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Report

Competition and Cooperation in the FE sector

Investigating competition and fragmentation in the FE sector and their consequences for post-16 subject availability, equity, and delivery efficiency

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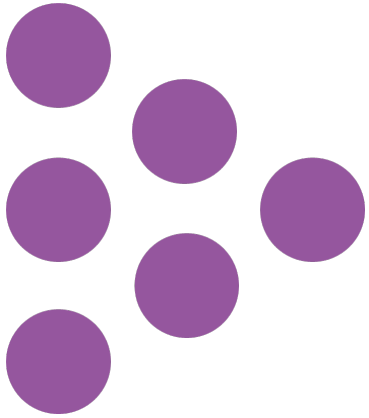

Competition and Cooperation in the FE sector

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Executive Summary

Introduction

This research examines how competition and fragmentation in England's post-16 education system affect the range of subjects available to students, geographic inequalities in subject choice, and delivery efficiency. Commissioned by the Association of Colleges (AoC), we explore whether providers in more fragmented areas — characterised by a larger number of relatively small providers — tend to offer a narrower curriculum to 16–19 learners and have weaker delivery efficiency.

Post-16 education policy has tended to emphasise the benefits of a market-based model in which provider diversity and competition drive up quality, efficiency and responsiveness. However, AoC have previously raised concerns that excessive fragmentation in local post-16 education systems may weaken providers' economies of scale, resulting in less efficient investment of resources, narrower subject choices for learners — particularly in 'marginal' and 'specialist' areas that are harder to sustain — and substantial geographic inequalities in the range of courses that young people can access (Association of Colleges, 2020)

These risks have been acknowledged and accepted by government as they seek to better align skills provision with labour market needs, improve value for money in public spending, and ensure equitable access to high-quality pathways into growth occupations (HM Government, 2025).

The *Post-16 Education and Skills White Paper* recognises the benefits of greater collaboration and coordination in supporting a broad range of pathways for learners (HM Government, 2025). However, it focuses primarily on cooperation between further education (FE) and higher education (HE) providers, rather than the benefits of greater collaboration between colleges and school sixth forms that serve 16-19 learners. Furthermore, it lacks detailed analysis of how existing market structures and dynamics affect the breadth of subjects that 16-19 providers offer and the efficiency with which they can deliver these subjects. This report addresses that evidence gap.

The focus of this research should not be taken to imply that breadth of subject and course choice, and provider efficiency, are the only considerations relevant to policymakers. Other factors — such as proximity, provider size and the learning environment — are also likely to matter to students and parents/carers. However, assessing the relative importance of these factors lies beyond the scope of this study.

Extending the existing knowledge base

This report focuses on how fragmentation in local post-16 provider markets impacts on three dimensions of a successful post-16 system: **sufficiency, efficiency, and equality,** where **sufficiency** relates to the subjects available for students to study, **efficiency** relates to how post-16 providers use the resources available to them to achieve choice and quality outcomes, and **equality** relates to the extent to which there are equal choices of subjects and qualifications open to students of all abilities, circumstances and geographies.

In this report, we focus on **marginal and specialist subjects** — smaller subject areas which AoC chose on the basis they were likely to be particularly vulnerable to low enrolments and inefficient delivery among providers in fragmented markets. Eight subject clusters (which together comprised 50 subjects) were chosen to be the focus of our analysis, spanning creative arts, performing arts, humanities, social sciences and languages, across both A-levels and vocational qualifications (VQs).

Detailed subject-level analysis was also undertaken for 23 of the 50 subjects within these eight clusters.

Using national Key Stage 5 (KS5) subject entry data for 2023/24, combined with provider-level learner numbers, our research examines how subject sufficiency (whether subjects are offered at all) and efficiency (cohort sizes and prevalence of very small classes) vary depending on how fragmented the provider market it is in a local authority (LA) area. Market fragmentation is measured in a range of ways, including the average size of providers in an LA area, the balance between standalone 16-19 colleges and school sixth forms, and how the local market is shared between providers (see Research design and methodology section). Our analysis covers all state-funded 16–19 providers in England: over 2,100 institutions, of which around 87 per cent are school sixth forms (which each tend to serve relatively few students) and the remainder are standalone 16-19 providers (which tend to cater to much larger student populations).

Key findings

The key findings from our research are:

1. Students' subject choices vary substantially by geography

Students' access to marginal and specialist subjects varies substantially depending on where they live. Whilst some of the marginal and specialist subjects we examined are offered by at least one provider in most LAs (e.g. A-level Sociology), the provision of other subjects is much patchier, with a substantial number of LAs exhibiting 'cold spots', where some subjects are not offered by any provider. This is especially pronounced in subjects like A-level Dance and Music Technology, which are unavailable to students in around half of England's Local Authorities. Even where subjects are offered by at least one provider across most LAs, provision can still be patchy; for example, students in over 30 LA areas are unable to study A-level German.

'Cold spots' are not limited to rural and semi-rural areas; some LA areas that are more densely populated than average also exhibit weak subject sufficiency. This means that, in practice, learners' choice of post-16 qualifications and subjects is often limited by the structure of their local provider market.

2. Providers in more fragmented local post-16 markets face greater barriers to delivering efficient class sizes

Our analysis suggests that providers in more fragmented local markets tend to deliver marginal and specialist subjects less efficiently.

The average size of providers in an LA area appears to be closely related to delivery efficiency in that area. In LA areas where providers are smaller, they tend to enter fewer students for exams in marginal and specialist subjects, and they are more likely to deliver these subjects to small classes.

This relationship - between fragmentation and delivery efficiency - is strongest for social sciences and humanities subjects, but weaker for creative arts, and weaker still for languages and performing arts. However, whilst the strength of the relationship varies between subject clusters, and by subject within clusters, the overall pattern is largely consistent: LA areas where providers are smaller, on average, face greater barriers to sustaining efficient delivery of marginal and specialist subjects.

3. Fragmented markets are typically those where a relatively high proportion of learners attend school sixth forms, rather than colleges for 16-19 learners – this is central to efficiency

LA areas where providers are smaller, on average, and where the local provider market is more fragmented, tend to have a larger proportion of students that attend school sixth forms, as opposed to standalone colleges for 16-19 learners (the bulk of which are General FE Colleges, Sixth Form Colleges and 16-19 Academies and Free Schools).

School sixth forms are, on average, far smaller than colleges, which has implications for the subjects they can offer and how efficiently they can deliver them. Across every marginal and specialist subject cluster we examined, school sixth forms tend to have substantially smaller cohorts than colleges. In languages, performing arts and creative arts, school sixth forms often have fewer than ten students studying subjects in these clusters, and more than 70 per cent of provision is delivered to cohorts of less than 20 learners. By contrast, colleges tend to deliver these subjects at significantly greater scale, suggesting stronger economies of scale and more efficient use of public funding.

4. Across many subject areas – particularly humanities and social sciences – school sixth forms will tend to continue to offer subjects inefficiently rather than withdraw them

Our analysis suggests school sixth forms tend to continue offering many marginal and specialist subjects, particularly in the humanities, social sciences and some languages, even when their cohorts in these subjects are very small and delivery is inefficient. In several subjects we examined — including A-level Geography and History — a higher proportion of school sixth forms offer these subjects than colleges for 16-19 learners, despite much weaker efficiency.

This suggests there are strong competitive incentives for school sixth forms to continue offering many marginal and specialist subjects, despite weaker efficiency; they may feel this is necessary to attract and retain students who study subjects across more than one subject area. The result is duplication of provision across many small sites, rather than consolidation into fewer, more sustainable centres of specialist expertise.

5. A proliferation of school sixth forms in an area appears to undermine nearby colleges' economies of scale

Our analysis suggests that in LA areas where a higher proportion of learners attend school sixth forms (as opposed to standalone 16-19 colleges), colleges are more likely to withdraw marginal and specialist subjects, and, where they do offer these subjects, to do so less efficiently. The consistency of this relationship across many subject areas indicates that a proliferation of school sixth forms within an LA area may have a system-level effect on colleges' economies of scale, making it harder for them to sustain marginal and specialist subjects — even where colleges would otherwise be well placed to deliver these subjects efficiently. However, we cannot rule out that other variables, such as geographical factors, drive up the proportion of students that attend school sixth forms whilst also limiting colleges' delivery efficiency and the breadth of their subject offering.

6. Smaller school sixth forms face the largest barriers to delivering efficient class sizes and sustaining a broad subject offer, but greater consolidation does not guarantee greater subject breadth and efficiency

In LA areas where school sixth forms are smaller (compared to LA areas where school sixth forms are bigger), these schools tend to have fewer entries and be less likely to offer A-levels in marginal or specialist subject

clusters, although the same patterns are not evident for vocational qualifications (VQs).

However, more consolidated school sixth form markets do not necessarily deliver better subject choice and more efficient delivery in those schools. Rather, school sixth forms in more concentrated markets are more likely to have small cohorts in marginal and specialist subjects; this could indicate that reduced competitive pressure weakens the incentives for schools to sustain a broader subject offering, or, alternatively, other factors – for example geography - could explain this relationship.

This underlines that market structure alone is not determinative; geography and other incentives and coordination mechanisms also affect which subjects providers offer and how efficiently they can deliver them.

Implications for policy

Taken together, our findings challenge the assumption that better breadth of subject choice for students and more efficient investment of resources is best achieved through high levels of local competition between large numbers of post-16 providers. Instead, our findings suggest that highly fragmented local provider markets — in which a relatively large proportion of students attend school sixth forms — weaken subject choice, dilute economies of scale, and exacerbate geographic inequalities in subject access.

This does not imply that 16-19 colleges are intrinsically better than school sixth forms, or that a single institutional model should dominate everywhere. However, our results do indicate that the cumulative system-level effects of having many small providers operating independently are often negative, at least when it comes to the provision of marginal and specialist subjects. Further research is needed to investigate whether the relationships observed in our analysis also extend to other subjects.

Overall, our findings suggest a more coordinated approach to planning post-16 provision — sensitive to local context but explicitly concerned with system-level efficiency and sufficiency — would be beneficial.

Policy recommendations

The government has already signalled in the *Post-16 education and skills white paper* that it wants greater coordination and collaboration between providers in the post-16 system, to ensure investment is applied efficiently and support a broad subject choice for all (HM Government, 2025). In this report, we set out five policy options for achieving this, reflecting increasing degrees of intervention, from convening through to structural consolidation. No single approach will be appropriate everywhere; the desirability and feasibility of each option will depend on local geographic, social, economic and market factors.

1. Strengthen oversight of school sixth-form expansion

DfE should consider updating its guidance to Local Authorities and Regional Directors for when new school sixth forms are proposed, to require explicit consideration of system-level impacts - including effects on subject breadth, cohort sizes and the viability of existing provision. Rather than relying on narrow viability thresholds, decision-making should assess the cumulative local effects of school sixth form expansion and the overall balance between the proportion of students that attend school sixth forms and larger 16-19 colleges. Combined authorities and local authorities should also be encouraged to play a more active role triggering school reorganisation consultations, as well as commissioning

broader area reviews, where this is appropriate for supporting consolidation.

2. Support partnership, shared provision and timetabling between providers

Where appropriate, combined and local authorities should convene schools and colleges to explore shared provision and timetabling arrangements, and/or other partnership models, to maximise subject choice and improve system efficiency within the area.

Shared provision and timetabling between school sixth forms could enable students to access a broader subject offering across more than one institution within an area, benefitting those students whilst also improving the efficiency with which school sixth forms can deliver marginal and specialist subjects.

Broader partnerships between school sixth forms and colleges can also combine the geographical accessibility of smaller, local school sixth forms with the greater economies of scale and specialism that colleges can offer. These models could expand subject choice for learners while improving efficiency. While evidence on the effectiveness of college-school sixth form partnerships remains limited, targeted pilots, drawing on models used elsewhere, should test their effectiveness in the English context.

Targeted funding, for example to cover coordination, transport and timetable alignment costs, could help overcome practical and collective-action barriers.

3. Encourage specialisation and subject hubs, particularly in the creative and performing arts

Where appropriate, combined and local authorities should support specialisation by designating specific providers as subject hubs and discouraging duplication by other local providers. This approach may be most feasible in creative and performing arts subjects, which — of the subject clusters we examined — are most often withdrawn by providers, particularly Schools, as efficiency declines. Concentrating provision of these subjects within designated hubs could help preserve access to these subjects, improve quality and reduce inefficient duplication. This would require strong coordination and incentives.

4. Encourage formal mergers where cooperation fails

Where informal coordination proves to be too difficult to sustain, combined and local authorities should consider encouraging school sixth forms and/or larger colleges to formally merge to improve efficiency and broaden subject choice for local students. Larger institutions are better placed to invest in, and maintain, provision in subjects that are marginal or specialist, but nevertheless valuable. Targeted transition funding could accelerate consolidation where there is a clear case for it within an area.

Conclusion

This report provides new evidence about the relationship between the structure of local post-16 education markets and subject choice, efficiency and equity. It suggests that more fragmented local post-16 markets — which are driven, above all else, by a higher proportion of students attending school sixth forms instead of larger colleges — are associated with more inefficient use of resources and a narrower subject choice for students, at least in marginal and specialist subject areas. There is no single solution to this challenge. However, our findings suggest that greater coordination and collaboration — and, where necessary, potentially also consolidation — should be central to future post-16 policy.

1. Introduction

1.1. Research and policy context

This research investigates how competition and fragmentation in England's post-16 education system affects the choice of subjects available to students, geographic inequalities in subject choice, and the efficiency with which colleges deliver marginal and specialist subjects.

The current market-based post-16 provider market is built on the premise that greater provider diversity and competition delivers greater **sufficiency, efficiency, quality and equality**, but some commentators – AoC amongst them – have previously raised concerns that fragmentation and a proliferation of smaller providers may dilute the breadth of subject choice available to students, reduce economies of scale and lead to uneven **sufficiency and efficiency** across different areas (Association of Colleges, 2020). Understanding how market structures affect providers' subject offering, and the efficiency with which providers can deliver these subjects, is an important prerequisite for aligning skills supply with employer demand, using public investment efficiently, and ensuring that learners with different aspirations and aptitudes have equitable opportunities to progress.

This report considers how competition between post-16 education providers impacts on three dimensions of a successful post-16 system: **sufficiency, efficiency, and equality,** where **sufficiency** relates to the extent to which students can choose from the full range of subject options regardless of geography, **efficiency** relates to how post-16 providers use the resources available to them to achieve choice and quality outcomes, and **equality** relates to the extent to which there are equal choices of subjects and qualifications open to students of all abilities, circumstances and geographies.

Learners have differing aptitudes, interests and aspirations for their careers, and employers have differing skills requirements. An effective post-16 system is one in which the subject offer is sufficient to maximise learner progression and meet employers' diverse demands, but which can also be efficiently sustained.

The government has already acknowledged that greater coordination of the post-16 system could ensure investment is applied more efficiently, maximising economies of scale and supporting choice for all. The recent *Post-16 education and skills white paper* emphasises the role of closer cooperation and collaboration in the tertiary education system in supporting student choice, progression, specialisation and efficiency, in order to better align skills provision with employer and regional economic needs. However, whilst the white paper recognises the role colleges play as anchor institutions in their communities and supports the development of Technical Excellence Colleges and regional specialist networks, it focuses primarily on collaboration between further education (FE) and higher education (HE) providers through existing structures, and on qualifications and funding reform. It does not create new statutory guidance, frameworks or incentives to deepen collaboration between 16-19 providers. It also lacks a clear diagnosis of the barriers to cooperation within the FE sector; a consequence of the lack of evidence about how post-16 market structures affect competition, cooperation and choice.

This paper helps fill this evidence gap, focusing on a group of **marginal and specialist subjects** which were pre-selected by AoC on the basis that their sufficiency and efficiency was more likely to be compromised by competitive market structures.

Eight clusters of marginal and specialist subjects were prioritised for analysis, which together contain 50 subjects. These clusters were: Creative Arts A-levels, Creative Arts Vocational Qualifications (VQs), Humanities A-levels, Social Sciences A-levels, Social Sciences VQs, Languages A-levels, Performing Arts A-levels and Performing Arts VQs. Detailed subject-level analysis was also undertaken for 23 of the 50 subjects within these eight clusters. We describe the analysis conducted at the subject cluster and subject-levels in 'Section 2 Research design and methodology', and we list the subjects prioritised in darker purple in Table 2 on page 14.

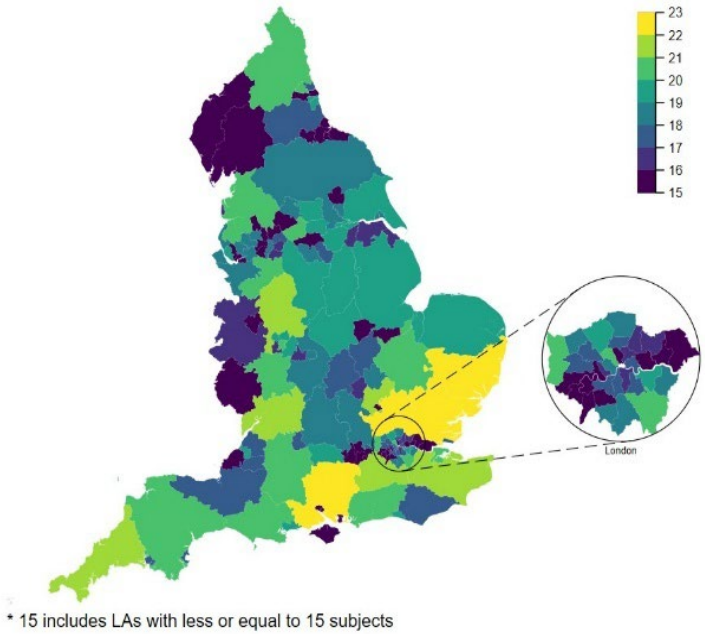
1.2. Subject 'cold spots'

Students' access to marginal and specialist subjects varies substantially depending on where they live. This is illustrated in Figure 1 below, which identifies 'cold spots' where none of the providers within an LA area offer certain marginal or specialist subjects.

Figure 1 indicates how many subject cold spots there are in each LA, across the 23 subjects we examined in our subject-level analysis. Where an LA represents a 'cold spot' in a specific subject, this means that no providers in that LA offer that subject. Figure 1 shows that 23 of the 151 LAs across England represent cold spots in 15 or more of the 23 subjects, and another 20 LAs only offered 16 of the 23 subjects. These areas, in dark colours, are scattered across the country. Only four LAs (in yellow in the figure) offered all 23 subjects in the 2023/24 period: Essex, Hampshire, Hertfordshire, and Suffolk.

Whilst some of the 23 subjects are offered by at least one provider in most LAs (for example History, Geography, and Sociology A-levels), the provision of other subjects is patchier. There are a substantial number of LAs in which no providers offer A-levels or Vocational Qualifications (VQs) in some subjects. For example, A-level Dance and Music Technology are not available to any of the students in many LA areas. In 79 out of 151 LA areas, Music Technology is not offered by any provider in the area, and in 73 areas A-level Dance is unavailable. Even where subjects appear to be offered by at least one provider across most LAs, provision can still be patchy; for example, 31 LA areas represent 'cold spots' where students are unable to complete an A-level in German at any provider in their LA.

Figure 1 Number of marginal and specialist subjects (out of 23) offered by at least one provider in each LA area



Source: Own calculation using DfE's KS5 subject entries data

In the next section, we explain the methodology we used to examine whether providers in more fragmented LA areas tend to offer a narrower subject choice and have weaker delivery efficiency.

2. Research design and methodology

2.1 Aims and definitions

In this paper, we test the central hypothesis that post-16 providers operating in LA areas with **more fragmented markets** have weaker **sufficiency** and weaker **efficiency** across eight different **marginal or specialist subject** areas, where:

- **Weaker sufficiency** means that a higher proportion of providers do not offer a given subject in a Local Authority (LA) area.
- **Weaker efficiency** means that enrolments in an LA area tend to be lower in a subject amongst those providers that do offer that subject, and/or that more providers in that area have a very small (fewer than 20) number of entries in that subject.
- **More fragmented provider markets** means that the providers in a LA area tend to be smaller and/or more fragmented.
- **Marginal or specialist subjects** comprise eight subject clusters which together contain 50 subjects pre-selected by AoC on the basis that they were considered hard for providers to sustain and run efficiently.

In our analysis, we first test the relationship between fragmentation in the provider market and sufficiency and efficiency at the subject cluster level. To do this, we investigate whether providers in more fragmented provider markets are more likely *not* to offer any subject in these clusters, and/or whether providers deliver these subjects less efficiently where they are offered. Where both vocational and academic qualifications are offered in an area, these are assessed as two separate clusters. We also explore how relationships between market fragmentation and sufficiency and efficiency vary between subjects. See Table 2 for an overview of subject clusters and subjects.

We focus on all state-funded post-16 providers, which we categorise for our analyses as either **Schools** or **Colleges**, where:

- **Schools** are school-based sixth forms
- **Colleges** are standalone 16-19 providers, including General Further Education colleges, Sixth Form Colleges, 16-19 free schools and academies, and other purely post-16 providers.

Our population includes 2,188 providers, 1,905 of whom are Schools, with the remainder Colleges. See Section 2.3 for more details.

2.2 Hypotheses

We examine the hypothesis that colleges in Local Authority (LA) areas with more fragmented provider markets have weaker sufficiency in marginal and specialist subjects - meaning more providers do not offer these subjects - and weaker efficiency, meaning providers tend to have fewer entries and/or more small cohorts in these subjects. More specifically, we test the following hypotheses:

- Hypothesis 1 – Subject sufficiency and efficiency are weaker in LA areas where a higher proportion of students attend school sixth forms **(Schools),** as opposed to **Colleges**, because:
  - Hypothesis 1a – Schools have weaker sufficiency and efficiency, on average, than **Colleges.**
  - Hypotheses 1b - In areas where a greater share of students attend **Schools**, this compromises C**olleges'** economies of scale, weakening their efficiency and sufficiency.

- Hypothesis 2 – Subject sufficiency and efficiency among **Schools** is weaker in LA areas where **Schools** are smaller, on average, and/or where the **Schools** market is more fragmented.
- Hypothesis 3 - Subject sufficiency and efficiency among **Colleges** are weaker in LA areas where **Colleges** tend to be smaller.

2.3 Identifying providers and the local authorities in which students are educated

We use KS5 subject entries data for the 2023/24 academic year, which contains information at the provider-subject level, indicating how many entries (but not learners) were submitted for exams by each provider in each subject that they offered. This database enables us to identify providers, categorise them into **Schools** and **Colleges**, identify the LA area in which they are based, and calculate measures of sufficiency and efficiency for each of our chosen subjects for each LA area.

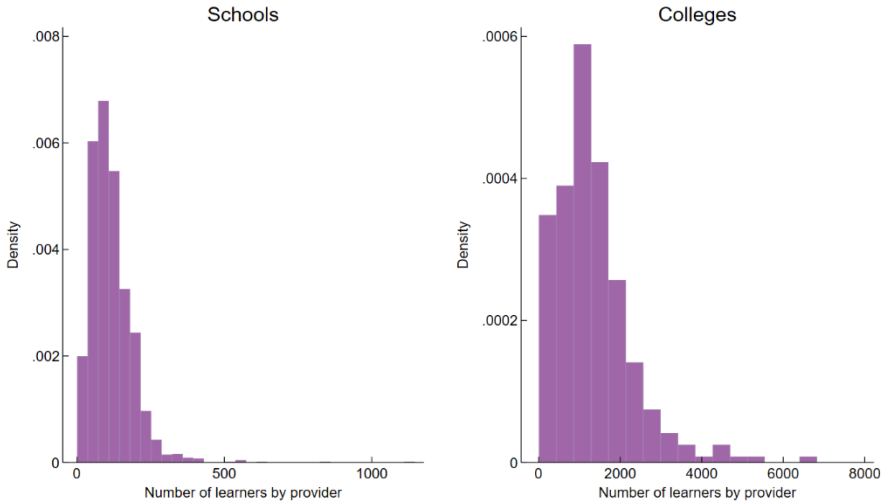
We analyse the relationship between market fragmentation and sufficiency and efficiency at the LA level because this is the finest level of geographical disaggregation available in the data. Readers should note that LA areas do not necessarily map to 'travel to learn' areas and that market structures in any given LA are likely to be influenced by the presence, or lack, of providers in neighbouring areas, particularly where providers are located close to LA boundaries.

We also use data from the Department for Education's (DfE) A-level and other 16-18 results[1] to identify the number of learners at each provider, which we use to calculate the average number of learners per provider within each LA area; this is one of our measures of market fragmentation.

Our population of interest is all state-funded providers of KS5 qualifications to learners aged 16-19 (excluding independent schools and colleges). This includes 156 General FE Colleges, 127 other standalone 16-19 colleges (including Sixth Form Colleges and 16-19 Academies and Free Schools), and 1,905 School Sixth Forms. Of the 2,188 providers in our population, 87% are categorised as Schools and the remaining 13% are Colleges. As shown in Figure 2 below, Schools and Colleges contrast markedly in terms of their typical size, with most Schools tending to have fewer than 300 students, whereas most Colleges have more than 500 students, and usually more than 1000. In Appendix A: Methodology, we also show the distribution of learners within Colleges by General FE Colleges and Other Standalone 16-19 Providers.

[1]Covers all eligible qualifications achieved by students who reached the end of 16-18 study in the 2023/24 academic year (this includes all qualifications entered during 16-18 study, which typically lasts two or three years).

Figure 2 Distribution of learners by Schools and Colleges



Source: Own calculation using DfE's KS5 subject entries data

One significant challenge in using published KS5 subject entries data is that it identifies post-16 providers at the *legal entity* level, and some of these legal entities are college groups or colleges with multiple campuses spread across broad geographical areas. All subject entries within these legal entities are recorded as being in the LA in which the group is headquartered (even if most of the colleges in a given group are not located in the LA it is headquartered in). We identified 20 legal entities with multiple institutions from the data from their name (e.g. 'XX Group') and by then checking their information (such as websites). However, the real number is likely to be more and there is no source of official information to use when identifying groups in KS5 subject entries data.

Moreover, we cannot observe subject entries at the institution/campus level where colleges are part of a group or have multiple campuses. Keeping these colleges in our data risks biasing our results, but so does removing all these colleges from the population. Therefore, we conduct sensitivity analyses; our main analyses utilise all KS5 subject entries data from all legal entities and LA areas, but we subsequently reproduced our results after excluding LA areas that had either a) a relatively high proportion of students attending institutions that were part of a group headquartered in a different LA, and/or b) where a high proportion of the entries attributed to a LA were likely to be in institutions within the group that were located in different LAs. These sensitivity checks did not meaningfully change our results, and so we present only the results from our main analyses in this report.

Due to these data limitations, we present aggregated findings and avoid highlighting specific LAs as highly fragmented and/or with particularly low efficiency and sufficiency as this would risk highlighting LAs that are atypical (e.g. because they have colleges with multiple campuses spanning numerous towns, or where a college group headquartered in a neighbouring LA has a college in that area).

2.4 Outcomes measures of subject efficiency and sufficiency

We construct two measures of subject **efficiency**, for each subject cluster and subject, for each LA area:

- **Efficiency measure 1:** The number of entries per provider in a given subject cluster or subject, averaged across the providers that offer that subject cluster or subject within the LA.

- **Efficiency measure 2:** The proportion of total entries in a specific subject cluster or subject in an LA that were in providers delivering that subject cluster or subject to more than 20 entrants.

We treat the first of the above measures as our main outcome measure for efficiency, tending to present the findings that relate to the second measure in the appendix rather than the main report, except where results differ quite markedly.

We measure subject **sufficiency,** for each subject cluster and subject, for each LA area based on:

- **Sufficiency measure:** The proportion of providers in a LA area that offer an A-level / VQ(s) in a given subject cluster or subject, conditional on them offering at least one A-levels / VQ(s)

Indicators are constructed in a way that the **higher the indicator, the higher the efficiency / sufficiency in that subject cluster or subject in an LA area.**

2.5 Measures of market fragmentation

We also construct measures of market fragmentation for each LA. These are derived from the Department for Education's (DfE) A-level and other 16-18 results information, rather than data on subject entries. We derive the following measures of market fragmentation:

- **Market fragmentation measure 1:** The average number of learners per provider in each LA, averaged across all subjects and qualifications (A-levels and VQs) for a) all provider types, b) just Schools, c) just Colleges
- **Market fragmentation measure 2:** The proportion of learners in each LA area that attend Colleges, as opposed to Schools.
- **Market fragmentation measure 3:** The Herfindahl–Hirschman index (HHI) for each LA for a) all provider types, b) just Schools, c) just Colleges. HHI is an established, well used measure of market fragmentation which takes into consideration the number of providers and their relative size (see the footnote 3 on page 16 for more detail regarding this measure).

We analyse the relationship between market fragmentation and efficiency and sufficiency amongst all providers, and then separately for Schools and Colleges, because average subject entries vary substantially between schools and colleges (as shown in Figure 2) and, therefore, local provider market fragmentation is closely related to the proportion of learners in each LA area that attend Colleges rather than Schools. This also explains why we focus on market fragmentation measure 2 in our subject-level analysis (Section 6).

2.6 Subject clusters and subjects

As already explained, our analysis was conducted at two different layers: the subject-cluster level, and the subject level. At the subject cluster level, we included all the subjects in each of eight clusters of marginal and specialist subjects, which were prioritised by AoC and together contained 50 subjects in total. These clusters were: Creative Arts A-levels, Creative Arts VQs, Humanities A-levels, Social Sciences A-levels, Social Sciences VQs, Languages A-levels, Performing Arts A-levels and Performing Arts VQs. However, for the subject level analysis, we prioritised 23 of these 50 subjects across the eight clusters. The subjects that were prioritised are shown in Table 2 Clusters and individual subjects included in the analysis.

2.7 Testing the hypotheses

Table 1 below shows the different hypotheses tested in this study, and the relationship we investigated to test each hypothesis.

Table 1 Summary of hypotheses

Hypotheses	Relationships investigated
Hypothesis #1 – Subject sufficiency and efficiency are weaker in LA areas where a higher proportion of students attend school sixth forms **(Schools),** as opposed to **Colleges**	The relationship between the proportion of students in the Local Authority area in Schools (as opposed to Colleges) and subject efficiency and sufficiency across all the providers in that area.
Hypothesis #1a – **Schools** have weaker sufficiency and efficiency, on average, than **Colleges.**	The relationship between provider type (Schools and Colleges) and subject efficiency and sufficiency.
Hypotheses #1b - In areas where a greater share of students attend **Schools**, this compromises **Colleges'** economies of scale, weakening their efficiency and sufficiency.	The relationship between the proportion of students in the LA area in Schools (rather than Colleges) and subject efficiency and sufficiency among Colleges in that area.
Hypothesis #2 – Subject sufficiency and efficiency among **Schools** tends to be weaker in LA areas where schools are smaller on average, and/or where the **Schools** provider market in that area is more fragmented.	The relationship between subject sufficiency and efficiency among Schools in an LA area and (a) the average number of students per school in that area, and (b) how fragmented the school market it is in that area (based on the HHI for the Schools share of the provider market).
Hypothesis #3 - Subject sufficiency and efficiency among **Colleges** is weaker in LA areas where **Colleges** tend to be smaller.	The relationship between subject sufficiency and efficiency among Colleges in an LA area and the average number of students per College in that area[2].

[2] Note we do not also look at how fragmented the college market it is in each LA area because most LAs only have 0, 1 or 2 colleges, so looking at how the college market is shared between these providers may not be meaningful.

Table 2 Clusters and individual subjects included in the analysis

Creative arts A-level	Creative arts VQs	Humanities A-level	Social sciences A-level	Social sciences VQs	Languages A-level	Languages A-level (cont.)	Performing arts A-level	Performing arts VQs
Art and Design	Art and Design	Ancient History	Government and Politics	Social Sciences	Arabic	Modern Greek	Dance	Music performance (Group)
Art and Design (3d Studies)		Geography	Psychology	Psychology	Bengali	Modern Hebrew	Drama and Theatre Studies	Music technology
Art and Design (Critical Studies)		History	Sociology		Chinese	Persian	Music	Sound Recording
Art and Design (Fine Art)		History of Art			French	Polish	Music technology	Speech and Drama
Art and Design (Graphics)		Logic / Philosophy			German	Portuguese		Theatrical Makeup
Art and Design (Photography)		Religious Studies			Gujarati	Punjabi		
Art and Design (Textiles)					Italian	Russian		
Design and Technology (Engineering)					Japanese	Spanish		
Design and Technology (Product Design)					Latin	Turkish		
Design and Technology (Textiles Technology)						Urdu		

Note: Prioritised subjects are indicated by a darker purple background

3. Findings: Relationships between market fragmentation and sufficiency and efficiency at the subject cluster level

In this section we present the relationships between market fragmentation and efficiency, and then sufficiency measures at the subject-cluster level.

Summary of findings

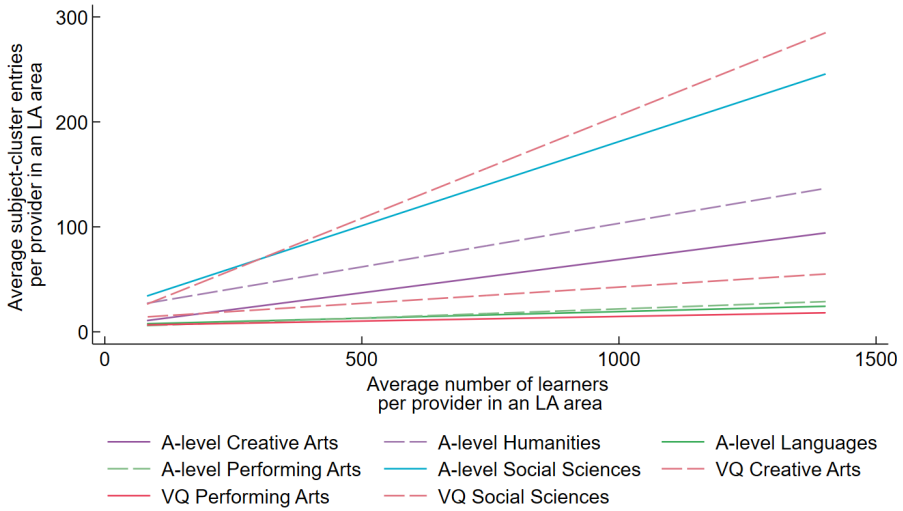
- *Efficiency in marginal and specialist subjects tends to be weaker in LA areas where providers are smaller, on average.*
- *Efficiency in marginal and specialist subjects also tends to be weaker where provider markets are more fragmented (based on the HH Index), although how providers share a market appears to be less important than providers' average number of students.*
- *Sufficiency in some marginal or specialist subjects - performing arts and VQs in creative arts or social sciences - tends to be weaker in LA areas with smaller providers. However, most providers offer at least one A-level in creative arts, humanities and social sciences regardless of the fragmentation in their area.*
- *The relationship between market fragmentation and efficiency is at least partially attributable to the fact more fragmented areas tend to have a higher proportion of students in Schools (as opposed to Colleges) and delivery efficiency is weaker in Schools.*
- *Schools also tend to have lower sufficiency than Colleges, although this is not true across all subject clusters.*
- *In areas where a higher proportion of students attend Schools, rather than Colleges, the Colleges in that area also have weaker sufficiency and efficiency, which could be because their economies of scale are compromised by a proliferation of smaller providers.*
- *Whilst many of the LA areas where a relatively high proportion of students in Schools are more sparsely populated, there are examples of more densely populated areas where a high proportion of students nevertheless attend Schools.*
- *Where the Schools in an LA area are smaller, on average, they tend have fewer entries in marginal and specialist subjects and are less likely to offer A-levels in these subject areas (although the relationship between School size and efficiency and sufficiency is more mixed for VQs).*
- *However, more consolidated School markets do not necessarily deliver better subject choice and more efficient delivery.*
- *Where the Colleges in an area are smaller, on average, these providers tend to have weaker sufficiency and efficiency in marginal and specialist subjects.*

3.1 Efficiency in marginal and specialist subjects tends to be weaker in LA areas where providers are smaller, on average

First, we present the relationship between the average number of students per provider in an LA (market fragmentation measure 1) and subject efficiency. Figure 3 – which shows lines of best fit for each subject cluster using the observations for each LA – illustrates that LA areas where providers have fewer students, on average, tend to have weaker efficiency across all the subject clusters we examined. However, Figure 3 also shows that the strength of this relationship varies by subject cluster; provider size is most highly correlated with the average number of entries per provider in Social Science VQs and A-levels, followed by Humanities

A-levels, whereas it is weaker in Creative Arts A-levels and VQs and even weaker still in Languages A-levels and Performing Arts A-levels and VQs.

Figure 3 Relationship between efficiency (measure 1) and market fragmentation (measure 1) by subject cluster



Source: Own calculation using DfE's KS5 subject entries data

3.2 Efficiency in marginal and specialist subjects also tends to be weaker where provider markets are more fragmented

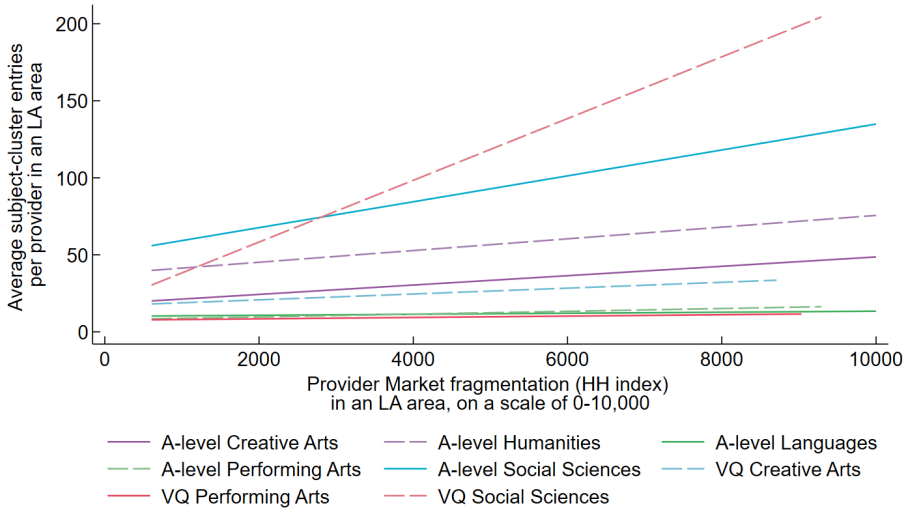
Next, we present the relationship between post-16 provider market fragmentation, as measured by the HHI[3] (market fragmentation measure 3) and subject efficiency.

Figure 4 below shows that LA areas with more fragmented provider markets tend to have weaker efficiency, in that they have fewer entries, on average, in each of the eight subject clusters. As before, the strength of this relationship varies by subject cluster, and is strongest in the social sciences and humanities, followed by the creative arts, but weakest in languages and the performing arts.

However, unlike before, the relationship between market fragmentation and efficiency becomes far less clear when we switch from looking at average entries in each subject cluster to the proportion of students studying these subjects as part of very small (<20) cohorts (Figure 31 in the Appendix). This suggests that, when it comes to delivery efficiency in marginal and specialist subjects, providers' average size is more important than how these providers share the market.

[3] The Herfindahl-Hirschman Index (HHI) is a measure of market fragmentation or concentrations. It takes into consideration the number of providers and their relative shares. It ranges from 0 to 10,000, being the higher the more concentrated.

Figure 4 Relationship between efficiency (measure 1) and market fragmentation (measure 3) by subject cluster

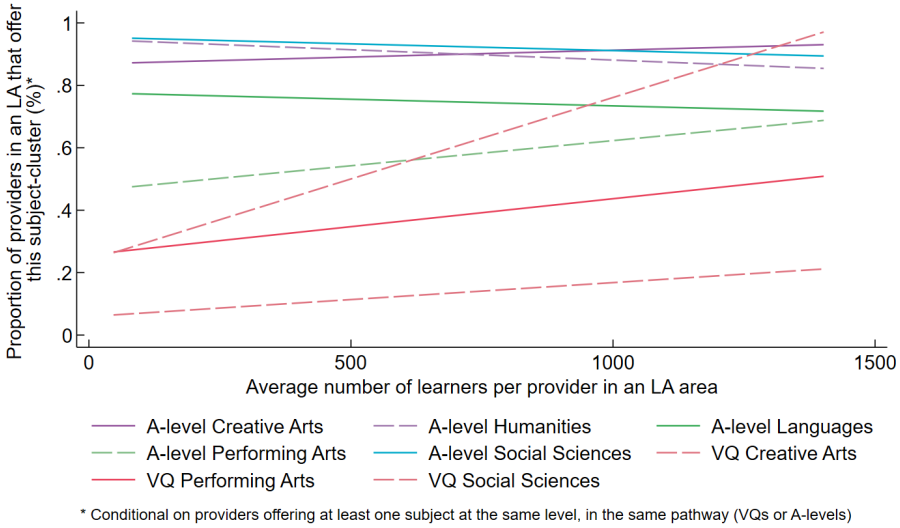


Source: Own calculation using DfE's KS5 subject entries data

3.3 Sufficiency in some marginal or specialist subjects - performing arts and VQs in creative arts or social sciences - tends to be weaker in LA areas with smaller providers

Next, we present the relationship between market fragmentation (measure 1) and subject sufficiency. Figure 5 below shows that LA areas where providers have, on average, fewer students are more likely *not* to offer any subjects in performing arts, and any VQs in social sciences or creative arts, but the vast majority offer at least one A-level in creative arts, humanities and social sciences regardless of the level of fragmentation in their local market.

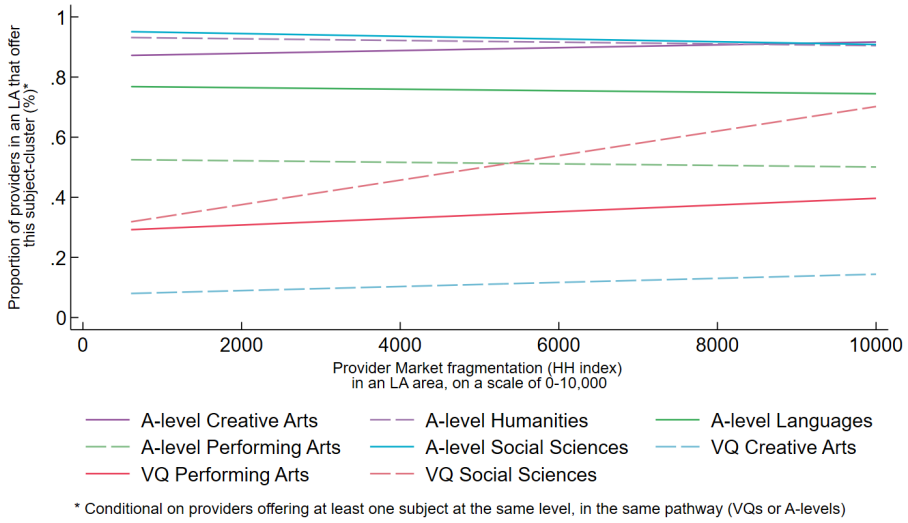
Figure 5 Relationship between sufficiency and market fragmentation (measure 1) by subject cluster



Source: Own calculation using DfE's KS5 subject entries data

When we switch our measure of market fragmentation from the average number of students per provider (measure 1) to HHI index (measure 3), we see a similar picture, as shown in Figure 6 below.

Figure 6 Relationship between sufficiency and market fragmentation (measure 3) by subject cluster



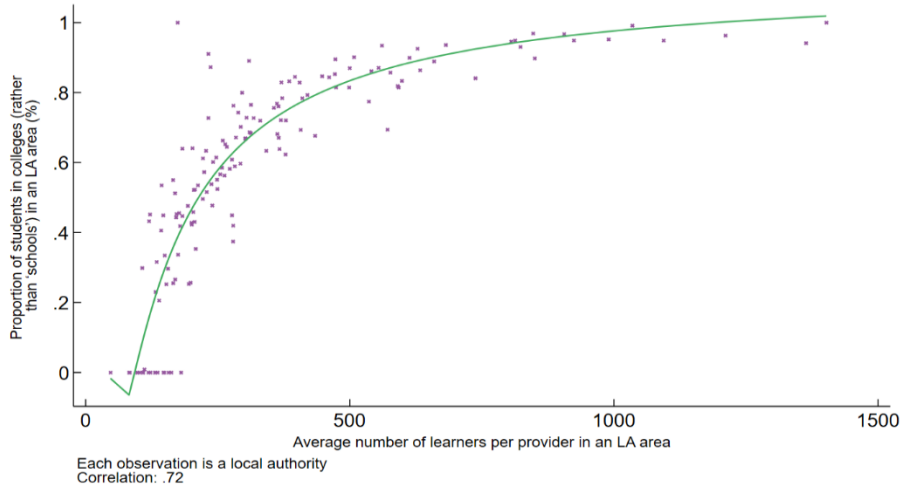
Source: Own calculation using DfE's KS5 subject entries data

3.4 Smaller providers and more fragmented markets tend to be features of areas where a relatively high proportion of students attend Schools, rather than Colleges

Fewer students per provider and more fragmented markets tend to be features of LA areas where a relatively large proportion of students attend Schools, as opposed to Colleges. Therefore, we turn our attention to the relationship between market fragmentation and the balance of students in an area between Colleges and Schools.

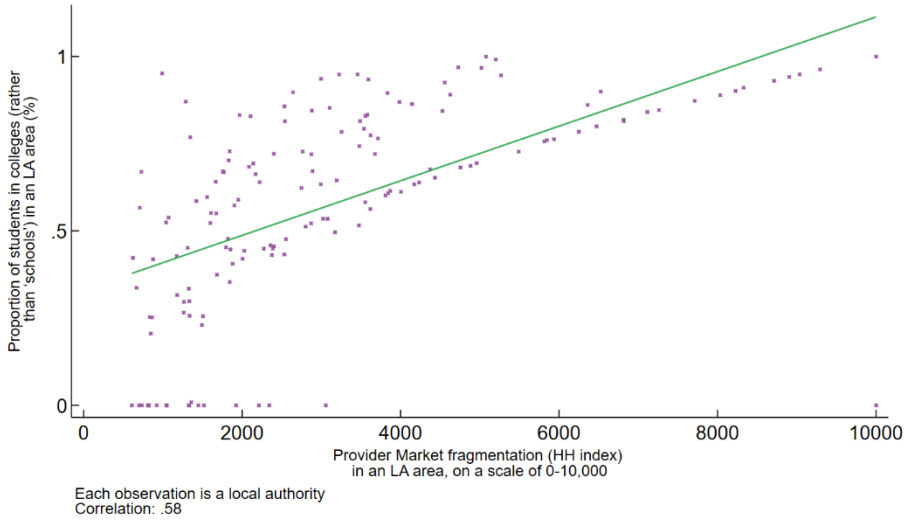
Figure 7 below shows that LA areas with smaller providers tend to have a relatively high proportion of students in Schools rather than Colleges. The line of best fit is curvilinear, suggesting that the relationship between the measures gets stronger as providers' average size get smaller. A positive relationship is also observed when HHI is substituted for the average number of students per provider, ss shown in Figure 8. These figures suggest that the relationship between fragmentation and efficiency is at least partially attributable to more fragmented areas tending to have a greater proliferation of Schools, which are smaller than Colleges and have weaker delivery efficiency.

Figure 7 Relationship between the average number of learners per provider (market fragmentation measure 1) and the proportion of students in Colleges rather than Schools (market fragmentation measure 2)



Source: Own calculation using DfE's KS5 subject entries data

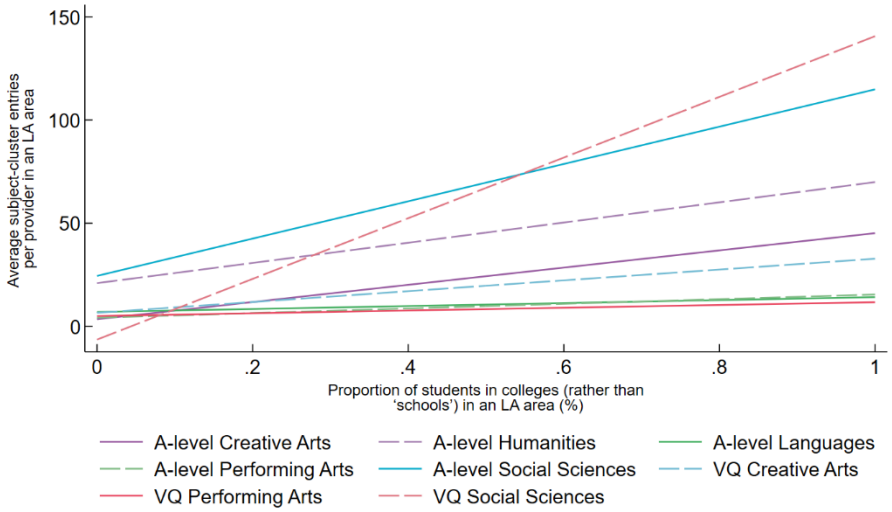
Figure 8 Relationship between market fragmentation (measure #3) and the proportion of students in Colleges rather than Schools (market fragmentation measure 2)



Source: Own calculation using DfE's KS5 subject entries data

Figure 9 below shows that providers in LA areas where a higher proportion of students attend Colleges, rather than Schools, tend to have larger cohorts in Humanities, Social Sciences and Creative Arts, although not Languages and Performing Arts where efficiency does not appear to relate closely to the balance of students between Colleges and Schools.

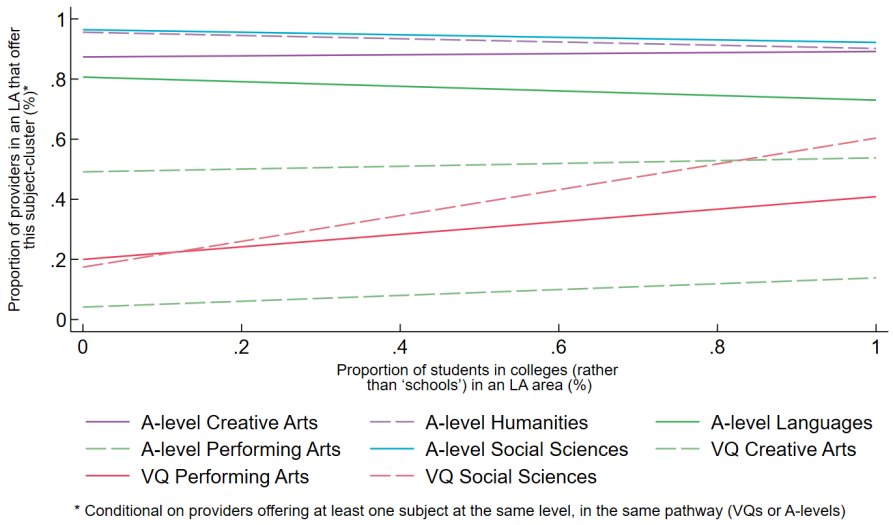
Figure 9 Relationship between efficiency (measure 1) and the proportion of students in Colleges rather than Schools (market fragmentation measure 2), by subject cluster



Source: Own calculation using DfE's KS5 subject entries data

Figure 10 below shows that, where students are more likely attend Colleges, providers tend to have stronger sufficiency in Social Sciences VQs, and in the creative and performing arts. However, over three-quarters of providers offer at least one A-level in all the subject clusters we studied (except performing arts), and this proportion does not change substantially as Schools' share of the provider market increases, despite Schools lower delivery efficiency.

Figure 10 Relationship between sufficiency and the proportion of students in Colleges as opposed to Schools (market fragmentation measure #2), by subject cluster



Source: Own calculation using DfE's KS5 subject entries data

3.5 Schools tend to have much weaker efficiency than Colleges

As shown in Table 3 on the following page, Schools tend to have much weaker efficiency than Colleges. Schools are also much more likely to have small (<20) cohorts studying marginal and specialist subjects. Over 70 percent of the schools that offer A-level Languages, A-level Performing Arts, VQs in Creative Arts and VQs in Performing Arts have fewer than 20 students studying subjects in these clusters. There are less than 10 entries per School, on average, in A-level Languages, A-level Performing Arts and VQ Performing Arts, amongst Schools that offer subjects in these areas. Table 4 delves deeper into differences between Schools and Colleges in average entry numbers between subjects within each cluster. In all the Creative and Performing Arts A-levels and VQs and A-level Languages we examined, schools entered less than 10 students on average, whereas only two of those subjects saw fewer than 10 entries on average per College (A-level Dance and A-level Music).

3.6 Schools also tend to have lower sufficiency than Colleges, although this is not true across all subject clusters

Whilst efficiency is lower in Schools compared to Colleges in all the subjects we examined, the same is not true of sufficiency. Whilst sufficiency tends to be higher in Colleges, there are a significant minority of subjects (highlighted red in Table 4) where sufficiency is higher in Schools, despite entries in those subjects tending to be far lower. For example, a substantially higher proportion of Schools offer A-level Geography and A-level History than Colleges. Schools are also marginally more likely to offer A-levels in Art and Design and Art and Design (Fine Art) – although much less likely to offer VQs in Art and Design – and more likely to offer German, and VQs in Speech and Drama.

This suggests there are strong competitive incentives for Schools to continue offering many marginal and specialist subjects, despite weaker efficiency; they may feel this is necessary to attract and retain students. Alternatively, Schools may feel they can offer these subjects efficiently by fully utilising Key Stage 3-4 teachers. Regardless, the result is duplication

of provision across many small sites, rather than consolidation into fewer, more sustainable centres of specialist expertise.

Table 3 Efficiency by subject cluster, split by Schools and Colleges

Outcomes	Schools (mean)	Colleges (mean)
Avg. number of entries in A-level Creative Arts	21.06	35.27
Avg. number of entries in A-level Humanities	40.70	59.05
Avg. number of entries in A-level Languages	9.70	13.14
Avg. number of entries in A-level Performing Arts	9.05	12.86
Avg. number of entries in A-level Social Sciences	60.24	91.23
Avg. number of entries in VQ Creative Arts	20.32	25.75
Avg. number of entries in VQ Performing Arts	8.85	10.62
Avg. number of entries in VQ Social Sciences	55.07	93.69
% entries in providers with >20 entries in A-level Creative Arts	0.59	0.71
% entries in providers with >20 entries in A-level Humanities	0.88	0.90
% entries in providers with >20 entries in A-level Languages	0.30	0.42
% entries in providers with >20 entries in A-level Performing Arts	0.24	0.35
% entries in providers with >20 entries in A-level Social Sciences	0.95	0.96
% entries in providers with >20 entries in VQ Creative Arts	0.29	0.42
% entries in providers with >20 entries in VQ Performing Arts	0.20	0.29
% entries in providers with >20 entries in VQ Social Sciences	0.86	0.90

Table 4 Market fragmentation outcomes and sufficiency indicators in colleges and schools.

Subject	Mean entries in colleges	Mean entries in schools	% Colleges that offer this subject	% Schools that offer this subject
A-level Art and Design	24.1	6.2	24%	29%
A-level Art and Design (3D studies)	27.3	6.6	18%	6%
A-level Art and Design (Critical studies)	11.4	3.6	3%	0%
A-level Art and Design (Fine Art)	28.4	7.0	54%	57%
A-level Art and Design (Graphics)	30.9	8.3	37%	14%
A-level Art and Design (Photography)	24.7	6.2	53%	43%
A-level Art and Design (Textiles)	20.2	4.6	30%	15%
A-level Dance	9.5	3.6	13%	6%
A-level Drama and Theatre Studies	18.7	5.5	38%	38%
A-level French	10.6	3.8	50%	48%
A-level Geography	40.5	12.9	68%	85%
A-level German	5.1	3.1	19%	20%
A-level Government and Politics	29.4	10.7	66%	52%
A-level History	55.0	15.3	75%	91%
A-level Music	8.3	3.3	27%	30%
A-level Music Technology	15.9	5.1	13%	6%
A-level Sociology	78.0	18.0	77%	77%
A-level Spanish	13.1	4.5	53%	49%
VQ Art and Design	47.1	7.0	26%	6%
VQ Music Performance (Group)	12.5	4.1	17%	13%
VQ Music Technology	14.1	4.0	7%	1%
VQ Social Science	157.7	28.9	61%	32%
VQ Speech and Drama	16.3	5.7	20%	22%

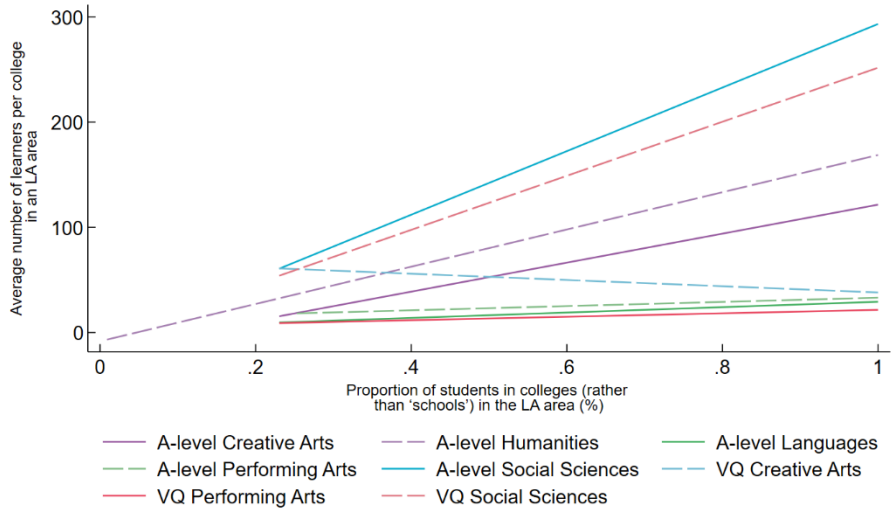
3.7 In areas where a higher proportion of students attend Schools rather than Colleges, the Colleges in that area also have weaker sufficiency and efficiency, which could be because their economies of scale are compromised

Figure 11 shows that, in LA areas where a higher proportion of students attend Colleges, the Colleges in those areas tend to have stronger efficiency in most subject clusters. Figure 33 (in the Appendix) also shows that, where a higher proportion of students attend Colleges, students are less likely to be part of a small (<20) cohorts studying these subjects. This could indicate that a proliferation of Schools in an LA compromises the efficiency of nearby Colleges, although we cannot rule out that other factors drive up the proportion of students attending Schools whilst also impairing Colleges' economies of scale, such as geographical factors.

Relationship between the proportion of students that attend Colleges and efficiency are strongest for Social Sciences A-levels and VQs, A-level Humanities and A-level Creative Arts, but weaker in Performing Arts A-levels and VQs and A-level Languages, and negative for Creative Arts VQs. This could be because Schools generally offer Social Sciences and Humanities subjects regardless of their size, eroding nearby Colleges' economies of scale, whereas they are more likely to drop Performing Arts subjects, Creative Arts VQs and Languages from their student offer.

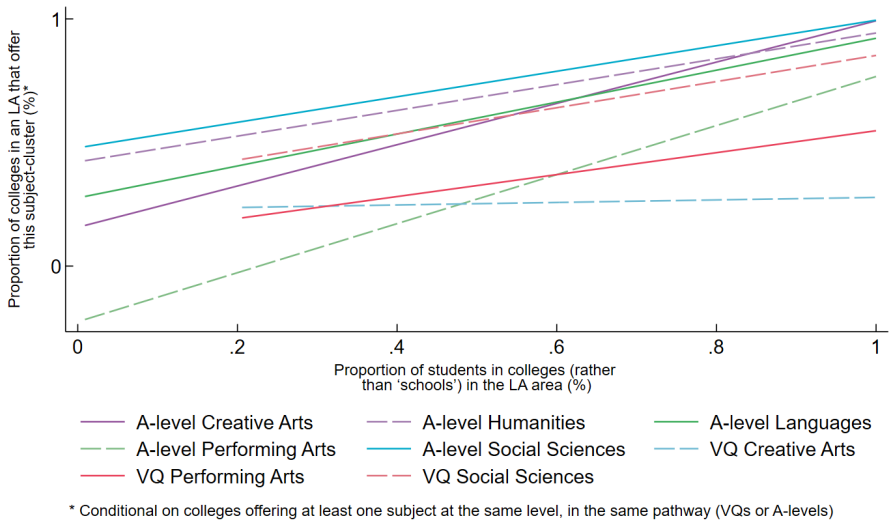
Figure 12 shows that, in LA areas where a higher proportion of students attend Colleges, the Colleges in those areas are also more likely to offer marginal or specialist subjects (except Creative Arts VQs, where colleges' propensity to offer subjects in this area appears to be unrelated to the proportion of students that attend Colleges).

Figure 11 Relationship between the proportion of students in Colleges rather than Schools (market fragmentation measure #2) and efficiency (measure #1) in Colleges



Source: Own calculation using DfE's KS5 subject entries data

Figure 12 Relationship between the proportion of students in Colleges as opposed to Schools (market fragmentation measure #2) and sufficiency in Colleges



Source: Own calculation using DfE's KS5 subject entries data

3.8 There are examples of relatively densely populated areas where a higher proportion of students, nevertheless, attend Schools

Figure 13 below enables LA areas to be identified where a relatively high proportion of students attend Colleges (in light colours), and areas where a relatively large proportion attend Schools (in dark colours). Many of those LA areas that have a high proportion of students in Schools are relatively rural, for example Northumberland, Cumberland and Dorset.

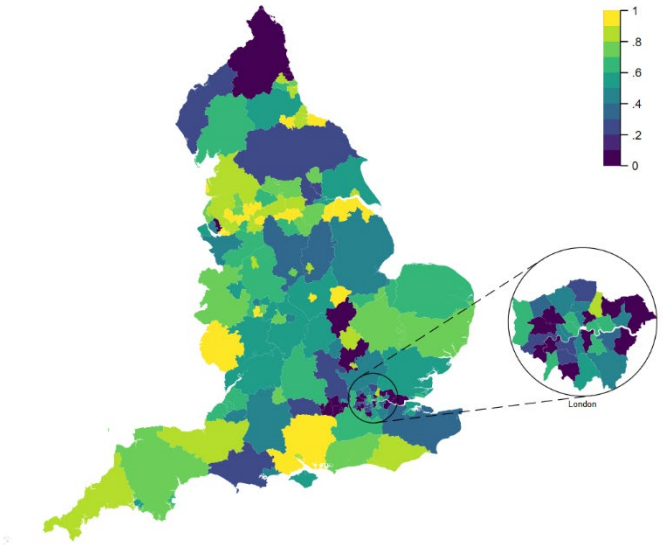
This is perhaps unsurprising; a proliferation of smaller Schools is better suited to large areas with low population densities. However, Figure 13 also enables us to identify examples of LA areas where population densities and total student numbers are higher than average, but where a relatively *high* proportion of students nevertheless attend Schools, for example:

- Kent – 66% of 16,087 students attend Schools
- Hertfordshire – 58% of 15,857 students attend Schools
- Essex – 43% of 14,258 students attend Schools
- Nottinghamshire – 68% of 5,375 students attend Schools
- Buckinghamshire – 75% of 5,338 students attend Schools

These areas contrast with others that have relatively high population densities and student numbers, but where a relatively *low* proportion of students attend Schools, for example:

- Hampshire – 5% of 17,817 students attend Schools
- Lancashire – 13% of 12,196 students attend Schools.

Figure 13 Proportion of students in Colleges (as opposed to Schools) in each LA area



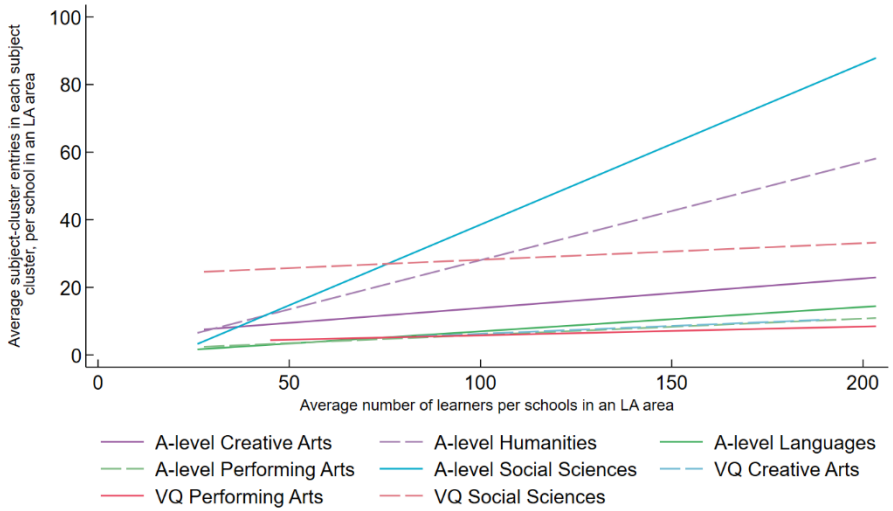
Source: Own calculation using DfE's KS5 subject entries data

3.9 Areas where Schools are smaller, on average, tend have fewer entries in marginal and specialist subjects and are less likely to offer A-levels in these subject areas

Next, we split the provider market into Schools and Colleges and examine the relationship between market fragmentation and subject efficiency and sufficiency independently for each, starting with Schools.

Figure 14 below show that LA areas where schools have fewer students, on average, tend to have smaller A-level cohort sizes in marginal and specialist subject clusters, and Figure 34 in the Appendix shows that they also have more small cohorts (<20 students) in these subject clusters. However, the relationship between school average size and school delivery efficiency is much weaker for VQs compared to A-levels. Amongst A-levels, the relationship between school size and subject efficiency is strongest for humanities and social sciences, which might be because A-levels in these areas tend to be offered by most Schools regardless of their size, whereas they drop other qualifications from their student offer more readily.

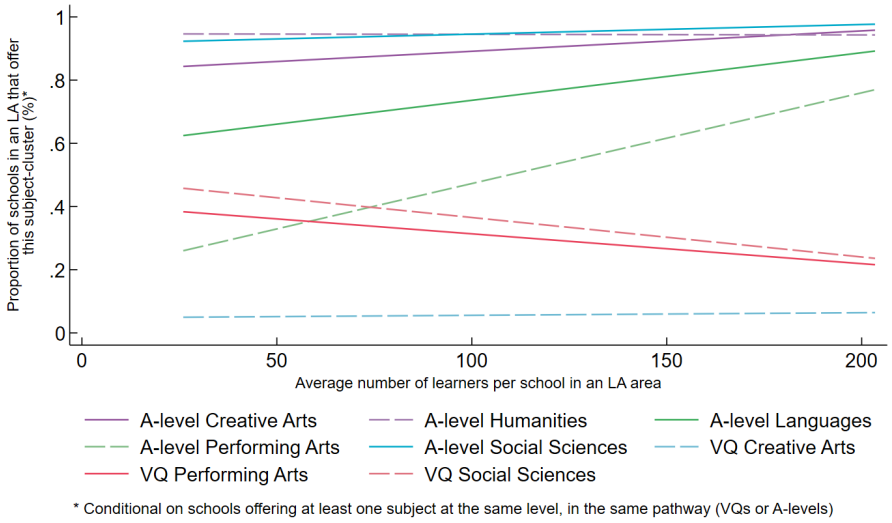
Figure 14 Relationship between average learner numbers in Schools (market fragmentation measure 1b) and average entries by subject-cluster in Schools (efficiency measure 1)



Source: Own calculation using DfE's KS5 subject entries data

In LA areas where Schools have fewer students, on average, they are more likely not to offer A-levels in marginal and specialist subject clusters, although the vast majority offer A-levels in Humanities, Social Sciences and Creative Arts regardless. However, this relationship is not mirrored for VQs; Figure below shows a negative relationship between average learner numbers in Schools and sufficiency in Social sciences VQs and Performing arts VQs in those providers.

Figure 15 Relationship between average learner numbers per School (market fragmentation measure 1b) and subject sufficiency in Schools, by subject cluster



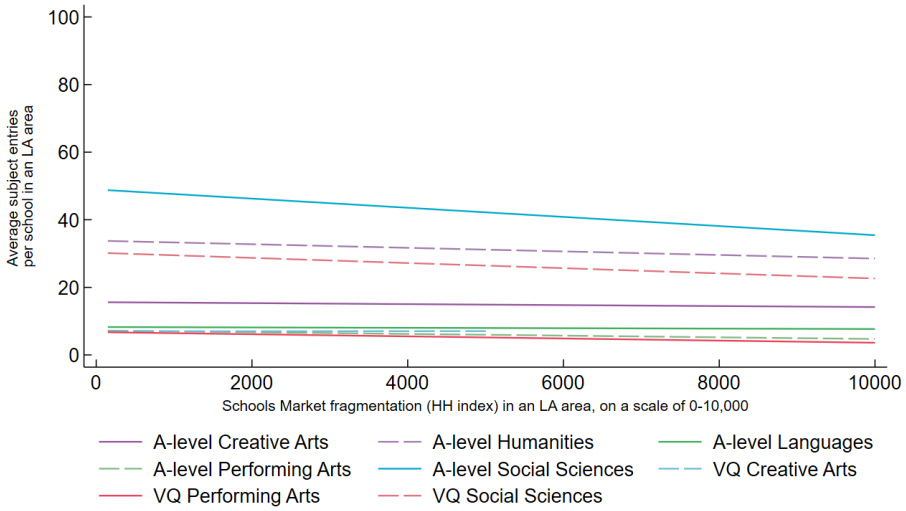
Source: Own calculation using DfE's KS5 subject entries data

3.10 However, more consolidated School markets do not necessarily deliver better subject choice and more efficient delivery

Figure 16 suggests that there is a weak relationship between how consolidated the Schools market is (based on HH index values) and the size of cohorts Schools typically have studying marginal and specialist subjects, although Figure 35 (in the Appendix) shows Schools in more consolidated markets are more likely to have small cohorts (<20 students)

in these subject areas. This could be because Schools in areas with lots of school sixth forms face greater competitive pressure to offer a broad subject choice, however we cannot rule out that other factors, for example geography, are attributable.

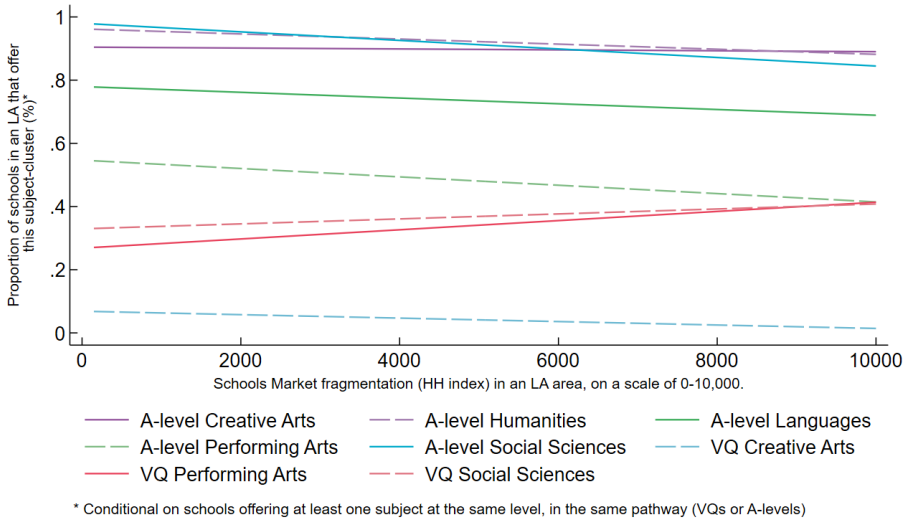
Figure 16 Relationship between fragmentation among Schools in an LA area (market fragmentation measure 3b) and average entries per School, by subject cluster (efficiency measure 1)



Source: Own calculation using DfE's KS5 subject entries data

Relationships are mixed between how consolidated the Schools market is in an area and how likely Schools are to offer qualifications in marginal and specialist subject clusters, as shown in Figure below.

Figure 17 Relationship between fragmentation in the Schools market in an LA area (market fragmentation measure 3b) and sufficiency



Source: Own calculation using DfE's KS5 subject entries data

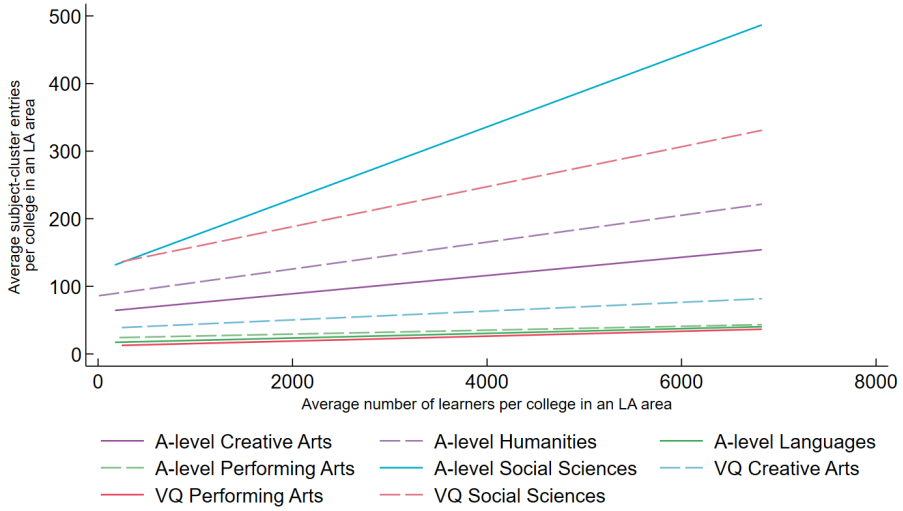
3.11 Where the Colleges in an area are smaller, on average, they tend to have weaker sufficiency and efficiency in marginal and specialist subjects

Switching from Schools to Colleges, we see that, where Colleges in an LA area are smaller, on average, they also tend to have fewer entries in marginal and specialist subject clusters, as shown in Figure 18 below. LA areas with smaller Colleges are also more likely to have small (<20

students) cohorts in these subject areas (except Social Sciences), which is shown in Figure 36 in the appendix.

The relationship between the average size of Colleges in an area and their efficiency is strongest for Social Sciences and Humanities subjects; Colleges' economies of scale in these subjects could be particularly affected by a proliferation of nearby Schools, given almost all Schools offer subjects in these areas. By contrast, the relationship is weakest for Performing Arts and Languages, perhaps because Schools are more likely not to offer these subjects, limiting effects on nearby Colleges.

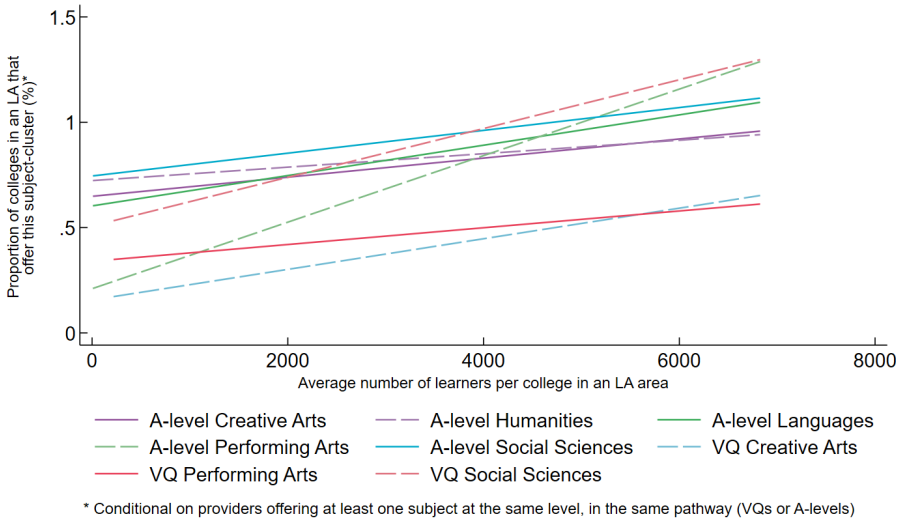
Figure 18 Relationship between average number of learners per College in an LA area (market fragmentation measure 1c) and efficiency (measure 1) in Colleges, by subject cluster



Source: Own calculation using DfE's KS5 subject entries data

In LA areas where Colleges are smaller, on average, they are also more likely not to offer any subjects in marginal and specialist areas, as shown in Figure 19 below. This relationship is strongest for A-level Performing Arts and Social Science VQs, which could indicate Colleges are more likely to drop these subject clusters as student numbers decline.

Figure 19 Relationship between average number of learners per College in an LA area (market fragmentation measure 1c) and sufficiency in Colleges, by subject cluster



Source: Own calculation using DfE's KS5 subject entries data

Around three-quarters of LA areas have only 0-2 colleges (see Figure 37 in the appendix) and so we do not investigate the relationship between fragmentation in the College market (HH index) and outcomes. In the next section, we investigate between-subject differences.

4. Findings: Differences between subjects in the relationship between market fragmentation and subject efficiency and sufficiency

In this section, we investigate how the relationships between LA market fragmentation and efficiency and sufficiency differs between subjects within each subject cluster. We focus on 23 subjects across the eight subject clusters (see Section 2: Research design and methodology). We focus on one of our three measures of market fragmentation – the proportion of learners in each LA area that attend Colleges, as opposed to Schools – because this is strongly related to the average number of learners per provider in an LA area and the level of market consolidation (HH index), as shown in the previous section.

Summary of findings:

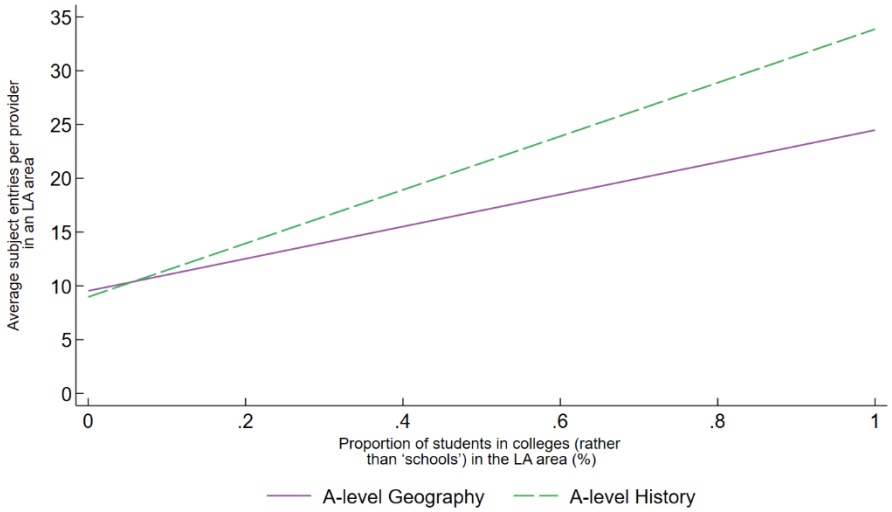
- *The strength of the relationship between market fragmentation and efficiency and sufficiency varies by subject and subject cluster.*
- *Across almost all marginal and specialist subjects, LA areas with a higher proportion of students attending Colleges (rather than Schools) show higher efficiency, with larger average cohort sizes per provider.*
- *Humanities: Efficiency in History and Geography A-levels improves as the proportion of learners in Colleges increases, but sufficiency in these subjects is largely unaffected because Schools and Colleges tend to continue offering these subjects, even to small cohorts.*
- *Languages: Efficiency increases with a higher share of learners in Colleges for French and Spanish, but there is no clear relationship for German, likely reflecting providers' greater willingness to drop this subject entirely. Sufficiency does not vary greatly as the share of learners in Colleges increases.*
- *Social Sciences: Efficiency effects are strongest for VQs but weaker for A-level subjects. Sufficiency in College- dominated areas is higher for VQs but largely unaffected for A-levels.*
- *Creative and Performing Arts: Efficiency improves as the proportion of learners in Colleges increases, but sufficiency effects are mixed, suggesting Schools narrow the range of arts subjects they offer as their scale declines but prioritise some subjects over others.*
- *Overall, more fragmented markets (with more learners in Schools) are associated with weaker efficiency, but subject availability is less sensitive, particularly for academic subjects that Schools tend to retain despite small cohorts.*

4.1 LA areas with a higher share of learners in Colleges have higher efficiency, although effects vary between subjects within each cluster, as well as between clusters

4.1.1 Humanities

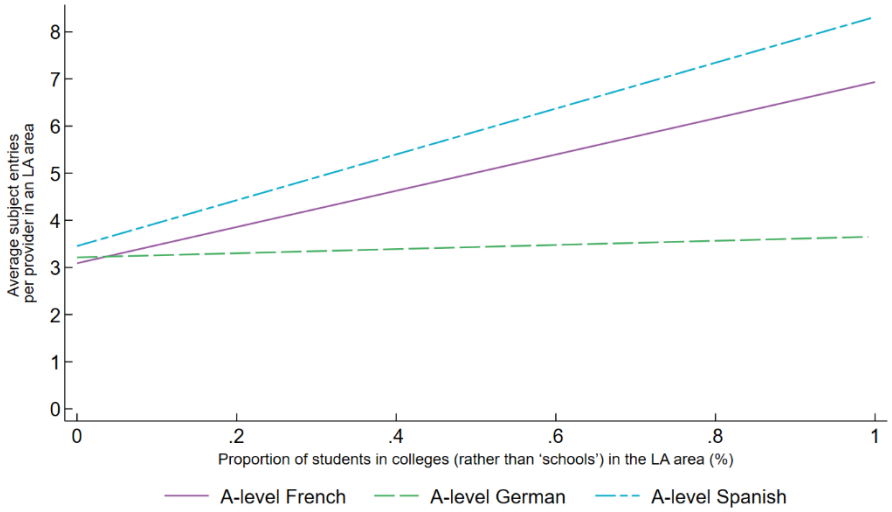
In both A-level History and A-level Geography, average subject entries per provider increase as the share of students in Colleges (rather than Schools) increases (Figure 19 below). This relationship is stronger for History than Geography.

Figure 19 Relationship between the proportion of learners in Colleges (market fragmentation measure 2) and efficiency (measure 1) in Humanities subjects



Source: Own calculation using DfE's KS5 subject entries data

Figure 20 Relationship between the proportion of learners in Colleges (market fragmentation measure 2) and efficiency (measure 1) in Languages



Source: Own calculation using DfE's KS5 subject entries data

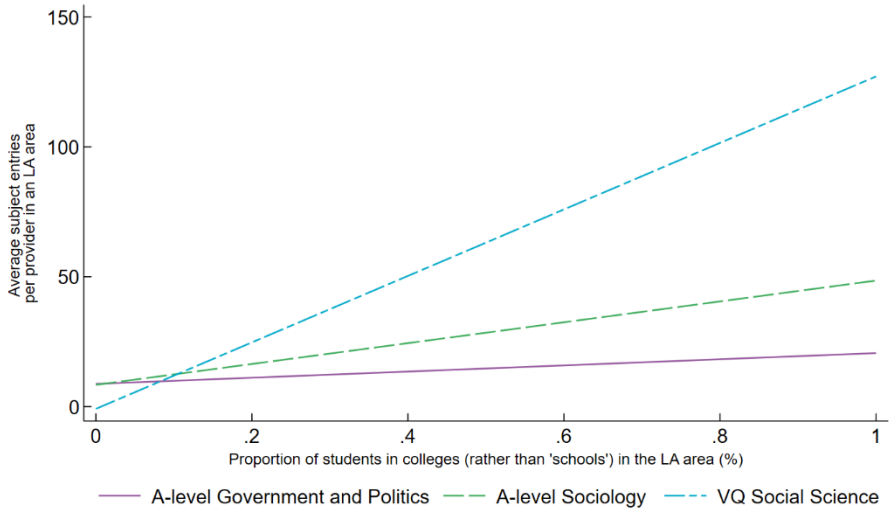
4.1.2 Languages

The same relationship between average subject entries per provider and the share of students in Colleges is evident for A-level French and Spanish (Figure 20 below). However, relationships are weaker for languages than they were for humanities, and there is no obvious relationship between market fragmentation and average entries per provider in German, perhaps because most providers are prepared to drop German from their student offer (see Table 4 on p.22).

4.1.3 Social Sciences

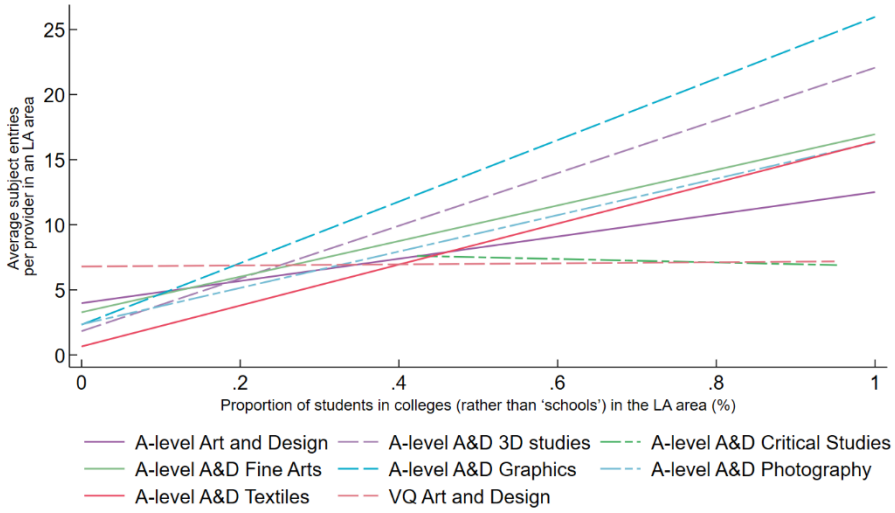
Again, for Social Science subjects, the average number of entries per provider increases as the share of students in Colleges increases (Figure 21 below). However, whilst this relationship is strong for Social Science VQs - perhaps because Colleges are around twice as likely to offer Social Science VQs as Schools - it is weaker for A-level Sociology, and weaker still for A-level Government and Politics, where the differences in Schools and Colleges' propensity to offer these subjects are smaller (see Table 4).

Figure 21 Relationship between the proportion of learners in Colleges (market fragmentation measure 2) and efficiency (measure 1) in Social Science subjects



Source: Own calculation using DfE's KS5 subject entries data

Figure 22 Relationship between the proportion of learners in Colleges (market fragmentation measure 2) and efficiency (measure 1) in Creative Arts subjects



Source: Own calculation using DfE's KS5 subject entries data

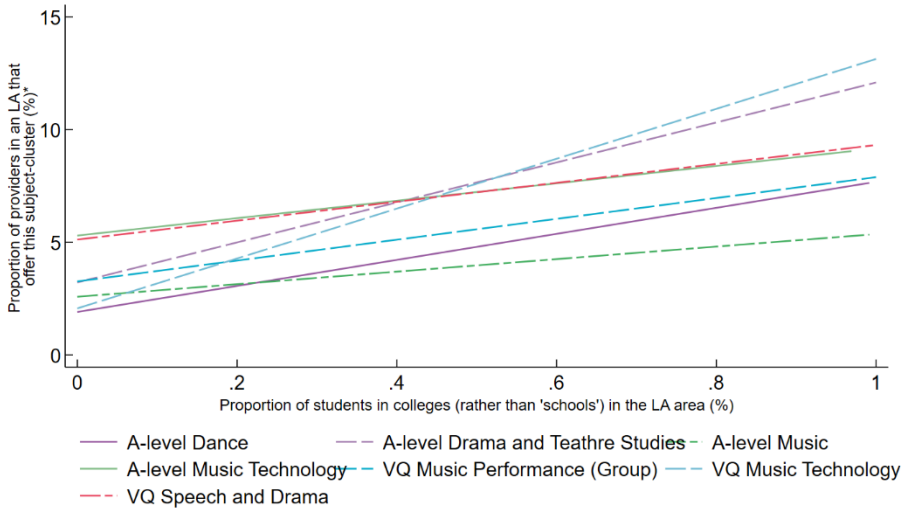
4.1.4 Creative Arts

In all Creative arts subjects (except A-level Critical Studies and Art and Design VQ), there is positive association between average subject entries per provider and the proportion of students in Colleges. This relationship is strongest for Photography and 3D studies, as shown in Figure 22 below.

4.1.5 Performing Arts

In all Performing Arts subjects, average subject entries per provider are positively associated with the share of students in Colleges, as shown in Figure 23 below. This relationship is strongest for Drama and Theatre Studies A-levels.

Figure 23 Relationship between the proportion of learners in Colleges (market fragmentation measure 2) and efficiency (measure 1) in Performing arts



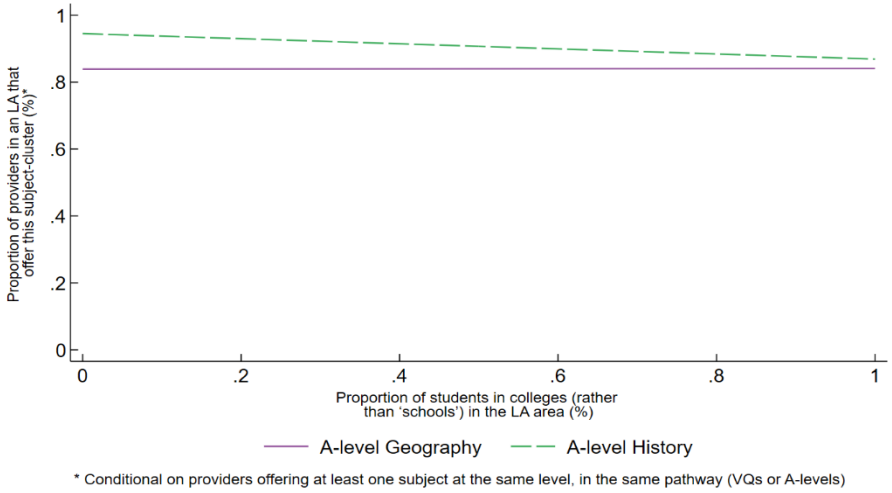
Source: Own calculation using DfE's KS5 subject entries data

4.1 In LA areas where a higher proportion of students are in Colleges, providers are more likely to offer arts subjects. However, schools tend to continue offering subjects in other areas regardless of delivery efficiency

4.1.2 Humanities

As shown in Figure 24 below, the share of providers that offer A-levels in History and Geography is largely unaffected by the proportion of students in Colleges, most likely because most Schools and Colleges continue to offer these A-levels regardless of delivery efficiency.

Figure 24 Relationship between the proportion of learners in Colleges (market fragmentation measure 2) and sufficiency in Humanities subjects



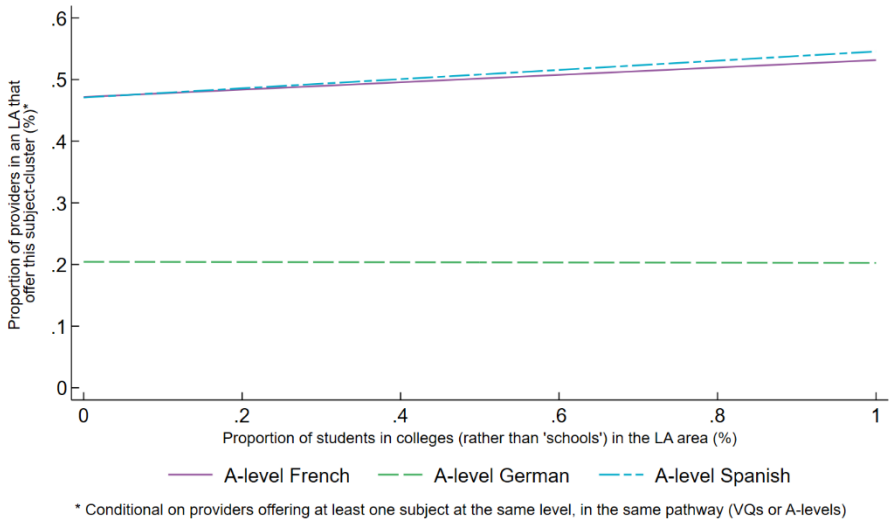
Source: Own calculation using DfE's KS5 subject entries data

4.1.3 Languages

As with the Humanities subjects we examined, our results indicate a negligible relationship between the proportion of providers that offer A-

levels in French, German and Spanish and the share of students in Colleges, as shown in Figure 25 below.

Figure 25 Relationship between the proportion of learners in Colleges (market fragmentation measure 2) and sufficiency in Languages

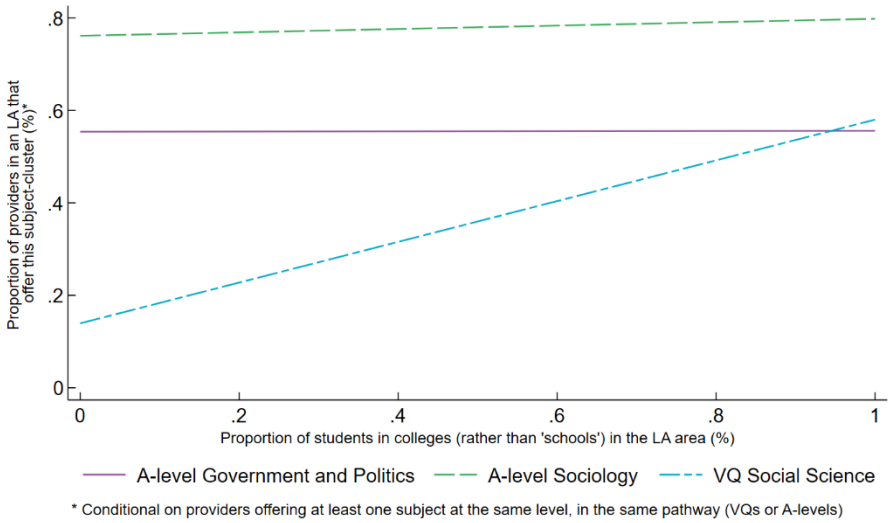


Source: Own calculation using DfE's KS5 subject entries data

4.1.4 Social Sciences

Again, there is negligible relationship between the proportion of providers that offer A-levels in Sociology and Government and Politics and the share of students in Colleges in an area, as shown in Figure 26 below. However, a higher proportion of students attending Colleges is associated with a higher proportion of providers offering Social science VQs, largely because Schools are half as likely as Colleges to offer these qualifications (see Table 4 on p.22).

Figure 26 Relationship between the proportion of learners in Colleges (market fragmentation measure 2) and sufficiency in Social Science subjects



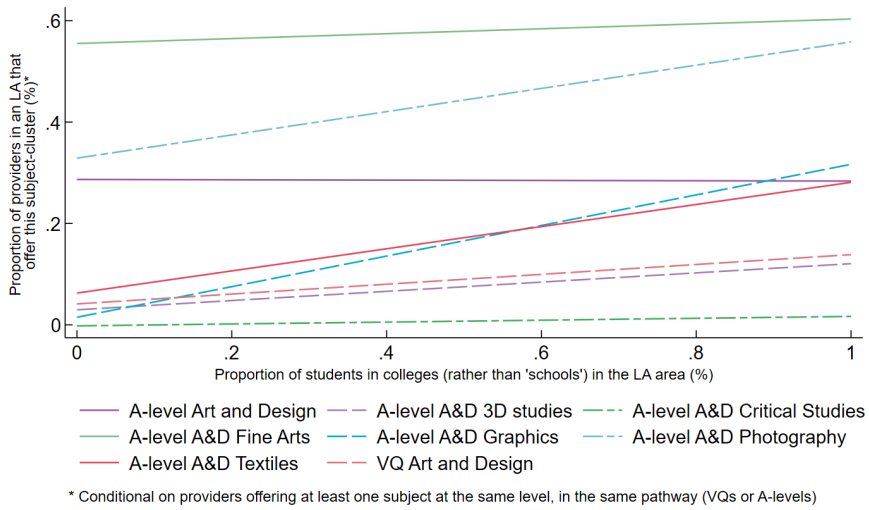
Source: Own calculation using DfE's KS5 subject entries data

4.1.5 Creative Arts

For Creative Arts subjects, the relationship between sufficiency and the share of students in Colleges is mixed. There is no obvious relationship for three subjects (A-level Art and design, A-level A&D Fine arts, and A-level A&D Critical studies), but providers are more likely to offer the other five subjects when they are in areas with a higher share of students in

Colleges, as shown in Figure 27 below. This is likely to be because Schools are more likely than Colleges to reduce the range of Creative arts qualifications they offer as their scale declines, with some subjects prioritised over others.

Figure 27 Relationship between the proportion of learners in Colleges (market fragmentation measure 2) and sufficiency in Creative Arts

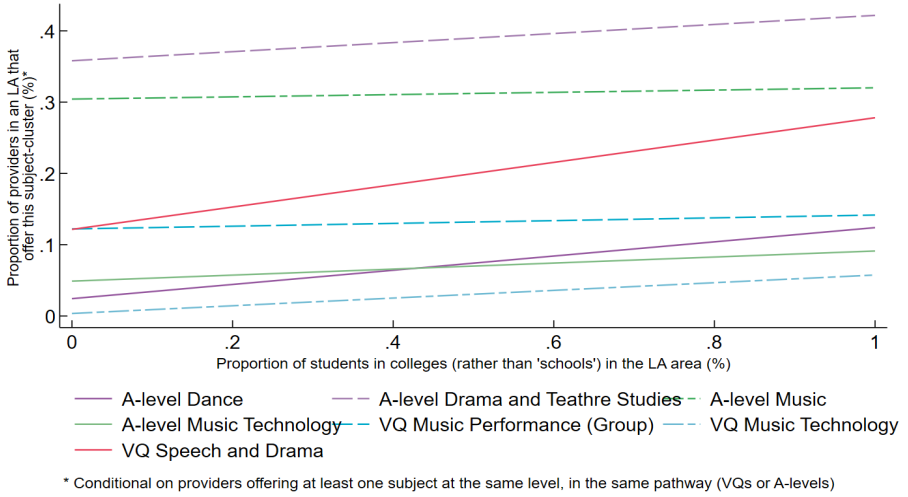


Source: Own calculation using DfE's KS5 subject entries data

4.1.6 Performing Arts

Within the Performing Arts (Figure 28), results are similar to the Creative Arts. For some subjects - A-level Music and VQ Music Performance (Group) - there is no clear relationship between the share of students in Colleges and sufficiency, but relationships are positive for other subjects, which, again, could indicate that Schools tend to reduce the range of Performing Arts qualifications they offer as their scale declines, but that they tend to prioritise offering A-level Music and VQ Music Performance (Group) over other subjects.

Figure 28 Sufficiency and Market fragmentation outcomes (measure #2) in Performing arts



Source: Own calculation using DfE's KS5 subject entries data

Overall, more fragmented markets, where a higher share of students are in Schools (rather than Colleges) have weaker efficiency, but subject availability is less responsive to fragmentation, particularly for academic subjects that Schools tend to offer regardless of delivery efficiency. In the next section, we consider options for limiting market fragmentation and nurturing greater cooperation and collaboration between Colleges and Schools across the post-16 system.

5. Policy recommendations

As shown in the previous two sections, more fragmented areas have weaker efficiency and, to a lesser extent, weaker sufficiency, which means that learners' subject choices and providers' delivery efficiency vary depending on local provider market structures. Above all, greater fragmentation and weaker efficiency and sufficiency tend to be features of LA areas where a relatively high share of students are in Schools, rather than Colleges. This is primarily because Schools tend to have weaker delivery efficiency and offer a narrower subject choice than Colleges, but also because a proliferation of Schools appears to erode the scale economies of nearby Colleges.

The government has already signalled in the *Post-16 education and skills white paper* that it wants to encourage greater coordination and collaboration between providers in the post-16 system, in order to ensure investment is applied efficiently and to support a broad subject choice for all (HM Government, 2025). In this section, we present options for limiting excessive market fragmentation and nurturing greater cooperation and collaboration, both between Schools, and between Schools and Colleges, across the post-16 system.

The five options set out below reflect varying degrees of intervention, from convening through to structural consolidation. Not all options will be appropriate in all areas, and their desirability and feasibility will depend on local differences in geography, provider distribution and learner and employer demand.

5.1 Strengthen oversight of school sixth-form expansion

Government should strengthen its oversight of school sixth-form expansion to ensure efficiency and sufficiency are not undermined by a proliferation of small providers.

Where a higher share of students in an area attend Schools (rather than Colleges), efficiency and sufficiency tend to be weaker, particularly when Schools are smaller. This is because Schools have weaker delivery efficiency and a proliferation of school-based provision can erode nearby Colleges' economies of scale, reducing their efficiency and the range of subjects they offer.

At present, the DfE is responsible for approving new school sixth forms and typically rejects applications only on grounds of poor quality or low viability, applying a 200-student "rule of thumb" (DfE, 2023). While DfE, local authorities, Regional Directors and academy trusts can also encourage closure or consolidation through school reorganisation consultations, these powers are used sparingly and primarily in exceptional circumstances.

DfE should therefore consider updating its guidance to local authorities and Regional Directors to require explicit consideration of system-level impacts when new sixth forms are proposed, and to encourage school reorganisation consultations, in areas where greater consolidation is desirable. Decision-making should take account of:

- The overall proportion of post-16 learners educated in school sixth forms within an LA area
- The cumulative effects of additional sixth-form provision on subject breadth, cohort sizes and delivery efficiency across providers
- Local travel-to-learn patterns and demographic trends.

Rigid thresholds would risk unintended consequences, but a more structured, contextual assessment of local efficiency and sufficiency should inform both sixth-form approvals and decisions about when to trigger school reorganisation consultations.

Strategic authorities currently lack statutory powers to approve or deny sixth-form proposals or to direct consolidation. DfE may therefore wish to explore extending delegated powers or strengthening the mandate of combined authorities or LSIPs to broker collaboration between schools and colleges around their subject offer and specialisation. In the absence of formal powers, strategic authorities should nonetheless use their convening role to promote coordination where fragmentation is demonstrably undermining efficiency or choice. Case studies of strategic authorities that have already reconfigured provision to reduce a proliferation of smaller School providers include Bradford and Doncaster.

Case study: Bradford

Following a post-16 review commissioned by Bradford Council, local partners concluded that the existing pattern of provision, characterised by a large number of small school sixth forms, was inefficient and limited in curriculum breadth. The review recommended a shift towards fewer, larger post-16 providers, with sixth-form colleges located where learner demand was strongest. This strategy aimed to reduce duplication, improve viability, and enable a broader Level 3 offer than could be sustained by small sixth forms operating independently. This reflects an area-wide approach to rationalising post-16 education to improve delivery efficiency and subject sufficiency.

Case study: Doncaster

In Doncaster, an independent Post-16 Review in 2018 identified fragmented provision, declining school sixth-form numbers and weak outcomes at Level 2 and Level 3. The review set out a framework for reshaping the local post-16 system, emphasising collaboration between providers and clearer institutional roles rather than duplication between small-scale providers. This approach supported the development of larger sixth-form centres and more coherent progression routes. The illustrates how strategic authorities can encourage consolidation and collaboration between post-16 providers with the aim of strengthening delivery efficiency and improving quality across the system, particularly when demographic changes and funding pressures necessitate it.

5.2 Support partnership, shared provision and timetabling between providers

Where appropriate, combined and local authorities should convene schools and colleges to support partnership, shared provision and timetabling between providers, with the aim of maximising subject choice while improving efficiency.

This could, for example, involve bringing together school sixth forms to explore shared provision and timetabling arrangements. Our analysis suggests that Schools tend to continue offering marginal and specialist subjects – particularly humanities, languages and social sciences A-levels – regardless of delivery efficiency. This is likely driven by competitive pressures: schools may feel compelled to offer these subjects to attract

enrolments and may be reluctant to withdraw subjects unless other providers commit to reciprocal arrangements in other subject areas, creating a collective action problem. These challenges may be compounded by practical barriers, with transport costs, timetable alignment, and safeguarding considerations making cross-institutional attendance difficult. Furthermore, academisation has reduced the direct role of local authorities in 16–19 planning, while voluntary consortia have sometimes faded as funding pressures have mounted. As a result, shared provision and facilities remain relatively rare.

Despite these barriers to cooperation, there are examples of sixth-form centres and school consortia where shared provision and timetabling have been sustained (as outlined in the case studies on this and the following page), albeit generally between geographically proximate schools. These cases suggest that shared provision can work under the right conditions, even if this model is not scalable in all areas.

Combined and local authorities should also convene broader groups of schools and colleges to explore partnership models that maximise subject choice and improve system efficiency across the entire area. Our analysis suggests schools are likely to continue delivering many marginal and specialist subjects inefficiently rather than redirect students to nearby colleges, which can have knock-on effects on colleges' economies of scale and subject breadth, particularly in areas where competition for enrolments between providers is intense. School–college partnerships offer one potential route to addressing this challenge.

These partnerships could involve providers coming together to coordinate subject offerings across institutions so that students can choose from a range of subjects across the partnership, with some courses delivered

Case study: Bristol Post-16 Centre

As part of the North Bristol Post-16 Centre, Cotham and Redland Green Schools work together to run a single sixth form over two sites. Timetabling and curricula are aligned, and students access courses across both schools. The delivery of marginal or specialist subjects - including languages and creative and performing arts – is shared; if Year 12 students are taught a subject at one school, the other typically delivers year 13. This 'enables us to keep courses going that we wouldn't otherwise sustain, as well as meaning we can offer a greater breadth of BTECs, A-levels, and foundation provision.'

'To make it work financially for both institutions…we work to a 'net zero model' so we have equal number of children registered at each school and equal numbers transferring between sites'. Curriculum design is 'completely aligned…our commitment to the kids is that you're not going to have a different experience wherever you're taught…. Assessment, appeals, CPD are all aligned as well….and we share a data manager'.

This may offer a model that other school sixth forms can follow: 'It really works….we have such different intakes, but you don't have to be identical schools to make it work'

However, Cotham and Redland Green Schools are located just a 12-minute walk from one another and larger distances would make transitions difficult, potentially limiting the model's scalability. It also has the potential to erode the economies of scale of FE colleges in the nearby area: 'At the moment, student numbers in the city are high because of a population bulge so this is not an issue, but this could change in the future when numbers decline.'

(Verbatims taken from interview with senior leader of North Bristol Post-16 Centre).

Case study: Camden LaSWAP Sixth Form Consortium

Camden LaSWAP is a group of four schools working together to create a single campus sixth form over four sites. Students enrol at one of the four schools but take subjects across all four. The four schools split the delivery of more marginal or specialist subjects, with the subjects that each delivers tending to be 'quite fixed'. All four schools use the same exam boards, but 'subjects can be delivered in slightly different ways' across the four schools. Students also access a shared enrichment offer, and the consortia is part of 'Camden Flying High'; a borough wide collaboration between post-16 providers.

Perceived benefits for students are that they 'are really empowered to make choices about what they want to study….the classics, performing arts BTECs, dance; we can offer all these…and we're big and small at the same time; students are held by one school and part of a year group that feels smaller and personal…but they like having the freedom to come and go between sites…which maybe feels more like a college.' For providers, 'we are competitive because we have this brilliant curriculum and mixed offer of A-levels, vocational qualifications and T-levels...we already have falling rolls and it's a buyer's market'.

Whilst this may be a model other areas can replicate, 'something like the swap model isn't going to work outside of a city where you have a high concentration of schools in a small area…three of our schools are around the corner from one another and the other is only a 7 or 8 min walk…you will lose students if they have to make a pilgrimage'. Camden LaSWAP may also impair nearby colleges' economies of scale; 'This might happen, but we are more like a traditional large school sixth form, not a general FE College – Capital City College offer courses we could not offer in a 1000 years…I don't think we have much impact on them or any of the other FE colleges in the area.'

(Verbatims taken from interview with senior leader of LaSWAP).

exclusively by one provider, enabling students to access a broader curriculum than any single institution can offer alone.

Such partnerships remain relatively rare, and there is limited evidence on their effectiveness in the English context, with barriers including the distances between providers, transport, timetable alignment, and misaligned incentives created by funding and accountability frameworks. However, there are some existing examples of broad area-based partnerships that could represent models replicable elsewhere (as shown in the case study on the following page).

Targeted local or regional funding could help nurture partnerships, particularly where they address clear gaps in subject sufficiency, by offsetting coordination costs (for example, transport, timetable alignment, or shared staffing) and helping to overcome other barriers to collective action. National funding for partnership development may also be worth exploring. In Scotland, for example, the government supports 'School–College Partnerships', although robust evidence on their impact is limited and currently under investigation (Thompson and Christie, 2024).

Further research into the conditions under which partnerships improve efficiency, subject choice and outcomes in England would be valuable.

Case study: **Manchester Post-16 Pathway Partnership**

The focus of this partnership is on improving the transition from Key Stage 4 to Key Stage 5. The partnership involves the city council, one large general FE college with ~6000 students, three other FE colleges, six school sixth forms and a number of independent training providers. The partnership's mission is to ensure there are suitable post-16 pathways for all young people regardless of academic ability, aspiration, or socio-economic status, linked to the city's growth sectors. Key foci have been ensuring there are sufficient post-16 places across the city and ensuring good coverage and equity of access to all pathways, including T-levels. Since 2023, the partnership has created approximately 1,000 more places in response to growing student numbers across Greater Manchester.

Prior to the inception of the Pathway Partnership, in agreement with partners and the Council, The Manchester College (the largest general FE College in the area) agreed to stop offering A-levels, shifted to exclusively delivering vocational qualifications and became the sole provider of T-levels in the area. The three other FE Colleges and six school sixth forms focus mainly on academic pathways at Level 3, with a smaller offer of vocational / blended programs. 'We continue to focus on having an equitable offer for all pathways through the collaborative partnership and have a roughly 50/50 split between vocational or technical and academic pathways across the city'.

Partners also collaborate on other city-wide initiatives, for example careers education, NEET reduction programs, CPD workshops, transition guidance, life skills projects, targeted interventions, quality assurance, and strengthening youth voice. 'The data shows increased September Guarantee uptake, reduced NEET rates, strong academic attainment…and recognition by the Department for Education as a best practice example.'

(Verbatims taken from interview with Senior Leader from the Manchester Post-16 Pathway Partnership).

5.3 Encourage specialisation and subject hubs, particularly in the creative and performing arts

Where appropriate, combined and local authorities should support specialisation by designating specific providers as subject hubs and discouraging duplication by other local providers.

This approach may be most feasible in creative and performing arts subjects, which — of the subject clusters we examined — are most often withdrawn by providers, particularly Schools, as efficiency declines. Concentrating provision of these subjects within designated hubs could help preserve access to these subjects, ensure they are delivered efficiently, and ensure higher quality facilities and teaching expertise are available to students studying these subjects.

Designating specialist hubs would require strong coordination between providers, and competition for enrolments is likely to be a significant barrier to this. Nonetheless, where providers already struggle to sustain viable cohorts in these subjects, deliberate specialisation may be more acceptable than continued inefficient duplication.

As with other coordination mechanisms, there are currently few funding incentives to support this approach. Small local or regional funds could help cover transition costs and encourage providers to participate in shared specialisation arrangements.

There are already case studies of specialist subject hubs, which offer models that should be examined in greater detail for potential replicability, as illustrated in the case study on the following page.

Case study: Nottingham Creative and Digital City Hub

Following Nottingham's post-16 area review, Nottingham College developed its City Hub campus as a specialist centre for creative and digital provision, consolidating the delivery of specialist media, creative and performing arts subjects. The City Hub functions as the designated specialist pathway for learners seeking advanced creative and digital courses, while schools focus on more general academic offers. This concentrates specialist provision which requires expensive facilities and specialist staff in one location, rather than duplicating it across multiple providers. It also reduces overlap with school sixth forms, where small cohort sizes make delivery inefficient or unviable in specialist and marginal subjects. This also aligns curriculum supply with local economic priorities, particularly Nottingham's creative and digital industries.

5.4 Encourage formal mergers where cooperation fails

Where informal coordination proves to be too difficult or unsustainable, combined and local authorities should consider encouraging Schools and/or Colleges to formally merge to improve efficiency and support a broad choice of subjects for students in the area.

Our analysis shows many LA areas exhibit weaker efficiency and sufficiency where provision is highly fragmented and where a large share of learners attend small school sixth forms. Competition for enrolments, distances between providers, transport constraints, timetable alignment and accountability pressures can all pose barriers to voluntary cooperation between providers.

Formal mergers can overcome these barriers by creating larger, more resilient institutions capable of offering a broader curriculum, including both academic and vocational qualifications in marginal and specialist subject areas. Consolidated providers are often better placed to achieve economies of scale, invest in specialist facilities, and sustain low volume but socially and economically valuable subjects. This is highlighted in the New City College case study below.

As with other options set out in this section, targeted local or regional funding could play a role in accelerating consolidation where this is desirable, helping to offset transition costs and enable providers to facilitate shared timetabling and provision across institutions.

Case study: New City College

New City College is a large multi-campus FE college group formed through mergers between previously independent colleges in East and North-East London - Tower Hamlets College, Hackney Community College, Redbridge College, Epping Forest College and Havering Sixth Form College (2016–17). The group was established to improve financial sustainability, expand curriculum breadth, and achieve efficiencies through scale. The consolidated structure enables; a broader curriculum offer, including specialist and higher-cost provision; efficient allocation of subjects across sites, reducing duplication whilst maintaining local access; shared central services (e.g. finance, HR, estates, MIS), generating cost efficiencies; greater financial resilience through pooled budgets; and clear progression pathways across sites and levels, including academic, technical, and adult provision.

5.5 Concluding remarks

Overall, there is no single model for improving efficiency and sufficiency in local post-16 systems. Rather, different areas require different combinations of coordination, partnership and structural reform, depending on local geography, population density, learner and employer demand, and how providers are distributed across the area. In some areas, relatively light-touch interventions — such as convening Schools and/or Colleges to explore the potential for shared provision and timetabling — may be sufficient to improve subject choice and ensure investment is spent efficiently. However, in others, more active intervention, support for specialist hubs, and formal consolidation may be necessary to address excessive fragmentation and a lack of cooperation between providers competing for enrolments.

Central, regional and local government each have a role to play in enabling these approaches, including through clearer guidance, utilising their convening powers and offering targeted funding support to offset coordination and transition costs.

The evidence base, however, remains scant on the effectiveness of most collaboration models, the key success factors for effective cooperation, and the perspectives of parents and students about the importance of subject choice relative to other factors such as proximity and institution size. Therefore, we call on government and institutional funders to invest in research to:

- Test and evaluate the impact of different models of collaboration and cooperation between post-16 providers, in different contexts.
- Understand, in greater depth, the key success factors that enable effective collaboration and cooperation between providers.
- Better appreciate what matters most to students and parents, particularly in terms of the relative importance of factors such as subject choice, proximity, institution size and learning environment.

Nevertheless, whilst the evidence base in this policy area needs developing, the analysis in this report suggests that greater coordination and, where appropriate, consolidation are likely to be important levers for improving efficiency, sufficiency and equity in the post-16 system.

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Appendix A: Methodology

Categorising providers

In this report, we present analysis on the relationship between market fragmentation and subject sufficiency and efficiency in all state-funded post-16 providers, which we categorise as either **Schools** or **Colleges**, Schools are school-based sixth forms and Colleges are standalone 16-19 providers. Of the 2,188 providers in our population, 87% (1,905) are categorised as Schools. The remainder are Colleges; this group comprises 156 General FE Colleges and 127 other standalone 16-19 colleges.

Schools include

- City Technology Colleges
- Community Schools
- Converter Academies
- Foundation Schools
- Free Schools – Mainstream
- Sixth Form Centres / Consortia[4]
- Sponsored Academies
- Studio Schools
- University Technical Colleges
- Voluntary Aided Schools
- Voluntary Controlled Schools

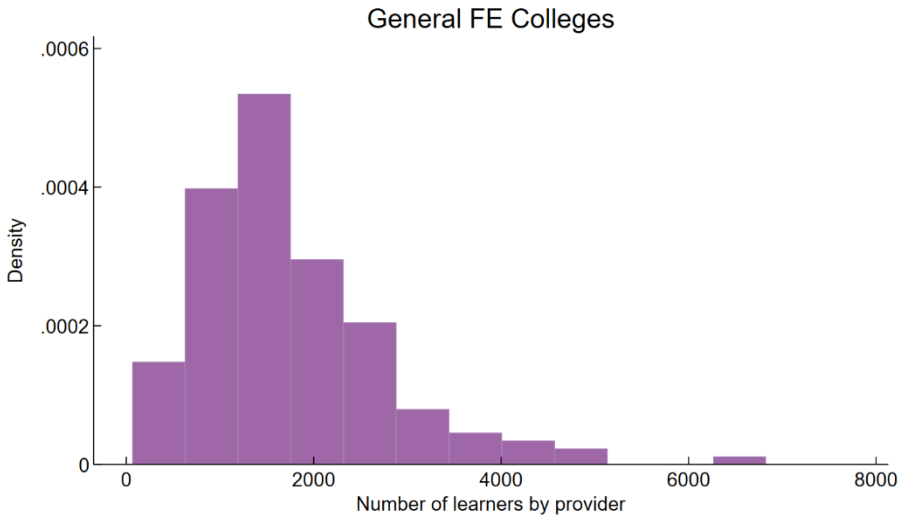
Standalone 16-19 Sixth form colleges include:

- General Further Education Colleges
- Academy 16-19 Converters
- Academy 16-19 Sponsor Led
- Agriculture and Horticulture Colleges
- Art, Design and Performing Art Colleges
- Free Schools - 16-19
- Sixth Form Centres / Consortia
- Sixth Form Colleges
- Specialist Designated Colleges

On page 111, we showed the distribution of learners in Schools and Colleges. Here we show the distribution of learners within Colleges split by **General FE Colleges** and **Standalone 16-19 Providers** (all the other college types above except General FE Colleges).

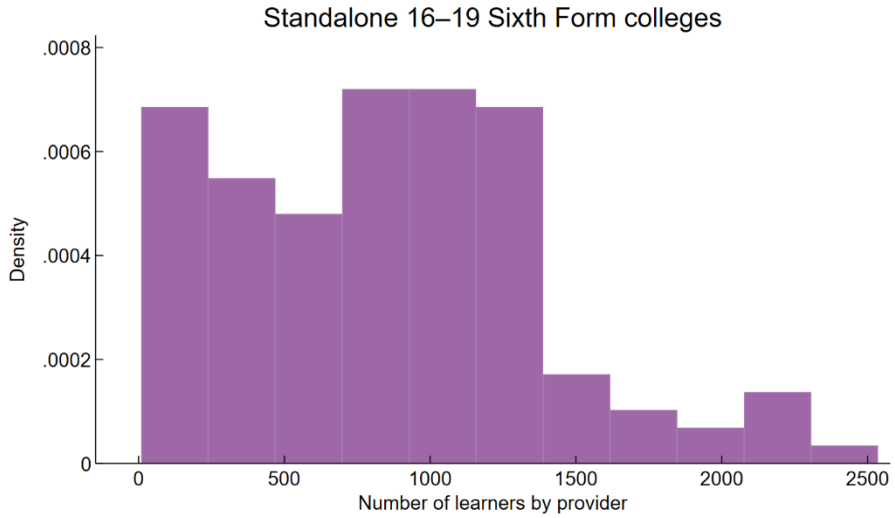
[4] In the case of Sixth Form Centre / Consortia, we investigate each centre / consortia individually to classify them as either a School or a College.

Figure 29 Distribution of learners in General FE colleges



Source: Own calculations from DfE data on A-level and other 16-18 results.

Figure 30 Distribution of learners in Standalone 16-19 Providers



Source: Own calculations from DfE data on A-level and other 16-18 results.

Categorising subjects

Our analysis utilises KS5 subject entries data for the 2023/24 academic year, which contains the number of entries at the subject level for each provider.

We group the 145 subjects in the KS5 subject entries data into 21 clusters and then prioritise eight of these clusters to focus our analysis on (Creative arts A-levels, Creative Arts VQs, Humanities A-levels, Languages A-levels, Social Sciences A-levels, Social Sciences VQs, Performing Arts A-levels and Performing Arts VQs).

The data also contains 32 qualifications, but we collapse this list and focus on two of qualifications: A-levels and Vocational Qualifications (VQs) at Level 3. We discount VQs at Level 2 and AS-levels. In group of Level 3 VQs we include the following qualifications:

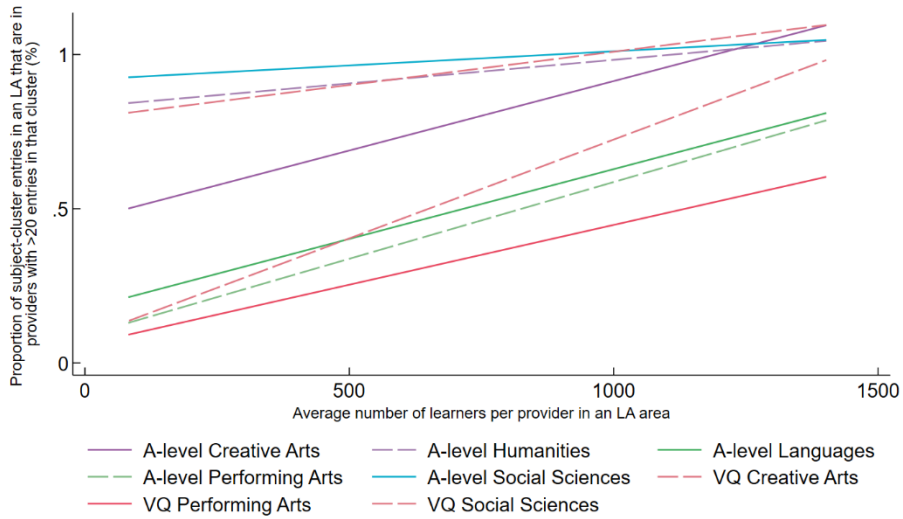
- BTEC Level 3 National Certificate (Band D)
- BTEC National Extended Certificate L3 - Band F - P-D*
- BTEC National Extended Diploma L3 - Band N - PPP-D*D*D*
- BTEC National Foundation Diploma L3 - Band H - P-D*
- BTEC National Diploma L3 - Band J - PP-D*D*

Appendix B: Other results

As explained in the *Research design and methodology section*, we calculated two measures of efficiency; (1) the number of entries per provider in a given subject cluster or subject, averaged across the providers that offer that subject cluster or subject within the LA, and (2) the proportion of total entries in a specific subject cluster or subject in an LA that were in providers delivering that subject cluster or subject to more than 20 entrants. In the main body of this report, we have tended to present charts relating to the first of these measures, but on occasion we reference charts in this appendix which relate to the second metric. The results shown in each of the following charts are described in the main body of the report..

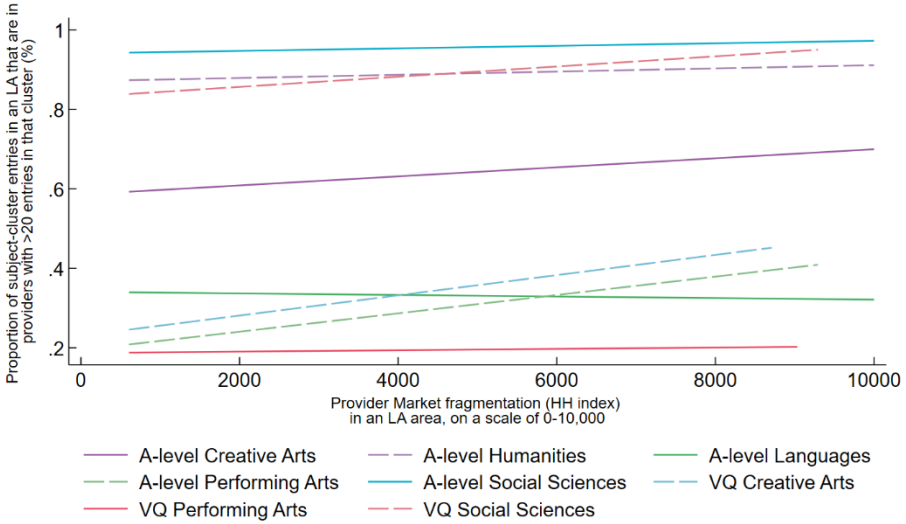
- OCR Cambridge Technical Certificate at Level 3
- OCR Cambridge Technical Diploma at Level 3
- OCR Cambridge Technical Extended Certificate at Level 3
- OCR Cambridge Technical Extended Diploma at Level 3
- OCR Cambridge Technical Foundation Diploma at Level 3
- OCR Cambridge Technical Introductory Diploma at Level 3
- VRQ Level 3

Figure 31 Relationship between efficiency (measure 2) and average learners per provider in an LA area (market fragmentation measure 3), by subject cluster



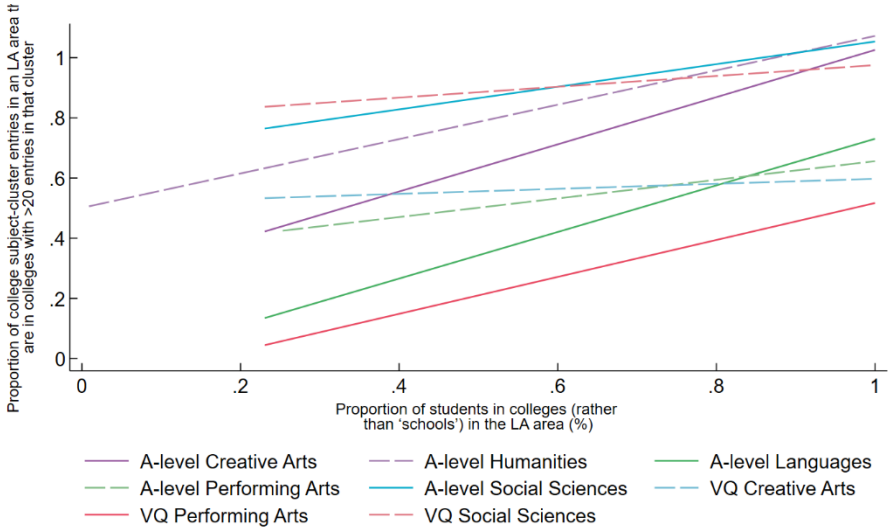
Source: Own calculation using DfE's KS5 subject entries data

Figure 32 Relationship between efficiency (measure 2) and market fragmentation measure 2 (HHI), by subject cluster



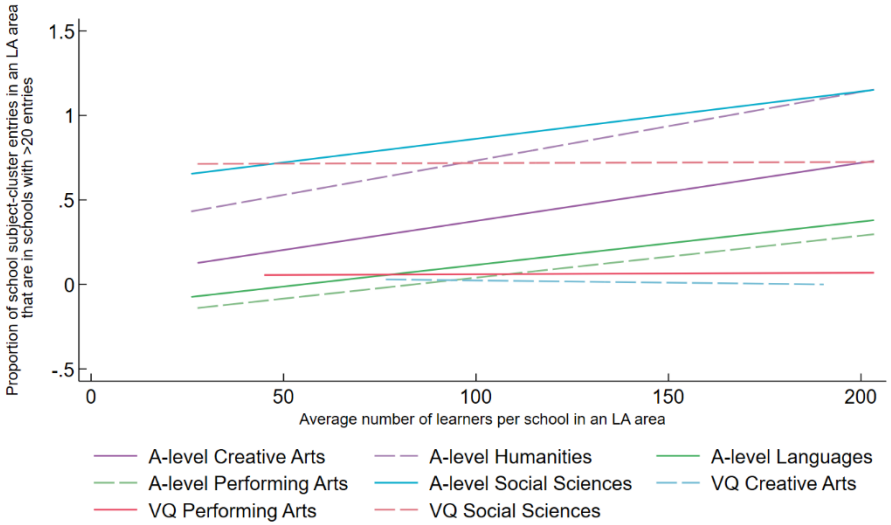
Source: Own calculation using DfE's KS5 subject entries data

Figure 33 Relationship between Colleges' efficiency (measure 2) and the proportion of students in Colleges in an LA area (market fragmentation measure 2c), by subject cluster



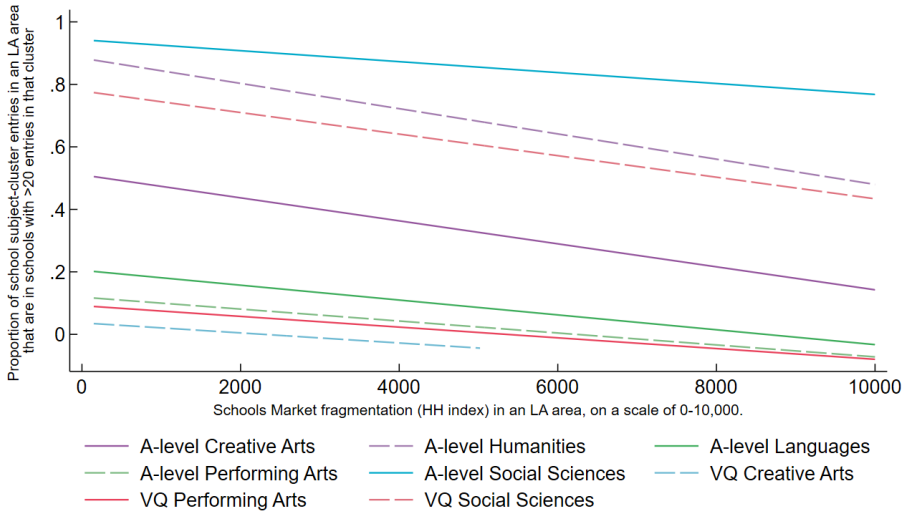
Source: Own calculation using DfE's KS5 subject entries data

Figure 34 Relationship between Schools' efficiency (measure 2) and average learners per School in the LA (market fragmentation measure 1b), by subject cluster



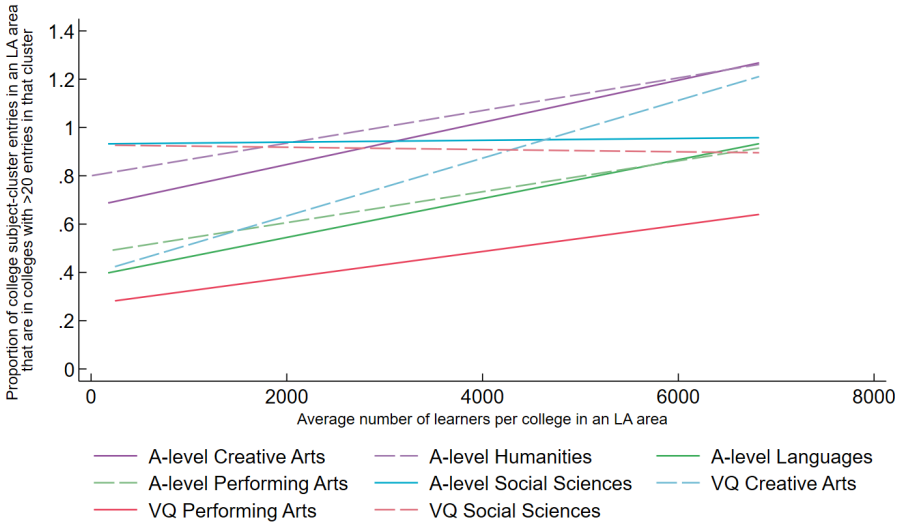
Source: Own calculation using DfE's KS5 subject entries data

Figure 35 Relationship between Schools' efficiency (measure 2) and market fragmentation (HHI) among Schools (market fragmentation measure 3b), by subject cluster



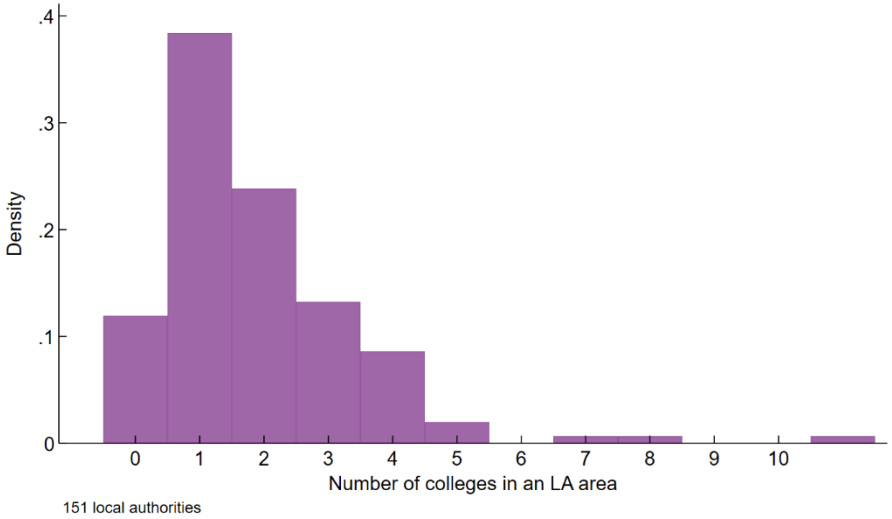
Source: Own calculation using DfE's KS5 subject entries data

Figure 36 Relationship between Colleges' efficiency (measure 2) and average learners per College in an LA area (market fragmentation measure 1c), by subject cluster



Source: Own calculation using DfE's KS5 subject entries data

Figure 37 Distribution of number of Colleges per LA area



Source: Own calculation using DfE's KS5 subject entries data

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