective implies that such funding is outside the scope of VAT, and consequently, FE colleges have limited ability to reclaim VAT on related expenditures. The Colchester Institute case revolved around whether the college could reclaim VAT on a £100 million building project dating back to 2008. In a 2020 ruling, the Upper Tribunal determined that the education provided to 16- to 19-year-olds by the college constituted an "exempt business activity." This classification meant that the college's services were within the scope of VAT but exempt, affecting its ability to reclaim VAT on certain expenditures. However, HMRC contested this interpretation, suggesting that such government-funded education should be considered a non-business activity, thereby limiting VAT recovery. Despite the tribunal's decision, HMRC indicated plans to appeal or challenge the ruling through other cases. In a subsequent 2024 case, HMRC brought another claim against Colchester Institute over a £123,000 tax bill. The First Tier Tax Tribunal concluded that HMRC had "no basis" for the claim, reducing the college's tax liability by approximately £99,000. HMRC is currently reviewing this decision and has not confirmed whether it will pursue further appeals.

This tribunal's decision challenged HMRC's traditional stance and opened the possibility for FE colleges to reclaim VAT on certain expenditures. In response to the tribunal's decision, HMRC issued Revenue and Customs Brief 8 (2021), acknowledging the ruling but maintaining its position that government funding is generally non-business income. HMRC indicated that it would not impose the tribunal's decision on other FE institutions but allowed colleges to adopt the tribunal's reasoning if they chose to do so.

FE colleges now face two primary options regarding VAT treatment. Option 1 is to maintain the non-business status. The advantage of this option is that it simplifies VAT accounting and does not charge VAT on student fees. But the disadvantage is that it allows limited ability to reclaim VAT on purchases related to educational activities. Option 2 is to adopt an economic activity classification. The advantage of this option is that FE providers have the potential to reclaim VAT on a broader range of expenditures. But the disadvantage is the increased administrative complexity and the potential requirement to charge VAT on certain services.

Effective from 1 January 2025, the UK government has imposed a standard 20% VAT on education and boarding services provided by private schools. This policy change removes the previous VAT exemption. In sum, while the government positions for private education, aiming to generate additional revenue for state education funding. This policy applies to all private schools, including those with charitable status. The fees paid after 29 July 2024 for terms starting on or after 1 January 2025 are subject to VAT. From April 2025, private schools with charitable status will also lose their business rates relief. However, to ensure that FE colleges remain exempt from this VAT charge, the government amended the definition of private schools in the legislation. This amendment ensures that FE colleges, which primarily serve students aged 16-19 and do not charge fees to most of their students, remain outside the scope of the new VAT policy (UK Government, 2024).

The UK Treasury has defended the reform, arguing that it will generate approximately £1.8 billion annually, which will be reinvested into the state school sector to raise standards and close the attainment gap. Officials claim that the policy corrects an unfair tax break enjoyed by wealthier families and will help fund critical infrastructure, teacher recruitment, and free school meal programs.

While the government positions the VAT policy on private schools as a progressive reform to redirect funds toward state education, this measure falls outside the scope of VAT treatment for publicly funded FE colleges. It is important to clarify that FE colleges do benefit from VAT exemption on regulated education for under-19s, in line with other eligible educational bodies such as schools and universities. However, unlike many schools and academies, FE colleges are not included in Section 33 of the VAT Act and therefore cannot reclaim VAT on their purchases—resulting in an effective funding disadvantage, particularly for capital and operational expenditure.

This creates a real financial impact, as VAT becomes a net expense that reduces FE Colleges' available budgets for investment, expansion, and student services, compared to universities and schools. As a result, FE Colleges are less competitive and have fewer resources available for improving facilities, hiring staff, or supporting disadvantaged students. The VAT disadvantage has become more pronounced as public funding for FE Colleges has tightened over the past decade (Institute for Fiscal Studies, 2023).

The following table summarises the main differences between FE Colleges, state schools, private schools, and universities. Among these institutions, FE Colleges have the most limited ability to recover VAT, making them particularly vulnerable to VAT policies.

Table 11: Comparison of the Impact of VAT Across Education Institutions

Institution	VAT on Education Services	Ability to Recover VAT on Purchases	Impact
State Schools	Exempt	Broad recovery (via local authorities)	No major VAT burden
Private Schools (until 2025)	Exempt	Limited	(Will charge VAT from 2025)
Universities	Exempt	Partial recovery (research/commercial areas)	Lower VAT burden
FE Colleges	Exempt	Very limited recovery	Higher VAT burden

International Approaches to VAT and Tax Relief in Education

While the UK does not offer VAT exemptions or direct tax reliefs for private education beyond narrowly defined provisions, many other OECD countries provide significant public subsidies or tax offsets to support both public and private education sectors. These mechanisms are not limited to elite independent schools but often extend to a wide range of institutions, including vocational and technical education providers, and are motivated by broader policy goals such as equity, parental choice, and system efficiency.

Australia, for example, funds private schools at approximately 80% of the Schooling Resource Standard through federal government contributions, with state governments contributing an additional 20%. On average, independent schools in Australia receive around AUD 12,160 per student in public funding, compared to AUD 22,510 for public school students. This substantial level of support is based on a recognition that private providers play a complementary role in delivering public education objectives, including relieving pressure on the state system (Wright, 2024; Independent Schools Australia, 2022).

In **Denmark**, about 14% of students attend private schools, which receive around 75% of the public funding allocated to state schools. Government support is provided through a voucher-based system that aims to increase diversity, promote educational innovation, and encourage system-wide competition. All private schools are eligible for funding, regardless of religious or pedagogical orientation, provided they meet certain transparency and accountability criteria (Wright, 2024; Danish Ministry of Children and Education).

Canada and the **United States** also offer growing examples of educational tax support. In **Canada**, five provinces (British Columbia, Alberta, Saskatchewan, Manitoba, and Quebec) provide partial public funding to independent schools, based on regulatory compliance and accountability standards. Research from the Fraser Institute shows that such policies have reduced per-student costs to the government and expanded parental choice, without undermining the state sector (MacPherson, 2024).

In the **United States**, a “school choice” movement has gained momentum, particularly through the introduction of Education Savings Accounts and voucher programmes in states like Arizona. These allow parents to allocate public funds to various educational providers, including private schools, thereby avoiding direct state subsidy to religious institutions while enabling parental autonomy. Evaluations using random assignment methods suggest that these programmes improve educational outcomes for certain groups and reduce the socio-economic divide in access to quality education (Burke, 2022; Friedman, 1955).

In **New Zealand**, GST (the equivalent of VAT) is applied broadly at a flat rate of 15%, including on private school fees. However, this is balanced by a modest direct subsidy of around NZD 2,000 (roughly £1,000) per student attending private secondary schools, which partially offsets the tax burden for middle-income families. This hybrid model offers a more targeted

alternative to blanket VAT exemptions and has been praised for its administrative simplicity and efficiency (IEA, 2023).

These international examples suggest that the UK is increasingly an outlier. As noted in OECD reviews and recent media coverage, most high-income countries subsidise private education to some extent—whether to promote equity, alleviate pressure on the public system, or increase institutional diversity. The absence of VAT recovery mechanisms for FE Colleges in England contrasts with international practices where vocational and independent education are treated as legitimate public goods deserving of fiscal support. This supports the argument that extending VAT exemptions or refund rights to FE Colleges would not be anomalous, but rather aligned with international norms aimed at supporting inclusive and efficient education systems.

Scenario Modelling: Simulating Different VAT Options and Predicting Their Effects on College Budgets

Economic theory shows that VAT can negatively affect investment when institutions cannot recover VAT paid on capital goods (such as buildings and equipment). While an exhaustive discussion of this literature is beyond the scope of this project, neoclassical investment models (Hall and Jorgenson, 1967) suggest that the equilibrium level of investment occurs when the marginal benefit equals the marginal cost, including taxes. In Effective Tax Rate models (King and Fullerton, 1984), VAT increases the effective tax burden on investment if input VAT is non-recoverable. According to this literature, VAT raises the cost of investment and discourages capital accumulation.

Although not directly focused on VAT, there is also a related literature examining the impact of taxes on education, showing how taxation can reduce the resources available for investment (Blankenau, 2005; Glomm and Ravikumar, 2003).

To illustrate this effect, consider a Static Budget Impact example. Suppose that 30% of a £100 million budget is spent on VAT-liable purchases, and that the VAT rate is 20%. The VAT cost would then represent 6% of the total budget ($0.30 \times 0.20 = 0.06$). Removing VAT in this case would free £6 million for other uses, such as infrastructure investment or service improvements.

In a dynamic investment growth model:

$$I(t) = I(0) * (1 + g)^t \quad (1)$$

where $I(t)$ is investment at time t ; g = Annual growth rate; t = Number of years.

We assume an annual budget available for capital investment of £10,000,000, with a VAT rate applied at 20%, over a time horizon of 10 years.

- Under current VAT rules, the real investment per year is £8,333,333 (calculated as £10,000,000 ÷ 1.20), reflecting the cost of non-recoverable VAT on purchases.
- In an alternative scenario with VAT exemption, the institution is able to invest the full budget, £10,000,000 annually.

This implies an annual difference in investment of: £10,000,000 – £8,333,333 = £1,666,667.

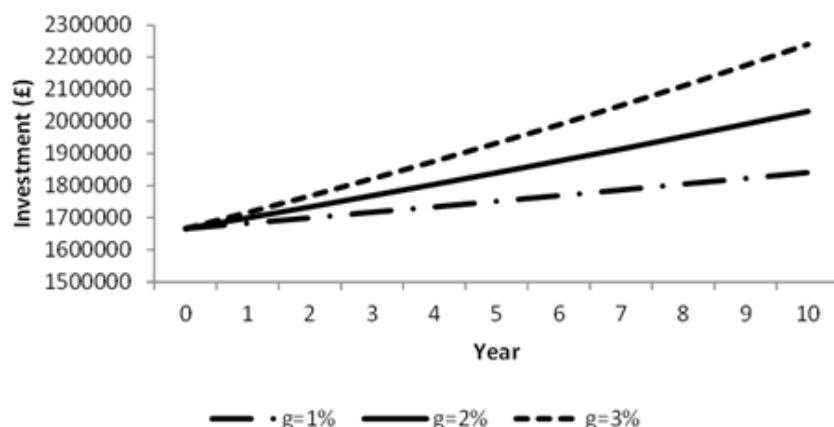
The annual investment gap remains approximately £1,666,667 but grows cumulatively over time.

- After 10 years, the cumulative investment gap is substantial, representing a significant loss in capital formation.

$$£10,000,000 - £8,333,333 = £1,666,667$$

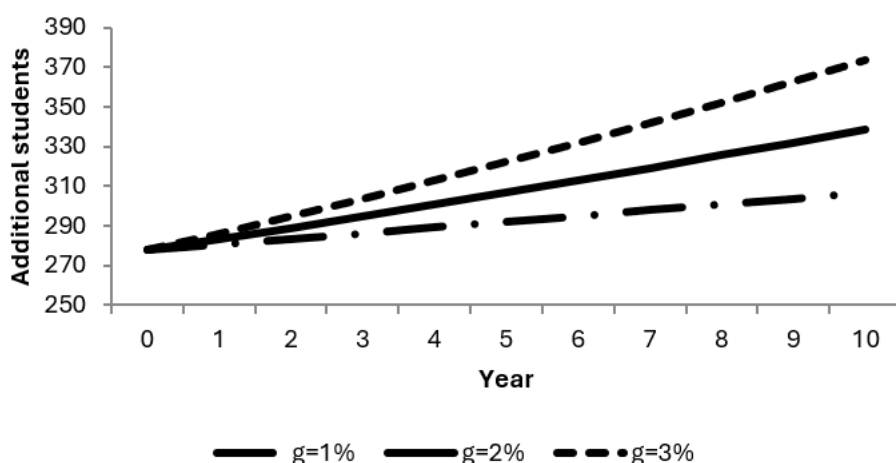
Over 10 years, this cumulative difference could significantly impact the institution's capital stock and capacity to deliver education services, particularly when compounded by investment growth effects modelled through equation (1). Figure 7 shows this evolution for different annual growth rates (g). The investment gap of a VAT of 20% in only one year could generate a difference in the value of investment of around 22%.

Figure 7: Dynamic evolution of Investment Gap



We illustrate the relevance of these numbers in Figure 8, which presents the three scenarios in terms of the additional number of students that could be accommodated. To translate financial savings into student places, we assume an average cost of £6,000 per student per year. This is a conservative estimate that reflects the full cost of provision, including overheads, programme weighting, and additional support needs. It is broadly consistent with the national base funding rate for full-time 16–17-year-olds, which stands at £4,642 per student for 2023/24 (Department for Education, 16 to 19 Funding: Funding Rates and Formula, January 2023). The figure allows for a more comprehensive representation of the financial requirements of FE delivery beyond core teaching.

Figure 8: Dynamic evolution of Investment Gap



As shown, reinvesting the VAT savings could support nearly 300 additional students in the first year alone. Under each scenario, the number of students continues to increase year on year, reflecting the compounding effect of sustained reinvestment.

Impact of Lower Investment on Productivity

The previous section illustrates the significant impact of VAT on the value of investment. However, the true relevance of these figures lies in understanding their effect on the productivity of students. At least five noticeable effects can be identified.

First, FE Colleges' investments are crucial for capital formation by developing technical, vocational, and professional skills. Lower investment reduces the quality and availability of training, resulting in a workforce with lower skill levels. A less skilled workforce is less productive across industries.

Second, reduced investment can create a mismatch between labour market needs and skills. Without investment in modern curricula, colleges cannot adapt to changing economic demands, leading to skill shortages. This results in lower efficiency, higher recruitment costs, and slower matching of workers to jobs.

Third, lower investment can potentially reduce innovation and technological adoption. Investment enables colleges to introduce new technologies into training. Without it, graduates are less familiar with modern tools and processes, slowing down the diffusion of innovation across the economy.

Fourth, reduced investment can exacerbate regional inequality and widen local productivity gaps. FE Colleges often serve disadvantaged regions, and lower investment strengthens regional disparities, leading to significant productivity gaps and weakening national economic performance.

Finally, it can result in a long-term growth penalty. A workforce that is less skilled and less adaptable slows GDP growth. Public finances may also face additional pressure through increased welfare spending and the need for costly retraining programmes.

Table 12: Summary of the Impact on Productivity

Mechanism	Impact on Productivity
Lower Human Capital	Smaller skill base, weaker workforce output
Skills Mismatch	Less efficient labour markets, unfilled jobs
Slower Technological Adoption	Delayed innovation, slower industry upgrades
Regional Gaps	Drag on national productivity
Long-Term Growth	Persistent slowdown in economic expansion

Irrecoverable VAT: scale and implications for FE colleges

This section quantifies the effect of VAT on Further Education (FE) colleges and sets the policy context using audited data for 2022–2024 across seven large groups. Because there is no general input-VAT refund for colleges, VAT on goods and services used to make exempt supplies is ordinarily irrecoverable, subject to the Partial Exemption Special Method (PESM) and the Capital Goods Scheme (CGS) agreed with HMRC. We distinguish operating expenditure (opex) from capital expenditure (capex) throughout¹. Our results speak to this framework: we quantify the irrecoverable VAT that depresses operating capacity and slows renewal of the estate.²

Two structural features since 2022 frame interpretation. First, following ONS reclassification, colleges are within the Managing Public Money regime; new commercial borrowing typically requires Department for Education (DfE) consent and is, in practice, very unlikely³. Investment therefore relies chiefly on grants and retained surpluses.

Second, sector bodies have repeatedly highlighted the asymmetry that, post-reclassification, colleges still do not benefit from a VAT refund scheme akin to that available to schools and academies, so VAT remains a structural top-slice on both operations and capital. Any proposal to extend VAT refunds to FE colleges must also be understood in the context of wider fiscal policy. HM Treasury has historically resisted broadening VAT refund schemes beyond local authorities and certain health bodies. Conceivably, the concern is that once refunds are available for one group of providers, others delivering services of public benefit may also press for equivalent treatment, creating a significant revenue risk⁴. This political-economy consideration may help explain why, despite repeated calls from the FE sector and parliamentary committees, no general refund mechanism has yet been introduced for colleges.

We present data from seven major college groups: LTE Group, Chichester College Group, Luminate Education Group, Capital City College Group, Activate Learning, NCG and New City College Group. Table 13 shows that income in all seven groups is dominated by funding-body grants; recent growth largely reflects DfE uplifts (16–19, high needs, T Levels) more than

¹ We define opex as staff costs plus other operating expenditures, and capex as tangible fixed assets additions.

² Some capital projects may encounter reduced or zero rates under narrow statutory conditions. For example, zero rates for new buildings for 16–18-year-olds (HMRC, 2016, VAT Notice 701/30: Education and vocational training). This helps explain why the effective VAT rate on capex is often below the full 20% in practice.

³ See policy paper “Further education reclassification: government response” (Department for Education, 2022).

⁴ See “Public Bodies and VAT” Westminster Hall debate, May 17 2023 (House of Commons Hansard, 2023) for the ministerial rationale, and the HMRC estimate that existing s.33 refunds cost around £11 billion per year (Seely and Masala, 2023).

expanded tuition income. These uplifts have been substantial in cash terms but have largely offset inflationary pressures and rising student numbers, leaving per-student funding broadly flat in real terms. In practice, much of the income growth reflects adjustments in central funding streams.⁵

Table 13: Income mix (2022-24 average)

FE college group	Funding-body income share	Tuition income share	Cumulative annual growth rate (2021-24), in 2025 £m	
			in total income	in tuition income
Activate	85.71%	7.62%	2.92%	-9.71%
Capital City	85.05%	9.06%	-0.79%	-5.64%
Chichester	72.57%	11.71%	17.67%	20.00%
LTE	85.36%	9.45%	1.39%	-6.99%
Luminate	74.38%	20.39%	2.96%	-9.29%
NCG	75.94%	20.17%	4.54%	4.02%
New City	84.38%	10.47%	1.26%	8.83%

Notes: "Funding-body income share" and "Tuition income share" are the averages of each year's share over 2022–2024. Cumulative growth rate figures are for total and tuition income, in 2025 £m, deflated using the UK GDP deflator (fiscal-year series).

Reading Table 14 alongside Table 13, most groups carry large deferred government capital grants relative to reserves (income and expenditure account), underscoring that capital has been grant-led; where loans remain, they are legacy bank/funding-body balances rather than a scalable lever for the future. Several groups still carry long-term loans or leases, but future reliance on commercial borrowing is not a viable policy lever under the post-reclassification rules. Sustaining investment, growth and quality improvements therefore requires steady renewals financed by grants and operating surpluses, not new bank debt.

⁵ The House of Commons Library briefing on FE funding notes that the 16–19 programme budget has risen in recent years, but that these uplifts mainly cover demographic growth and cost inflation rather than expanding discretionary capacity (Lee, Bolton and Sandford, 2025).

Table 14: Investment: Capex and tangible fixed assets growth

FE college group	LT borrowing / Reserves (I&E account) 2024	Deferred gov. capital grants / Reserves (I&E account)		
		2024	2023	2022
Activate	4.35%	37.46%	38.80%	44.04%
Capital City	0%	42.96%	37.45%	35.59%
Chichester	27.67%	95.03%	60.98%	16.94%
LTE	39.19%	55.25%	42.42%	37.80%
Luminate	24.80%	13.93%	4.83%	0%
NCG	7.42%	51.48%	46.05%	38.18%
New City	0%	37.44%	34.50%	39.88%

Notes: Following ONS reclassification (Nov 2022), colleges generally cannot take on new commercial borrowing without Department for Education (and, where relevant, HMT) consent. Balances shown here reflect legacy loans, leases or funding-body financing; they are not new bank debt. Deferred government capital grants falling due after less and more than one year; they include amount unspent.

Table 15 summarises investment measures, depicting capex-to-depreciation, tangible fixed assets net book value (NBV) growth and capex intensity. Where capex persistently tracks at or below depreciation, the estate struggles to keep pace with wear. Several groups show patterns consistent with a real-terms squeeze on the asset base. Three—Chichester, Luminate and LTE—show a three-year average capex-to-depreciation comfortably above one, indicating that they have been adding to the estate faster than it wears out. Three groups—Activate, Capital City and NCG—sit below one, and New City slightly above parity, which together imply that, on average, replacement has only just matched, or has lagged, the annual consumption of assets.

Table 15: Borrowing and deferred government capital grants relative to reserves

FE college group	Capex / Depreciation (3-year average, 2022-24)	Tangible fixed assets NBV cumulative annual growth rate (2021-24, in 2025 £m)	Capex intensity (3-year average, 2022-24)
Activate	0.86	-4.57%	4.34%
Capital City	0.92	-5.10%	2.39%
Chichester	4.02	13.29%	23.52%
LTE	3.35	1.23%	14.27%
Luminate	2.85	1.76%	10.89%
NCG	0.65	-7.62%	3.91%
New City	1.39	-3.15%	5.99%

Notes: Capex intensity = capex as % of opening tangible fixed assets NBV. Cumulative growth rate figures are for total and tuition income, in 2025 £m, deflated using the UK GDP deflator (fiscal-year series).

The tangible fixed assets NBV cumulative annual growth rates tell a similar story: while Chichester (boosted by consolidation), LTE and Luminate post gains, the remaining FE colleges trend down. Capex intensity reinforces this conclusion: it is highest where the estate is expanding (Chichester, Luminate, LTE), and notably lower at Activate, Capital City, New City and NCG. Capex and tangible fixed-asset figures provide evidence of a clear investment gap in parts of the sector and help explain why, absent a change in the VAT regime, several groups struggle to invest.

The capex pattern aligns with balance-sheet stance: groups with stronger investment momentum also tend to carry higher borrowing relative to reserves. The three groups showing the strongest investment momentum—Chichester, Luminate and LTE—are also those carrying the largest long-term borrowing relative to reserves in 2024: roughly 27.7%, 24.8% and 39.2% respectively, versus 7.4% at NCG, 4.4% at Activate, and effectively zero at Capital City and New City. In other words, where borrowing has been available (bank or funding-body), it has complemented grants and allowed capex to run ahead of depreciation and tangible fixed assets to display real growth; where borrowing is minimal or unavailable, investment relies far more heavily on capital grants, which seems insufficient to meet FE colleges' investment needs. This is precisely why a VAT-recovery regime matters: by converting a recurring cost into an internal funding stream, it would narrow the investment gap without leaning on external debt markets that FE college groups cannot access.

In Table 16 we quantify irrecoverable VAT (opex and capex) on a three-year average, in 2025 prices, and scale it by tuition income. The opex component is generally the larger and more stable share; the capex component moves with investment cycles and is only partially offset by the narrow set of reduced-/zero-rate cases. Set against tuition income, totals range from about 18% to 51%, and four of the seven groups exceed 40%. Differences across groups reflect variations in investment mix and the limited scope of qualifying reliefs rather than the absence of VAT exposure.

Table 16: Irrecoverable VAT (3-year averages, 2025 £m)

FE college group	Irrecoverable opex VAT 2025 £m	Irrecoverable capex VAT 2025 £m	Total irrecoverable VAT 2025 £m	Total irrecoverable VAT / tuition
Activate	2.95	1.08	4.93	51.05%
Capital City	3.64	1.60	8.75	42.73%
Chichester	2.78	3.20	5.74	44.15%
LTE	4.29	4.42	5.95	48.06%
Luminate	3.97	2.01	5.8	21.87%
NCG	4.38	1.71	3.47	18.03%
New City	1.88	1.79	3.81	29.01%

Notes: Amounts converted to 2025 £m using UK GDP deflator (fiscal-year series) and averaged over 2022-2024. Chichester: 2023 and 2024 only. Recovery split between opex/capex is peer-weighted and calibrated. New City: irrecoverable amounts derived by applying peer irrecoverable shares to the VAT suffered on opex and capex. Activate: capex irrecoverable VAT estimated from peers.

Before considering generic impact of opex and capex irrecoverable VAT, we provide some concrete examples of recent government announcements that have highlighted both the importance of colleges in driving skills for economic growth, and the need to expand colleges' capacity to accommodate the new Youth Guarantee, illustrating the opportunity cost of irrecoverable VAT:

- New City College, which has campuses across east London and Essex, opened a new teaching block this year to accommodate increased demand in 16–18-year-old students. The block cost £5 million to build with a VAT bill of £800,000. That £800,000 could have provided three fully equipped science labs rather than standard classrooms.
- Activate Learning paid £3.5 million in VAT last year. That £3.5 million would have allowed Activate to make their City of Oxford College and University Centre carbon neutral, with the installation of solar panels, heat pumps and new boilers.

- In 2023/24, Luminate Education Group's irrecoverable VAT costs equated to £6.8 million. Even with a partial reform of VAT in FE colleges, Luminate has calculated that around half of this figure could otherwise have been reinvested into classrooms, staffing and skills provision for the expansion of much-needed further education capacity in Yorkshire.

In Table 17 we treat full opex VAT recovery as a one-for-one saving on existing opex, so that the surplus uplift equals the average irrecoverable opex VAT. The associated margin change is a modest but non-trivial increase relative to average income. One immediate benefit is liquidity: for almost all groups, the uplift translates into more than nine additional days of operating coverage—salient given the FE Commissioner's benchmark for Adjusted Cash Days in Hand of > 40 days in all months (Department for Education, 2025). The same uplift is expressed as additional student places at a £6,000 unit cost, to provide a simple scale for what the VAT recovery could allow for with current delivery models; it would range from about 300 to more than 700 extra students per year, depending on the FE college.⁶

Table 17: Impact of full opex VAT recovery: surplus uplift, capacity and liquidity gains (3-year averages, 2025 £m)

FE college group	Surplus uplift 2025 £m	Uplift/ income	Extra students (at £6k each)	Liquidity gain (extra days of opex covered)
Activate	2.95	2.85%	492	10.6
Capital City	3.64	2.69%	607	10.0
Chichester	2.78	2.40%	463	9.9
LTE	4.29	2.24%	715	9.2
Luminate	3.97	2.96%	661	11.4
NCG	4.38	2.62%	730	10.0
New City	1.88	1.55%	313	6.0

Notes: Amounts converted to 2025 £m using UK GDP deflator (fiscal-year series) and averaged over 2022-2024. Chichester: 2023 and 2024 only. Extra students = (irrec. opex VAT £) ÷ £6,000; rounded to the nearest student. Surplus and liquidity effects are shown one-for-one with the VAT recovered (i.e., ignoring timing effects, PESM/CGS adjustments, and any offsetting cost behaviours).

Surplus uplift = 3-year average irrecoverable opex VAT (in 2024 £).

Liquidity gain (days) = surplus uplift (£) ÷ (3-year average opex ÷ 365).

⁶ These are mechanical effects, shown net of behavioural responses, PESM/CGS timing, or other offsets.

Table 18 performs the analogous exercise for capital expenditures. It shows that reinvesting irrecoverable capex VAT would raise annual additions by the mid-teens percentage for most groups. Under conservative depreciation assumptions, that would lift NBC over 1/5/10 years (small in year one, visible by year five, and sizeable by year ten). Groups with larger ongoing programmes see bigger absolute uplifts; groups with smaller baselines see larger percentage effects. Either way, the trajectory is more room to keep pace with compliance, condition and curriculum change without recourse to new borrowing.

Table 18: Impact of full capex recovery: investment and tangible fixed assets (3-year averages, 2025 £m)

FE college group	Capex 2025 £m	Additional investment per year (irrec. capex reinvested)	Capex growth rate (irrec. capex reinvested)	Tangible fixed assets NBV uplift (2025 £m)		
				after 1y	after 5y	after 10y
Activate	7.74	1.08	16.23%	1.08	4.86	8.37
Capital City	9.75	1.60	19.59%	1.60	7.19	12.38
Chichester	33.16	3.20	10.67%	3.20	14.38	24.77
LTE	32.11	4.42	15.94%	4.42	19.87	34.22
Luminate	21.67	2.01	10.21%	2.01	9.03	15.56
NCG	10.61	1.71	19.17%	1.71	7.68	13.22
New City	14.58	1.79	14.03%	1.79	8.07	13.90

Notes: Amounts converted to 2025 £m using UK GDP deflator (fiscal-year series) and averaged over 2022–2024. Chichester: 2023 and 2024 only.

Additional investment per year equals the irrecoverable capex VAT 3-year average (in 2025 £m)—this is the headroom released each year if capex VAT were fully recoverable and reinvested into projects (ex-VAT).

Tangible fixed assets NBV uplift assumes the extra investment is capitalised each year, with straight-line depreciation over 20 years (5% p.a.), no disposals/impairments. Under that assumption, the extra investment multipliers are 1y: 1.00, 5y: 4.50, 10y: 7.75 applied to the annual additional amount. FE college groups typically depreciate freehold buildings and major adaptations for 50 years, and plant and machinery for 5–10 years.

Collectively, Tables 16–18 put scale and consequence on the discussion. They show that irrecoverable VAT is a low single-digit top-slice of income that shows up as thinner surpluses and slower estate renewal. Converting it into a recoverable stream would improve margins and cash coverage immediately (Table 17) and, if reinvested, would lift the renewal path of the estate over time (Table 18).

These findings suggest that VAT recovery is more than a short-term financial adjustment: it is a structural change that would help colleges expand their capacity and invest in infrastructure. Current VAT policy discourages capital investment and undermines financial resilience. Reform would bring the fiscal treatment of colleges in line with schools and academies and better support national skills priorities. One option would be a sector-specific refund mechanism, limited to FE and sixth-form colleges, similar to the arrangements introduced for academies in 2011.⁷

⁷ The legal basis for the academies' refund scheme is Section 33B of the Value Added Tax Act 1994, inserted by the Finance Act 2011. This provision allows Academy Trusts to reclaim VAT on goods and services used for their non-business educational activities, placing them on a similar footing to local authority-maintained schools, which reclaim VAT under Section 33 (HMRC, 1994b).

Conclusion

This report has examined the critical role that Further Education (FE) Colleges play in the UK's post-compulsory education system, particularly in fostering human capital, enhancing social mobility, and addressing regional inequalities. Despite their strategic importance, FE Colleges face persistent funding constraints and fiscal disadvantages, most notably in their treatment under the VAT system.

International evidence underscores the long-term economic and redistributive gains of extending education beyond the age of 16. Yet, the UK's comparative underperformance in basic skills — as revealed by the latest PISA results — suggests that further investment in the quality and accessibility of post-16 education is urgently needed.

One key area of reform is the VAT treatment of FE Colleges. The current framework places them at a disadvantage relative to other publicly funded educational institutions, limiting their ability to invest in modern facilities and infrastructure. Our simulation of a VAT rebate on capital investment reveals that such a reform could be fiscally neutral in the long run, while delivering significant benefits in terms of educational outcomes and regional development.

Aligning the fiscal treatment of FE Colleges with that of schools and universities is both a matter of equity and of sound economic policy. Removing these distortions would not only improve the efficiency of public investment in education, but also signal a clear commitment to supporting skills development across all regions and social groups. In doing so, it would help unlock the full potential of the UK's FE sector as a driver of inclusive growth.

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Annex I. Percentage-of-Income Growth Model for FE colleges

In this appendix, we present a simple percentage-of-income framework for expressing a FE college's cash-flow mechanics in growth terms. Selected operating and balance-sheet items are assumed to scale with income; this proportionality device enables comparable ratios across groups. It is a stylised representation for benchmarking and should not be read as a forecast or as a statement about institutional budgeting practice. We begin by setting the notation and conventions used throughout:

0 – opening period; 1 – next period.

Y – income.

E – operating expenses (staff costs + other operating expenses).

D – depreciation expense (tangible fixed assets).

interest – interest expense.

S – surplus for the year (post-depreciation, post-interest).

OCF – operating cash flow (S + D).

B – interest-bearing long-term borrowing.

i – effective interest rate on opening borrowing (applied to B_0).

B_0 / Y_0 – opening borrowing-to-income ratio.

NWC – net working capital; Δ NWC – change in NWC from 0 to 1.

nwc – working-capital intensity ratio (NWC/Y).

A – tangible fixed assets stock; a – tangible fixed assets intensity (A/Y).

d – depreciation rate on the opening tangible fixed assets base (D_1/A_0).

I – gross investment (additions to tangible fixed assets).

Δ Borrowing – net new borrowing in period 1.

Δ deferred capital grants – increase in the deferred capital grants liability in period 1, beyond the amount necessary to keep them at the opening level.

p – effective irrecoverable VAT share ate on capital additions (irrecoverable VAT as a share of ex-VAT capex). Under steady composition, the same p applies to the embedded VAT share of the opening tangible fixed-assets stock.

g – income growth rate.

With these definitions, the accounting and cash-flow relations used in the model are:

$$S_1 = Y_1 - E_1 - D_1 - \text{interest}_1 = Y_0(1+g) - e \cdot Y_0(1+g) - d \cdot A_0 - i \cdot B_0$$

Working capital and the tangible fixed-asset base scale with income:

$$NWC_1 = nwc \cdot Y_1 = nwc \cdot Y_0(1+g)$$

$$A_1 = a \cdot Y_1 = a \cdot Y_0(1+g)$$

Changes in working capital and the asset base absorb cash as income grows. Hence the increments required for operations are:

$$\Delta NWC_1 = NWC_1 - NWC_0 = g \cdot Y_0 \cdot nwc$$

$$I_1 = A_1 - A_0 + D_1 = a \cdot Y_0(g+d)$$

Operating cash flow (OCF) adds back depreciation to surplus:

$$OCF_1 = S_1 + D_1 = Y_0(1+g) - e \cdot Y_0(1+g) - i \cdot B_0$$

Equating sources and uses of cash:

$$OCF_1 + \Delta \text{Borrowing} + \Delta \text{deferred capital grants} = \Delta NWC_1 + I_1$$

Assuming no new borrowing $\Delta \text{Borrowing}=0$, or increase in the deferred capital grants liability (beyond the amount necessary to keep them at the opening level grants) $\Delta \text{deferred capital grants}=0$. Substituting and simplifying yields:

$$(1-e) \cdot Y_0(1+g) - I \cdot B_0 = g \cdot Y_0 \cdot nwc + a \cdot Y_0(g+d)$$

$$(1-e)(1+g) - I \cdot B_0/Y_0 = g \cdot nwc + a(g+d)$$

In the baseline, the “self-financed” growth rate g^* is defined as the highest growth compatible with no increase in borrowing or deferred capital grants. That is, g is the highest feasible growth based on Income and Expenditure Account Reserves.

$$g^* = (1 - e - i \cdot B_0/Y_0 - a \cdot d) / (nwc + a - 1 + e)$$

The parameters used in the model—operating-cost intensity (e), asset intensity (a), depreciation rate (d), interest rate on opening borrowing (i), working-capital intensity (nwc), and opening borrowing-to-income (B_0 / Y_0)—are constructed from the 2024 financial accounts, as set out in Table 19.

Table 19: Percent-of-income model parameters by group (2024)

FE college group	e	i	B_0 / Y_0	a	d	nwc
Activate	0.919	0.025	0.046	1.507	0.054	0.062
Capital City	0.955	n/a	0	2.757	0.029	0.180
Chichester	0.903	0.076	0.165	1.517	0.051	-0.058
LTE	0.902	0.068	0.261	1.200	0.044	0.105
Luminate	0.933	0.064	0.261	1.517	0.045	-0.182
NCG	0.916	0.097	0.071	1.287	0.067	0.184
New City	0.903	n/a	0	1.831	0.048	0.012

Notes: is “n/a” where prior-year long-term loans were zero (and interest expense was zero). Long-term borrowing excludes deferred capital grants and other deferred income.

For Luminate and Chichester we set $nwc = 0$ to avoid penalising growth for timing effects in current liabilities; the conclusions are unchanged: capital intensity and operating cost ratios are the binding constraints, and VAT recovery relaxes both.

Recovering opex VAT reduces the operating-cost ratio e :

$$e' = e - (\text{irrecoverable opex VAT} / \text{income}).$$

For capex, two treatments are shown for transparency:

(i) Subtract irrecoverable annual capex-VAT from fixed assets: a lower capex spending (capex minus irrecoverable VAT) effectively buys the same amount of capital. This lowers the capitalized tangible fixed assets amounts.

$$a' \text{ sub} = (A - \text{irrecoverable capex VAT}) / \text{income}$$

(ii) Strip embedded irrecoverable VAT from fixed assets (a' strip): a steady-state re-baselining that removes the irrecoverable VAT component embedded in the existing asset stock:

$$a' \text{ strip} = (1 - p) \times A / \text{income}$$

where p is the irrecoverable VAT share in additions.

In Table 20 we depict the adjusted parameters with VAT recovery.

Table 20: Adjusted parameters under VAT-recovery scenarios (2024)

FE college group	p	e	e'	a	a' sub	a' strip
Activate	0.162	0.919	0.891	1.507	1.497	1.262
Capital City	0.196	0.955	0.928	2.757	2.745	2.217
Chichester	0.107	0.903	0.880	1.517	1.491	1.355
LTE	0.159	0.902	0.880	1.200	1.177	1.008
Luminate	0.102	0.933	0.904	1.517	1.502	1.362
NCG	0.192	0.916	0.892	1.287	1.278	1.040
New City	0.140	0.903	0.887	1.831	1.817	1.575

We report three cases for each group in Table 21: the actual case (e, a), and the two VAT-recovery cases using (e', a' sub) and (e', a' strip). The scenarios are mechanical and intended only to show direction and approximate scale under common conventions.

Table 21: Income growth under VAT-recovery scenarios

FE college group	g^* (actual) using e, a	$g^{*'} (recovered\ VAT)$ using e', a' sub	$g^{*'} (recovered\ VAT)$ using e', a' strip
Activate	-0.10%	1.80%	3.26%
Capital City	-1.24%	-0.29%	0.32%
Chichester	0.59%	2.27%	3.28%
LTE	2.26%	4.19%	5.85%
Luminate	-1.49%	0.87%	1.65%
NCG	-0.68%	1.10%	2.82%
New City	0.55%	1.43%	2.51%

Notes: for Luminate and Chichester we set $nwc = 0$ to avoid penalising growth for timing effects in current liabilities; the conclusions are unchanged: capital intensity and operating cost ratios are the binding constraints, and VAT recovery relaxes both. In our calculations, opex and capex VAT all values 3-year averages 2022-24 (in 2025 £m, for consistency, using the UK GDP deflator fiscal-year series).

Results are indicative and sensitive to assumptions about proportionality, depreciation, and working-capital behaviour. They abstract from partial-exemption method changes, timing of PESM/CGS, and project-specific VAT reliefs. Accordingly, the numbers should be read as a scale for comparison across groups, not as forecasts of outcomes.

On current rules, g^* is tight or negative for several groups, reflecting thin operating margins and a relatively large asset base relative to income. Recovering VAT would make it possible to achieve growth sustained by their own EBITDA (and capital grants at the current level), partly because operating expenditure corresponds to a lower share of income, and partly because they would be able to invest more. Table 22 indicates substantially larger investment under both recovery scenarios; while contingent on current cost structures and grant availability, this points to a clearer, more sustainable path for estate renewal and capacity expansion.

Table 22: Investment under VAT-recovery scenarios

FE college group	Investment		
	actual, net of irrec. VAT	recovered VAT sub scenario	recovered VAT strip scenario
Activate	7.15	11.50	13.81
Capital City	4.96	9.59	11.82
Chichester	9.51	13.58	15.44
LTE	12.91	19.42	23.16
Luminate	5.54	10.85	12.40
NCG	11.24	17.89	21.84
New City	10.41	14.00	16.44

Notes: investment is calculated as follows:

Investment (actual,exVAT) = $(1-p) \cdot I_1 = (1-p) \cdot a \cdot Y_0(g+d)$

Investment (recovered VAT) = $I_1' = a' \cdot Y_0(g'+d)$

Y_0 denotes the 2024 income level (in 2025 £m, using the UK GDP deflator fiscal-year series).

Overall, without VAT recovery, most colleges have too little discretionary cash and significant capital demands, making self-financed growth difficult. Recovering VAT on day-to-day spending lifts the annual surplus, and recovering VAT on capital projects allows the same budget to deliver more estate. Taken together, these effects create credible scope for growth funded by internal resources.



 +44 (0)20 7107 5215
 consulting@lse.ac.uk
 lse.ac.uk/consultancy

LSE Consulting
Houghton Street
London WC2A 2AE