

The Evidence Base on College Size and Mergers in the Further Education Sector

Laura Payne
Department for Innovation, Universities and Skills

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The Evidence Base on College Size and Mergers in the Further Education Sector

EXECUTIVE SUMMARY

The document, *Further Education Colleges – Models for Success* sets out expectations for the future shape of the FE college sector. Here we present the evidence base on college size and mergers to support the consultation document. The evidence base is presented in three chapters: the first chapter introduces the economic theory of market structure and applies this to the FE sector; the second chapter reviews the available literature; and the third chapter presents a quantitative analysis of the relationship between college size and performance.

Overall, the theory, evidence and analysis suggest that there may be benefits to larger college size but these benefits are not guaranteed, and the impact of college mergers on choice and competition in FE is ambiguous.

Economic theory suggests that there may be potential for larger colleges to be more efficient

Traditional economic theory suggests that competitive markets are desirable because they are more efficient than less competitive market structures. However, when economies of scale exist (i.e. when the average cost of production falls as production increases), monopolistic market structures might be more efficient than more competitive structures. Consideration of the provision of FE suggests that there is a strong case for economies of scale (and scope).

In the FE market there are 376 FE colleges, 1,755 schools with sixth forms, and a number of private training providers. These organisations deliver skills and qualifications to 4.7 million learners. At face value the market for FE is competitive: there are many firms offering a similar product to many consumers, and the largest market share of any college is only 1.12% (in terms of Standard Learner Numbers). However, the nature of consumption of education means that many consumers are constrained to providers within their local travel to learn area, which means that some providers may enjoy local monopoly powers (particularly in more rural areas).

In private markets, merger proposals are assessed according to the extent to which they may be expected to reduce competition to the detriment of consumer welfare, but it is noted that in certain cases mergers can increase efficiency within markets. These cases include: when economies of scale or scope allow mergers to make significant cost savings that can be passed on to consumers through lower prices or improved quality; or where greater critical mass enables merged entities to increase investment in R&D, stimulating greater innovation.

Given the potential economies of scale and scope in FE provision, the creation of larger institutions through college merger may allow merged institutions to exploit cost savings, employ more efficient corporate services, increase investment in estates and R&D, diversify their curriculum offer, and better adapt to changes in policy or local conditions.

However, college mergers will arguably reduce competition in the FE sector and the impact on learner and employer choice is ambiguous: choice over provider may be reduced whilst curriculum choice, for example, could feasibly increase. Where merger is a response to failing provision, this arguably has a positive impact on choice where local provision is maintained as a result of merger.

The limited evidence available does not provide a consistent message

There is very little evidence on the impact of college mergers, and the available evidence is not conclusive. Research has identified potential benefits to college mergers, but also identifies risks. An evaluation of a sample of mergers showed little evidence of short-term benefits and concluded that it was too early to assess the longer term impact of college mergers. It appears that success of mergers is not guaranteed, but may be dependent on a complex set of local factors and conditions with no consistent message about when mergers are most likely to succeed.

Some of the identified benefits of merger include: efficiencies through curriculum integration; reduction of over-provision; improved access to capital funds and betterment of estates.

The research shows that the policy environment is a key driver of merger activity. Other identified drivers include key personnel with strategic vision, financial difficulties, enhancing core business, defence against competition, and strategic strengthening of position.

Evidence from other sectors (higher education and business sectors) identifies lessons for colleges to learn from. This evidence suggests that substantial cost savings from mergers in any sector are difficult to achieve; that communications and college culture are important; that mergers should be part of a business strategy with clear objectives; and the impact of mergers should be evaluated rigorously.

Governments in Northern Ireland and Wales have recently taken the decision to move to a smaller network of regional colleges because they believe that greater critical mass will allow colleges to exploit economies of scale, improve the use of investment, increase coherence across the sector, and enhance the status of colleges. The published reviews for both countries do not include any evidence that larger colleges are necessarily more effective, or that college mergers result in net benefits. The Webb Review for the Welsh Assembly Government does cite evidence that efficiency savings could have a significant impact when an FE institution reaches a turnover of around £15 million, but this evidence is not provided in the report.

Quantitative analysis does not suggest a strong relationship between college size and performance

There is significant variation in college size in the English FE sector, with college income ranging from £5 million to £82 million. There has been a recent unprecedented increase in merger activity in terms of the number of mergers proposed and the size of mergers.

A quantitative analysis of the relationship between college size and performance shows that there is no evidence of a relationship between college size and success rates and no evidence of a relationship between college size and financial health. There is some evidence of a modest relationship between college size and OfSTED inspection grade – a larger proportion of larger colleges perform well, but larger colleges do not necessarily perform well, and colleges of any size can perform well.

Future work and recommendations

This review of the theory, evidence and data has led to a number of key research questions that future research and analysis could usefully focus on:

- Economies of scale in FE – research to investigate the extent of economies of scale in FE, and assess whether there is a minimum viable scale for efficiency and/or an optimal college size beyond which colleges become less efficient.
- The quantitative relationship between college size and performance – using sophisticated modelling techniques to identify the nature of any potential causal relationships between size and performance.
- Evaluation of college mergers – provide a rigorous long-term evaluation of the impact of mergers across a range of indicators including local choice and competition, learner participation, retention, achievement and satisfaction, provider quality and finance. Such an evaluation could also include proposed mergers to allow measurement of pre-merger baseline against which to longitudinally track progress.
- Alternative organisational structures – research mapping the extent to which colleges across the sector act collaboratively or in partnership, and assess the potential for exploiting the benefits of size without the need for a formal merger.

In conclusion, there is insufficient evidence that larger colleges necessarily perform better. We have identified potential benefits to be gained through college merger, and potential risks. The evidence suggests that potential benefits from merging are not guaranteed, and there is no consistent message about when mergers are more likely to succeed or fail. On the basis of this evidence base, it is recommended that merger proposals are considered on a case-by-case basis: the key drivers for merging must be clearly understood, the aims clearly articulated, anticipated benefits evidenced and subject to risk analysis, and any approved mergers should be rigorously evaluated. It is also recommended that a programme of further work be undertaken to better understand economies of scale and scope in FE, and to understand the impact of college mergers.

The Evidence Base on College Size and Mergers in the Further Education Sector

INTRODUCTION

The FE White Paper reforms advocated mergers as one method of eliminating under performance (as identified by minimum levels of performance (MLP) and inspection). However, mergers can also be proposed by colleges wishing to address other issues, such as to strengthen an already successful position.

It is possible that the perceived influence of the 157 Group with the Ministerial team may be interpreted by the sector as implying that we want to see fewer, bigger colleges. In his speech to the 2007 AoC Conference, the Secretary of State stated that there is no evidence that larger colleges provided more effective education. He also questioned whether mergers were the way to go or whether we should be providing greater competition between providers.

There is an unprecedented increase in college merger activity in terms of the number of mergers proposed and the size of the mergers (more colleges and often ones in large urban areas).

Anecdotal evidence suggests that the recent increase in activity is being driven by a feeling that sufficient mass will need to be developed to withstand fluctuations in demand-led income.

There is also concern that colleges are proposing merger without proper consideration of other, less-formal, structural options, such as federations and Trusts, which are advocated in the White Paper as a means of spreading influence across the sector.

This document aims to support the consultation paper by considering what the evidence says about college size, and whether there is any evidence to suggest that mergers should be encouraged across the sector, or whether they should be a cause for concern.

Chapter one considers the economic theory behind market structure and merger activity, and discusses this in relation to the FE sector. Chapter two provides a review of the available literature. Finally, Chapter three presents a statistical analysis of administrative data and management information in order to establish whether there is any relationship between college size and performance.

1. WHAT DOES ECONOMIC THEORY SAY ABOUT MARKET STRUCTURE AND MERGERS, AND HOW DOES THIS RELATE TO THE FE SECTOR?

CHAPTER SUMMARY

- Competitive markets are generally considered to be the most efficient market structure
- Mergers can significantly reduce the level of competition within a market, and in private markets proposed mergers are investigated where it is thought that merger will impact negatively on consumers as a result of reduced competition.
- However, where economies of scale or scope exist, a smaller number of larger firms can be more efficient than a perfectly competitive market structure; and mergers can increase efficiency and potentially lead to consumer benefits such as lower prices, improved quality, increased innovation, and greater choice.
- At first glance the FE sector is competitive: there are a large number of providers offering a similar product to a large number of consumers. But the nature of consumption of education means that some providers may enjoy local monopoly powers, and the market is far from perfectly competitive.
- It can be argued that economies of scale and scope exist in the provision of FE; therefore larger colleges (and colleges formed as a result of merger) could potentially be more efficient.
- However, the impact of mergers on local choice and competition is ambiguous.
- Therefore, proposed mergers need to be individually assessed in terms of their capacity to deliver efficiency savings for the benefit of consumers, and the associated risks (particularly in terms of local access, choice and competition).
- Areas to be investigated further include the extent of economies of scale in FE and the implications in terms of minimum viable scale and optimal college size; and the extent to which alternative organisational structures could exploit economies of scale without the need for a formal merger.

What does economic theory say about market structure?

Perfectly competitive markets are desirable because they are assumed to be efficient; in general equilibrium, perfectly competitive markets deliver the conditions of Pareto efficiency.¹ Monopoly power occurs in markets where there are increasing returns to scale (average costs of production decrease as output increases), and this is considered to be a market failure.

The key features of a competitive market are:

- There are no restrictions on entry to or exit from the market
- Existing firms have no advantage over potential new entrants

¹ Pareto efficiency occurs when it is not possible to make at least one person in society better off, without making someone else in society worse off. For more information on Pareto efficiency and the market see Chapter 2 of “*Economics of the Public Sector*”, Connolly & Munro (1999)

- There are many firms offering an identical product, and many consumers of that product.
- All firms and consumers are completely informed
- The prospect of persistent economic profit induces new entrants to the market, which increases supply, causing price to fall. Therefore there are no economic profits in the long run.
- Constant threat of competition spurs firms within the market to innovate to sustain their place in the market.

The disadvantages of monopoly power (relative to perfectly competitive markets) include:

- Barriers to entry allow firms to maintain higher prices (leading to allocative inefficiency) and lower quantity (therefore reducing consumer surplus).
- Profit maximisation leads to productive inefficiency because monopoly firms do not produce at the lowest point on the average cost curve.
- It can become easier for firms to collude
- Less competition can lead to complacency amongst firms which in turn can lead to lower quality and less investment in new products (innovation).
- Less choice for consumers

In reality, very few markets are either perfectly competitive or purely monopolistic; markets vary along the spectrum in terms of degrees of competitiveness. Ordinarily the view is that competition is desirable, and should be encouraged.

The Office of Fair Trading (OFT) explains competition “*as a process of rivalry between firms seeking to win customers’ business. This process of rivalry, where it is effective, impels firms to deliver benefits to customers in terms of prices, quality and choice*”.²

However, competition is not always the most efficient market structure; where economies of scale (increasing returns to scale) and scope exist they can lead to what is known as a natural monopoly, where a single firm in the industry can produce at a lower average cost than a larger number of smaller firms can achieve. It is possible for economies of scale and scope to be so large that a monopoly could be more efficient than a competitive market structure.

In industries where natural monopoly powers exist, the government response is either to bring the industry under public ownership or regulate the industry to ensure that market power is not abused to detrimental effect for consumers.

What does the theory say about mergers?

A merger occurs when one firm buys another (or a majority or significant minority shareholding of another), two or more firms transfer or pool assets, or two or more firms jointly create a new firm. There are three basic types of mergers: horizontal (mergers between firms operating in the same market); vertical (mergers between firms operating at different levels of industry supply chain); and conglomerate mergers (mergers between firms in different markets).

Given that mergers reduce the number of firms operating within a market, mergers may lead to a significant reduction in competition within the market. In private markets, OFT refer merger situations to the Competition Commission (CC) when they

² *Mergers Substantive Assessment Guidance, Enterprise Act 2002*, OFT Publication (2003) http://www.of.gov.uk/shared_of/business_leaflets/enterprise_act/of516.pdf

believe that there is a significant prospect that a merger may be expected to lessen competition substantially. The concern over mergers is that:

“When levels of rivalry are reduced (e.g. because customers have fewer firms among which to choose or because of coordinated behaviour between firms), the effectiveness of this process may diminish to the likely detriment of customers.”³

Mergers may be detrimental for consumers if they result in a reduction in product choice, a rise in prices and reduction in output, or reduction in product quality or innovation.

The possible anti-competitive effects of mergers can differ according to the type of merger:

- *Horizontal merger*
 - Can reduce the level of competition in the market, and affect entry barriers and buyer power.
 - It can become profitable for the merged firm (and possibly other firms in the market) to increase price
 - Firms in the market may coordinate their behaviour to raise prices, reduce quality or curtail output.
- *Vertical merger*
 - May foreclose market access by raising costs to rivals
 - May facilitate tacit collusion
- *Conglomerate merger*
 - Such mergers rarely lead to substantial lessening of competition solely as a result of their conglomerate effects.
 - May increase feasibility of anti-competitive strategies or increase potential for coordination

However, in certain cases a less competitive market structure can be more efficient, and under certain conditions mergers can increase efficiency.

Efficiency gains are often claimed for mergers, but OFT guidance warns that prospective efficiency gains are more easily claimed than achieved. Any potential efficiency gain must be shown to be merger-specific, and there must be evidence that the merged entity has the incentive to pursue these efficiencies and will pass a reasonable share of the benefits onto customers. There are a number of ways in which merger can increase efficiency, most are argued to result from economies to scale or scope:

- *Lower Prices* – merger may result in reduced marginal costs of production, which can lead to large cost savings that can (at least partly) be passed to customers in the form of lower prices
- *Quality Improvements* – efficiencies may be passed on to consumers in the form of quality improvements
- *Greater Innovation* – merger can potentially facilitate innovation through stimulating R&D that can only be achieved through a certain critical mass, especially where larger fixed (and sunk) costs are involved. Rivalry can be increased through innovation.
- *Greater choice or higher quality* – where merger increases the size of a network it can increase value to customers. As institutions increase in size they can use scale economies to offer a wider choice to customers.

³ Ibid.

- *Increased competition* - Where two or more smaller firms in the market gain efficiencies through merger that they are in a position to exert greater competitive pressure on larger competitors.

If it can be shown that such efficiency gains will occur as a result of merger, and that firms have incentives to pass these benefits on to customers, these gains must then be assessed against the potential losses from reduced competition.

In some conditions merger proposals can be accepted because of a 'failing firm defence': when the failing firm will rely on merger in order to remain in the market; where there is no realistic prospect of re-organising the business in a way that it could survive and recover; and where there is no less anti-competitive alternative to the merger.

The acquisition of a failing firm that does result in a lessening of competition can result in customer benefits by ensuring continuing access to supply for customers, for example, and these benefits would also need to be assessed against potential detriments from reduced competition.

How does this relate to the FE market?

Two key features of the FE market make it unique: first, the nature of consumption in FE means that national FE market is made up of a large number of local markets based on travel to learn areas, so any assessment of the market needs to reflect the geographical dimension; and second, providers in the FE sector can operate in the market for publicly-funded further education, privately-funded further education, or often a mix of both.

The FE market consists of 196 general FE colleges, 96 Sixth Form Colleges, 49 Tertiary colleges, 17 Agriculture and Horticulture colleges, 4 Art, Design and Performing Arts and 14 Special Designated Colleges (April 2008) and 1,755 schools with sixth forms delivering FE.⁴ In addition, there are a number of private training providers operating in the market.

Market shares and the level of market concentration are measures that are typically used as indicators of competitive pressure within a market. In terms of Standard Learner Number (SLN), the highest market share of a general FE college is 1.12%, and the top ten largest colleges account for less than 10% of total SLN. However, due to the nature in which most provision is consumed (i.e. through attending provider institutions to receive education), it is possible that some providers may enjoy local monopoly powers – in certain rural locations there may only be one provider within a viable travel to learn area – so these indicators may be deceptive.

We can assess the structure of the FE market against the key features of a competitive market set out earlier:

- There are no restrictions on entry to or exit from the market.* The FE White Paper contains a commitment to encourage new providers into the sector either to take over failing provision or where expansion is required, rather than purely to increase competition. However, it could be argued that there are relatively high set-up costs associated with providing further education, and

⁴ All data taken from Edubase, end 2006/07, except schools sixth form data which are taken from Schools and Pupils in England SFR 2006/07

that some of these cannot be recovered if the new entrant were to fail and be forced to exit (known as sunk costs). Economies of scale or scope may result in a minimum viable scale needed for entry and potential new entrants to the sector may be deterred from attempting to enter on a large scale because of the risks involved.

- B. *Existing firms have no advantage over potential new entrants* – there may be an argument that college reputation and institutional history could give incumbents in the FE market an advantage over potential new entrants. For example, a college with a proven track record with high success rates and good OfSTED inspection reports may have an advantage over a new entrant with no record when it comes to attracting learners. However, there is an alternative argument that new entrants may be more modern and attractive and possibly led by individuals with a proven track record.
- C. *There are many firms offering an identical product, and many consumers of that product* – there are 376 FE colleges in England providing FE for 4.7 million learners, and courses that award qualifications have a national curriculum to follow so in many ways the products are identical. However, the picture of the national market can be misleading – the issue of choice and competition at the local level is discussed in more detail below.
- D. *All firms and consumers are completely informed* – government funds impartial information advice and guidance services to ensure that all consumers are fully informed about further education (opportunities, providers, courses and returns), and information about government-funded college activity is publicly available, therefore firms and consumers should have a good level of information about the FE market.⁵
- E. *The prospect of persistent economic profit induces new entrants to the market, which increases supply, causing price to fall. Therefore there are no economic profits in the long run* – colleges can earn economic profits in the long run, but they are not for distribution. So the incentive is a stronger and more stable financial base and improved development potential. Private providers can, however, earn and distribute profits but there is limited scope for them entering the market and taking over provision currently delivered by colleges.
- F. *Constant threat of competition spurs firms within the market to innovate to sustain their place in the market* – The prospect of demand led funding is creating competition (or at least the perception of competition) - hence many mergers in FE are aimed at increasing size and strength.

This simple assessment indicates that the FE market is not perfectly competitive, although there is some level of competition (which varies according to geography/rurality). However, we have identified that where economies of scale and scope exist the most efficient market structure may be one with a smaller number of larger firms.

Economies of Scale in FE

Economies of scale exist when the cost of producing a unit of a good falls as output increases. It is easy to consider this in the context of FE provision. If a college wants to deliver a Basic Skills course to one person, the college needs to employ someone to teach the course, they need a room in which to deliver the course, they need relevant teaching materials, they need someone to organise the course and collect data etc. If another person wanted to attend the course, the costs of the teacher, classroom and materials remains the same, and other costs may increase only slightly. Therefore the average cost (the total cost of providing the course divided by the number of people

⁵ But this may not be perfect.

attending the course) falls as the number of learners rise. These economies are known as “technical economies”. Other types of potential economies are discussed below:

- *Managerial economies* - where larger colleges benefit from having specialist managers and being able to attract more expert staff. Larger colleges may also have better or more efficient corporate services (e.g. estates, HR, and finance).
- *Marketing economies* – some costs associated with publicity and promotion would be the same regardless of size, so average advertising costs fall as size increases; larger colleges may be able to achieve savings in procurement through bulk buying; and employer engagement can be more efficient if run from one college rather than being a duplicated function across colleges within an area.⁶
- *Financial economies* – larger colleges may be able to exploit improved access to capital funds and better terms from financial organisations. In some cases larger colleges could use their existing assets to fund redevelopment of estates. Where neighbouring colleges merge, surpluses from one partner can be used for expansion and redevelopment in the other.
- *Risk-bearing economies* - larger colleges may be better positioned to successfully adapt to changes in policy, local labour markets, or demography, for example, and may be able to expand their curriculum to diversify interests.⁷

Economies of scope exist when an increase in the range of goods or services brings a decrease in average cost, which occurs when specialised or expensive technical inputs can be shared by different goods. In the FE context we can understand this by considering college facilities: it is cheaper for one college to provide A levels and basic skills than it is for one college to provide A levels whilst another provides basic skills. Facilities such as class rooms, libraries, canteens, computer networks etc can be shared across a broad range of courses – and even specialised courses that require highly specialised equipment can be shared across subject areas and qualification levels (e.g. it is cheaper for one laboratory to be used to deliver A level biology and an Access course in health sciences than it is for one college to have a laboratory to deliver only A level biology and another college to have a laboratory to deliver Access course in health sciences).

It should be noted that large institutions may not be able to exploit economies of scale when large numbers of students are spread in small numbers over a diverse set of programmes or locations.

Can mergers between FE colleges improved efficiency in the market?

We would usually expect mergers in FE to be horizontal mergers – i.e. merging with another provider in the FE sector; although some may be vertical (e.g. college merging with university or school).

Clearly, the high fixed costs associated with premises and learning resources in further education yield increasing returns to scale therefore there *may* be a case that larger colleges (and colleges that become larger as a result of merger) *could* be more efficient, but any identifiable efficiency gains must be weighed up against potential

⁶ This is arguably more efficient for local employers as well, who only have to have one conversation.

⁷ Forming larger colleges may reduce risks for the colleges themselves, but could place greater risk on the community they serve – e.g. if the monopoly provider fails.

detrimental effects before advocating a system of larger colleges and encouraging mergers across the sector.

In some cases mergers are proposed as a way of saving failing colleges⁸. Where one of the merging colleges is thought to be failing, we need to consider what would otherwise happen without merger. If the college were to fail, the LSC may commission provision from local competitors (who may be the parties involved in merger), and there could be a reduction in choice or access for the local community. In such scenarios a merger is not likely to substantially lessen competition in relation to the alternative, and merger may provide an opportunity to ensure local access to provision is maintained.

Consumer power can constrain the ability of merged entities to act in ways that reduce efficiency, mainly by switching (or credibly threatening to switch) to another supplier. Consumers of FE (learners and employers) can in theory switch provider relatively freely, but they may be constrained by their travel to learn area. Evidence suggests that learners are prepared to travel further for higher level (level 3 and above) qualifications⁹. In addition, there are various initiatives like learner panels and student governors that exist to strengthen the learner voice which should theoretically increase consumer power in FE. The key questions to address when considering proposals to merge are whether learners and employers will have a sufficiently strong post-merger bargaining position, and how much it will change as a result of the merger.

It is worth noting that the FE sector is regulated to ensure that quality standards are met, for example through minimum levels of performance and inspection, which should prevent colleges from abusing any market power at the expense of learners.

What is the impact of college mergers on choice?

First, it is important to remind ourselves that the FE system allows learners and employers free choice over which provider they attend; it is the existing attachment of an individual to an area that may restrict choice in practice.¹⁰ So whilst we consider choice in the context of a travel to learn area, there is no systemic reason why learners and employers can't attend any of the 376 colleges in England.

A number of factors will determine the impact of a merger on learner choice. The first is the geographical dimension. If we consider a case where one college operates in a small town, and is the only college within the local travel to learn area, and this college decides to merge with a college in a neighbouring travel to learn area - provided that both estates are maintained post-merger, there will be no reduction in choice because there was only one provider before, and one provider after merger within each travel to learn area. However, if we consider an alternative case, where 3 urban colleges are located close together within the same travel to learn area, and these colleges decide to merge, choice over FE provider will be reduced.

It is important to consider the different types of choice:

- Where – choice over which college or campus to attend

⁸ Around half of the current merger proposals relate to colleges with poor quality or financial viability where the future of the college is at risk.

⁹ See table 3:14 in *Future Size and Structure of the Further Education Sector in Northern Ireland, Economic Appraisal Report* for the Department for Employment and Learning (2005), which is supported by internal DIUS analysis.

¹⁰ For example, potential learners may have work or personal commitments that restrict them from moving to a different area in order to attend a certain college.

- Who – choice over teacher/lecturer
- What – choice in terms of curriculum offer
- When – choice over time of day, or day of week to receive education
- How – whether to receive education through face-to-face tuition, distance learning, or e-learning.

An initial assumption when considering choice may be that larger colleges, or mergers, may act to reduce choice because they reduce the number of providers available for learners and employers to choose from. However, whilst choice over provider may reduce as a result of merger, we need to consider the impact of size or merger on other aspects of choice.

One of the identified potential benefits of economies of scale is greater choice, particularly in terms of the curriculum offer. Small colleges may be able to offer efficient provision by restricting choice, but larger colleges may be able to use their economies of scale to offer a wider choice to learners and employers.¹¹

Similarly, colleges with a larger critical mass may be able to offer wider choice in terms of course tutors and timetables – e.g. if a larger college has 100 learners wanting to study NVQ2 in Construction, the college could offer a range courses with different timetables; whilst a smaller college with, say, only 10 learners wanting to study the same course would only be able to offer one option in terms of timetable.¹²

Is there a minimum viable scale or an optimal college size?

Whilst the discussion of economic theory in relation to the FE market suggests that there may be efficiencies associated with larger colleges, there is a question about the minimum size at which colleges can enjoy these efficiencies, and whether there is a limit to economies of scale such that beyond a certain size the college will become less efficient – i.e. whether some organisations could become unmanageably large. This requires further investigation.

Are there alternatives to formal mergers that can deliver similar benefits at reduced risk?

The discussion presented here has focussed on small versus large providers, and has looked at the possible effects of a merger in relation to a situation where all providers in the market operate independently and competitively. However, in reality providers may act cooperatively, collaboratively, in partnership, or as a federation without formally merging. It is possible that some organisational form in between independent non-coordination and formal merger could reap some of the benefits of size without incurring the full costs of reduced competition. These organisational structures should be fully investigated and evaluated.

Conclusion

There is a clear argument that the presence of scale economies in the provision of further education may mean that a perfectly competitive market for FE is not the most efficient market structure. However, whilst there may be benefits to gain from

¹¹ This was a finding of the LSDA report *Size Matters: economies of scale in schools and colleges* by Owen, Fletcher and Lester (2006)

¹² In theory, the college could offer additional options but this would be at extra cost to the college and therefore less efficient.

increasing college size, these need to be carefully weighed against risks of reduced community access and other detrimental effects from reduced competition.

The impact of college mergers on learner and employer choice is ambiguous: in some cases it could be possible that choice over provider may be reduced whilst choice over curriculum is increased.

The discussion suggests that, whilst it may be possible, there is no guarantee that mergers will increase overall efficiency and impact positively on learner and employer choice. Each merger should be carefully considered on an individual basis to determine whether there is sufficient evidence that gains will be realised, and that these gains outweigh any possible costs from reduced choice and competition.

Future research could usefully focus on assessing the impact of mergers on choice and competition, and evaluating the realisation of benefits. Research could also investigate minimum viable scale for efficient operation, optimal college size, and the different types of organisation collaboration that could increase efficiency.

2. WHAT DOES THE EVIDENCE SAY ABOUT MERGERS IN FE?

CHAPTER SUMMARY

- There is an absence of well-founded evidence on college mergers and the quality of available evidence is variable. The available evidence is emergent and in need of further development.
- Whilst it is possible to identify real benefits that have resulted from specific mergers, context is all-important and it would be unwise to generalise on the basis of the evidence available.
- Overall, the evidence would indicate that there were comparatively few short-term benefits realised from the merger process and that the outcomes from partnership and collaboration were mixed.
- A number of potential benefits and risks to merger success are identified, but there is no consistent message about conditions in which mergers should take place, and when they will succeed. There is no 'one size fits all' approach that can be applied.
- The policy environment is a key driver of activity. Success of mergers is likely to depend on drivers for merger, planning, environment, buy-in etc, but each merger should be considered individually (which is consistent with existing procedure).
- Some evidence on mergers is available from other sectors – HE and business – which identifies lessons that colleges can learn from
- Information is available from other countries on planned mergers (Northern Ireland and Wales) and their reasons for instigating such a change. However, there is no consistent evidence that larger colleges are necessarily more effective.
- A long-term evaluation of mergers is needed to provide a quantitative assessment of long-term benefits.

INTRODUCTION

The aim of this chapter is to review the available evidence on the impact of mergers in the further education sector. A number of documents have been reviewed to establish the available quantitative and qualitative evidence on mergers, and these are listed in Annex 1.

1. Evidence Base

The overall conclusion from the reports reviewed is that there is an absence of well-founded evidence about college mergers in England in recent years, and that the evidence is emergent and in need of further development¹³. (LSC 2007 & Stewart 2003)

A number of reports have looked at mergers since incorporation in 1993 and some insights could be gained from looking at inspection reports. However, there appears to only be one major study specifically evaluating mergers, undertaken by DfES jointly with the LSC in 2002 (DfES 2003). This study evaluated a sample of seventeen mergers between 1996 and 2000, focussing on the pre-merger conditions that were most likely to influence the success of a merger and synthesises the key issues and

¹³ There are a number of discussion papers but little in the way of evidence.

concerns that should be taken into account by any organisation considering mergers in the future.

A rapid review of the evidence for the LSC (2007) concluded that it is difficult to establish the effects of mergers and collaboration on issues such as learner participation, attainment and progression because of the different configurations in different localities and the impact of wider influences, such as the labour market. In particular this was due to a lack of systematic data collection on programme outcomes and a failure to produce performance measures. The evidence base for underpinning outcomes for learners, staff and the FE institution is relatively sparse

Similarly Stewart (2003) found very little objective assessment of the sector. Stewart argues that the absence of any well grounded analysis of the experience is of particular concern, because (i) the process is costly, and (ii) no analysis can be used to inform the actions of those colleges becoming involved in mergers.

Stewart (2003) found a considerable amount of research on mergers from business and Higher Education, which is used to suggest lessons colleges can learn.

2. Definitions

Mergers, collaboration and partnerships are distinct but clearly related concepts. The LSC rapid review found no evidence of a definition of 'merger' in the FE context, however, the concept is widely linked in economic theory to acquisition as part of the concept of growth of organisations or as means of rationalising the structure of declining industries. (LSC 2007)

The report concluded that in the absence of a single simple and widely agreed definition, there can be problems identifying what actually constitutes 'merger' as an activity, process or outcome. The definition of merger is usually defined (implicitly) by the researchers within the specific research context.

3. Review of Available Evidence

The DfES report (2003) on mergers carried out between 1996 and 2000 concluded that there was **no consistent evidence** on the overall impact or success of college mergers. However, the authors note that in merger cases '**it is too soon to tell**' with regards impact of merger on quality of provision, on retention or achievement and on full implementation of all merger aims.

Key points to note were:

- There was evidence of economies of scale, particularly for mergers of other specialist colleges;
- Curriculum integration provided efficiencies, especially for mergers of GFE colleges in urban areas;
- Where mergers took place within cities, they were especially effective in reducing over-provision of further education and allowing a reduction in competition;
- There is no 'one size fits all' approach;
- One of the significant benefits appeared to be the enhanced possibility of betterment of estates and facilities, as well as size which allowed easier bidding, borrowing and access to capital funds.

- Clear evidence that colleges which had poor financial histories and little site investment benefitted markedly and rapidly through merger with a larger, richer partner.

However:

- It was not possible to reach a conclusion about optimum size since much depends on particular circumstances;
- No consistent evidence to suggest that merger, in itself, is guaranteed to produce long-term financial benefits;
- Impact of merger on levels of student achievement appeared markedly variable and often dependant upon specific programme area activity.
- Showed relatively few short-term benefits after completion of a lengthy merger process;
- Respondents felt that it would take from three to ten years to complete a merger;

4. Drivers

The **policy environment** is a key driver of activity. There are policy tensions as the drivers for institutional collaboration are not as strong as the drivers for institutional competition. (LSC 2007) However, there is a belief that there are benefits of partnership and collaboration, which is seen as an established way in which to provide integrated approaches to complex, multi-dimensional and multi-agency policy challenges.

The literature identified a number of other key drivers:

- *Personnel* – for example, a strong principal with strategic vision
- *Financial* - financial desperation or fear of closure
- *Core Business* – search to develop new strategic position, curriculum complementarities leading to growth or enhanced provision
- *Defensive* – undertaken to prevent access by a competitor
- *Strategic* - reduction of intense local competition, development of strength through larger size

A number of factors external to the institution were also identified, such as funding, inspection and targets, which were very influential in determining institutional behaviour.

5. Economies of Scale in Further Education

A report for the Learning and Skills Development Agency (LSDA, 2006) reviewed the relationship in England between institutional size and the cost of delivering Level 3 (mainly A Level) provision in Sixth Form Colleges, General FE colleges and School Sixth Forms. The study used empirical analysis and modelling to illustrate the potential scale of efficiency gains. The main finding was that economies of scale exist and FE institutions need a substantial number of students in order to fully exploit these; consequently colleges operating on a small scale incur cost penalties.

The authors note that this study is only an initial assessment of evidence in this important area: it is not a definitive analysis.

Key points to note were:

- Small institutions can offer efficient provision but only by restricting choice thus larger institutions offer significant advantages in terms of cost and learner choice.
- LSC data for 2002/03 College Accounts suggest evidence of economies of scale for both teaching staff costs (as expected) and administration staff costs (more than expected).
- The accounting data only show “revealed” economies of scale – i.e. economies of scale that are observable once colleges may have already used part of the potential economies of scale to improve the student experience. Revealed economies of scale represented savings of around 10% of income.
- The main advantage of scale is the ability to teach a reasonably large/broad programme in classes of larger than average size – there is evidence that subject choice widened as size increased.
- Two types of economies of scale were investigated: that larger institutions offer a given set of subjects more cost effectively; and they offer a wider range of subjects and are more effective than smaller institutions.
- Results should be considered tentative early estimates from a small-scale piece of research limited by data availability.
- Those interviewed as part of the case studies consistently reported that economies of scale exist and are important, and this was considered by the authors to be crucial.

6. Evidence from other sectors

Stewart (2003) reviewed the evidence from mergers between HE institutions, and in business and identified a number of clear **lessons** colleges can learn. These included:

- *Cost savings* – experience from all sectors suggests that substantial savings from mergers in any sector are difficult to achieve.
- *Merger processes are multi-dimensional* – Although mergers concentrate on hard issues, for example, finance, other factors are central to the process such as communication and the issue of college culture.
- *Merger as part of the business strategy* – An objective analysis of its purpose should form the basis for the project.
- *Merger objectives* – aims should be framed in more specific terms, for example, ‘to improve the post-16 curriculum in area X’.
- *Merger evaluation* – rigorous and objective evaluation of the aims, and the extent to which they have been achieved.

The LSC (2007) report provides some insight into a range of outcomes affecting learners in mergers between FE and HE institutions. These may be realised in some, but not all, cases and are contingent upon a complex set of local factors and conditions. The outcomes included:

- Some growth in student numbers, particularly part-time provision;
- Development of well-articulated progression routes between FE and HE (although not in the short-term);
- Improvements in retention and completion rates in both FE and HE provision previously offered by FE colleges;
- However, there was little direct evidence of improved quality of the learning experience.

7. Evidence from other countries

Governments in Northern Ireland and Wales have recently taken the decision to move to a smaller network of regional colleges.

Prior to a change in 2007, the **Northern Ireland** (NI) college network varied considerably in size, and college size was deemed to have a bearing on the ability of individual colleges to deliver against the Department's strategic aims and objectives. An economic appraisal was carried out in response to the Review '*FE Means Business*'. The report recommended moving away from the sixteen colleges to six (regional) colleges (from 13,000 to 30,000 enrolments), based on their economic appraisal of monetary costs, and the evaluation of weighted criteria.

The report identifies the following key benefits of having a smaller number of larger colleges:

- greater critical mass and collaboration rather than competition, leading to better use of investment;
- critical mass should result in benefits from economies of scale;
- greater coherence across the sector leading to more effective delivery of strategic agenda; and,
- enhanced status of FE colleges.

The following risks were also identified:

- lack of continuing ease of geographical access;
- potential loss of local identity;
- turbulence; and,
- loss of high quality staff during implementation.

No evidence was cited that larger colleges are necessarily more effective.

In 2007 **Wales** undertook a policy review of the mission and purpose of their further education sector. It also incorporated an analysis of the wider role of the sector including developments in 14-19 education and training, the interface of HE provision, responsiveness to skills needs of employers and the economy and adult learning, social justice and community engagement.

The report proposed a programme of re-configuration to ensure that all FE Institutions (FEIs) are operating at a minimum size level – a process that will lead to a reduction of management units, not delivery points. Re-sizing might be achieved through federation, merger, or the creation of a new college. Two of the report's recommendations for (FEIs) were:

- (i) that within two years the Department should reconfigure FEIs to ensure that no stand-alone institution has a turnover below £15m; and,
- (ii) within 5 years, ensure that each consortium has a single FEI by process of merger or federation of FEIs, each of which has a turnover of substantially more than £15m.

The review refers to evidence from benchmarking exercises undertaken by individual FE colleges that size does matter. However, the evidence is not provided in the report. The review argues that larger units are more flexible for many different purposes: curriculum, timetabling, employer support. This is particularly so where there is a focus on vocational learning which often needs expensive plant. It also cites research that indicates efficiency savings in terms of resource overheads, administration and management could have a significant impact when an FE institution reaches a turnover of c. £15m (Welsh Assembly Government 2007 p, 82)

8. Future research

This review has identified that there is a need to conduct some further research to provide robust, long-term evidence on the “success” of mergers between FE colleges.

As far as we are aware, two projects are currently underway:

(i) The **LSC** has recently commissioned a piece of work “**Evaluating the impact of FE collaboration: Developing a tool-kit for evaluation**”. This project will develop an evaluation tool-kit to help track the short and long term impact and relative success of new models of working, across a range of performance indicators. At this stage, the aim of the tool-kit will be to identify:

- what merger/ collaboration work is underway;
- What stage the colleges involved are along the process;
- Track short- to long term impact of these collaborations;
- Identify emerging issues or causes for concern; and,
- Sharing best practice.

The anticipated completion date is September 2008.

(ii) The **CfBT Education Trust** has a commissioned a report looking at educational structures in the FE sector (forthcoming). This report includes a section on college mergers, which identifies the drivers for merger, and argues that economies of scale offer financial advantages to larger colleges. The report also identifies problems with a competitive local climate (such as disincentives to invest in disadvantaged groups). However, it is noted that merger alone is not sufficient to secure quality improvement, and that the evidence is not conclusive (benefits are frequently overstated pre-merger and are slow to materialise). The report cites evidence that large colleges are consistently found to have the ability to take a broader view of local need than local institutions. In their assessment, the majority of mergers over the past decade have been motivated by problems with finance and standards and a need to survive, but increasingly mergers are being driven by a desire to bring together successful colleges to create an organisation better able to meet sub-regional needs and adapt to changes in policy.

Some further research suggestions include:

(iii) To complement the work of the LSC above a further possibility is to carry out a repeat of Warwick study – based on an in-depth analysis of recently merged colleges. Ideally this would include a pre- and post- quantitative assessment of the college ‘performance’ across a range of measures, as well as in-depth case studies with a number of colleges. Evidence from the review suggests that a longer time frame for monitoring impacts is required, possibly 2-3 years after the merger, as short-term benefits are minimal.

(iv) An evaluation of a forth-coming merger. This would allow us to get reliable pre-merger baseline and monitor impact over time, try to understand the drivers and intended benefits and assess whether these have been realised.

(v) A qualitative study examining in more detail the drivers for merger to see whether they have changed in nature or grown stronger over time, or might change as a result of the White paper reforms and the move to demand-led funding. This could also include a review of collaborative activity to see the extent to which some colleges

are exploiting advantages of merger without losing individual identity and status, possibly including views from non-merged institutions to establish what (if any) discussions have been taking place on the issues on merger and what the issues are for them.

(vi) A quantitative comparison of the effects of competition and collaboration on college performance, across a range of measures.

3. IS THERE A QUANTITATIVE RELATIONSHIP BETWEEN COLLEGE SIZE AND PERFORMANCE?

CHAPTER SUMMARY:

- Since publication of the Foster Review there has been a significant rise in the number of proposed mergers.
- Across the FE sector there is a significant variation in size of GFECs in terms of income and standard learner numbers.
- There is no evidence of a relationship between college size and success rates.
- There is some correlation between size and average OfSTED inspection grade, but the correlation coefficient is small and does not suggest a strong relationship.
- Larger colleges may show less variation in performance, but any college can achieve poor or outstanding performance regardless of size.
- There is no relationship between college size and financial health.
- There is no evidence to suggest that merged institutions perform any better or worse than institutions that have not been involved in a merger.
- Further analysis and research is needed to better understand the relationship between college size and performance, and the impact of college mergers, and to address the issue of causality.

INTRODUCTION

The purpose of this analysis is to explore the links between college size and performance using administrative data and Management Information from the LSC and OfSTED, to determine whether there is any evidence that larger colleges perform better, or that mergers between FE colleges should be encouraged.

The analysis will address the following key questions:

1. What is the current level of variation in college size and performance? ¹⁴
2. Is there any evidence that a relationship exists between college size and performance?
3. Do colleges that have been involved in mergers perform better than those that have not?

There are other key analytical questions that are important to the discussion, but fall outside the scope of this analysis. These include:

- What is the impact of merging on college size and performance?
- What is the impact of merging on the level of choice and competition within travel to learn areas?
- Is there a minimum viable size for colleges to operate successfully?
- Is there an optimal college size (i.e. is there a limit to economies of scale beyond which colleges become unmanageable or less efficient)?

¹⁴ Throughout the analysis we will use a variety of indicators for size and performance

ANALYSIS

It is important to include a cautionary note on causality: if a relationship between college size and performance can be identified, it does not necessarily follow that larger colleges perform well because they are large. It may be the case that high performing colleges can grow because of their success; therefore large colleges may be large because they are high performers. Alternatively, there may be external factors that affect both size and performance. If there is a relationship between college size and performance, but we can not be sure that larger size causes colleges to perform better, then we can not be sure that increasing college size will necessarily improve performance.

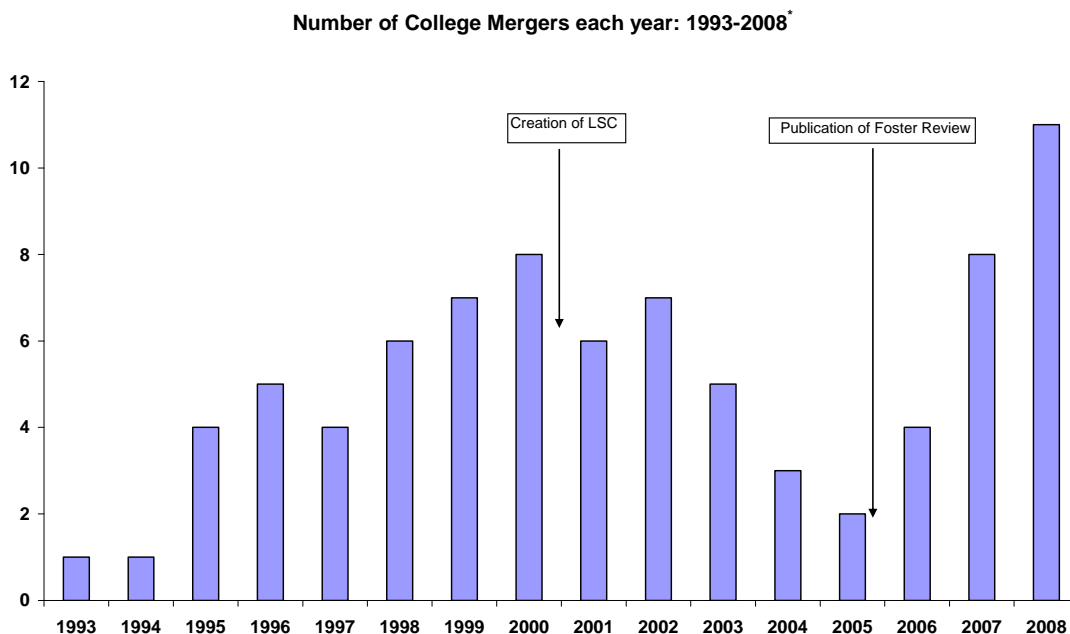
Data

The analysis uses the following data:

- Information from DIUS policy colleagues on merger activity from 1993 to 2008.
- College income data taken from the financial data return for 2006/07, published by the LSC:
<http://www.lsc.gov.uk/publications/latestdocuments/Detail.htm?id=d048ca13-bf1d-4631-bd85-615151b0f547>
- Provider level success rates - which are an early view of the 2006/07 figures taken from the LSC demand led funding (DLF) model.
- Standard Learner Numbers (SLN) – also taken from the DLF model.
- Headline inspection grade data for GFECs inspected between August 2005 and February 2008 in cycle 2 of the Common Inspection Framework (CIF).
- Financial health data – from LSC provider financial returns

The analysis is restricted to GFECs to ensure results are not affected by inherent differences in institutional performance. Analysis using OfSTED data is restricted to the 150 GFECs that were inspected between August 2005 and February 2008.

Recent Merger Activity

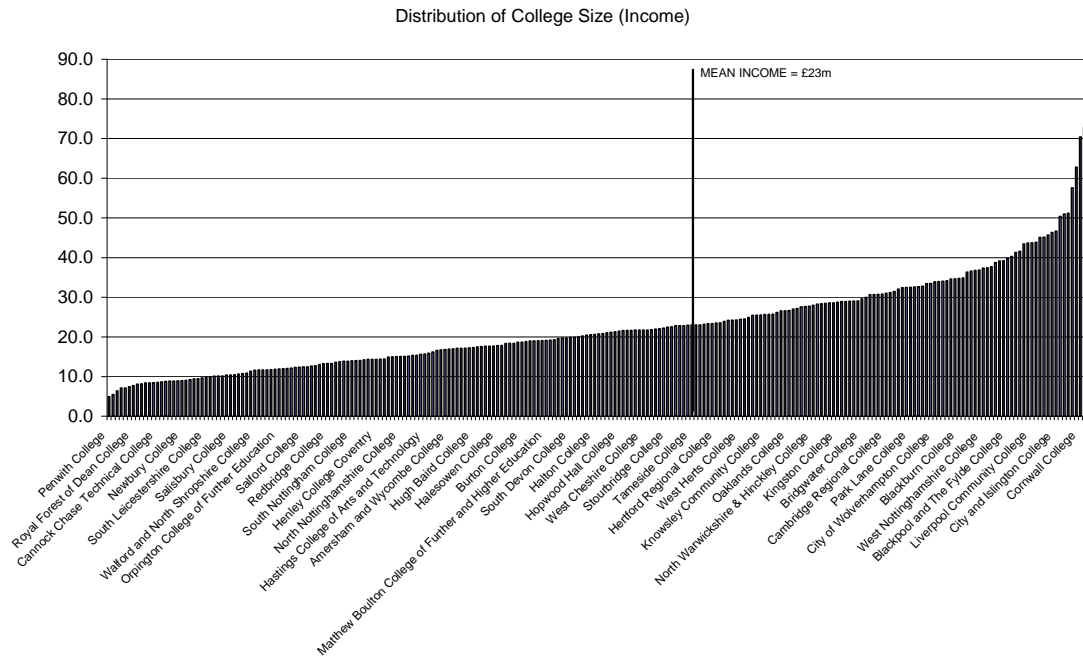


*Data for 2008 include one merger that has already taken place, 2 mergers that have been agreed (and due to take place in April), and 8 proposed mergers. This is the latest available

information from the LSC, the number of proposals for 2008 could increase, but not all proposals are guaranteed to go ahead.

Since 1993, 72 mergers have taken place (including one in January 2008), and we expect up to 10 more mergers this year.¹⁵

1) What is the current level of variation in college size and performance?

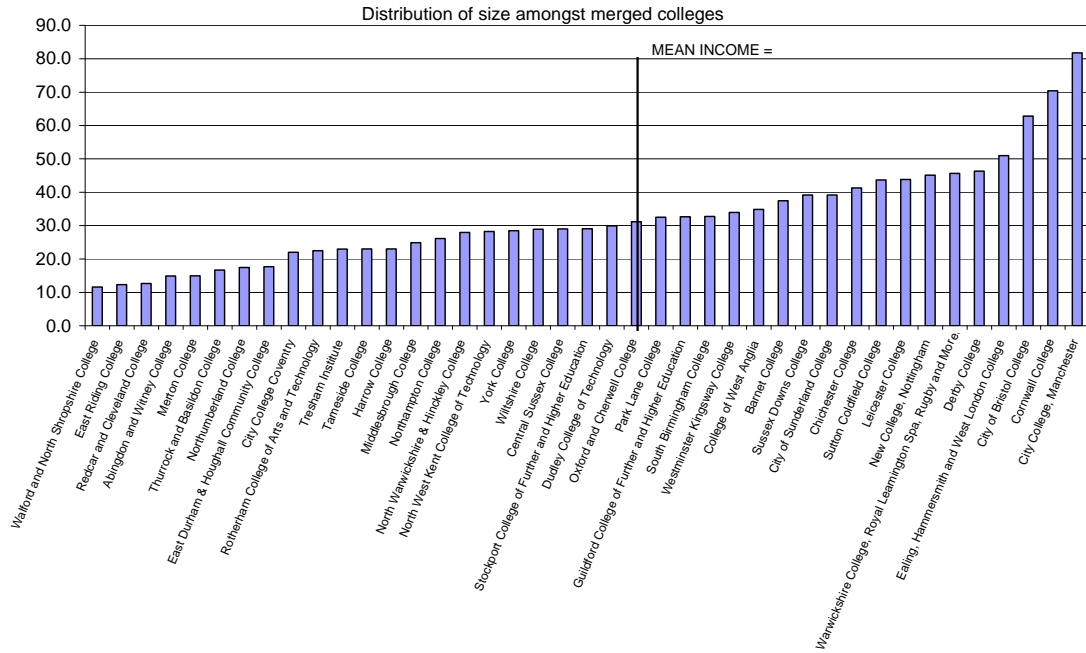


Of the 243 GFECs for which we have data on income, income ranges from £5m to £82m. The largest 30 colleges account for 25% of total GFEC income.

For the purpose of this analysis we can use upper and lower quartiles to define whether a college is small, medium, or large. The lower quartile of colleges are below £14m income, and the upper quartile are above £29m, therefore we define a small college as one with less than £14m income, large as over £29m income, and medium as between £14m and £29m.

Although there may be an impression that merged colleges are necessarily large, there is significant variation in size, in terms of income, between merged colleges.

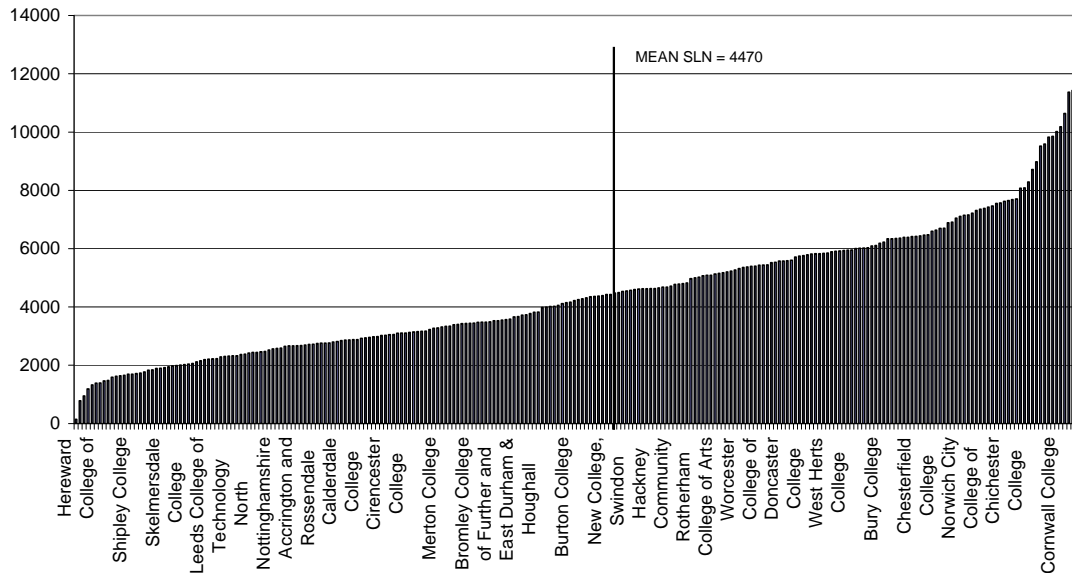
¹⁵ Some colleges merged before incorporation in 1993, but these have not been included.



Amongst the merged colleges, income ranges from £12m to £82m. Merged colleges account for 24% of total GFEC income.

College income is not the only way to measure college size. An alternative is to use the Standard Learner Number which is the LSC preferred measure of Full Time Equivalent (FTE) learners.

Distribution of College Size (SLN)

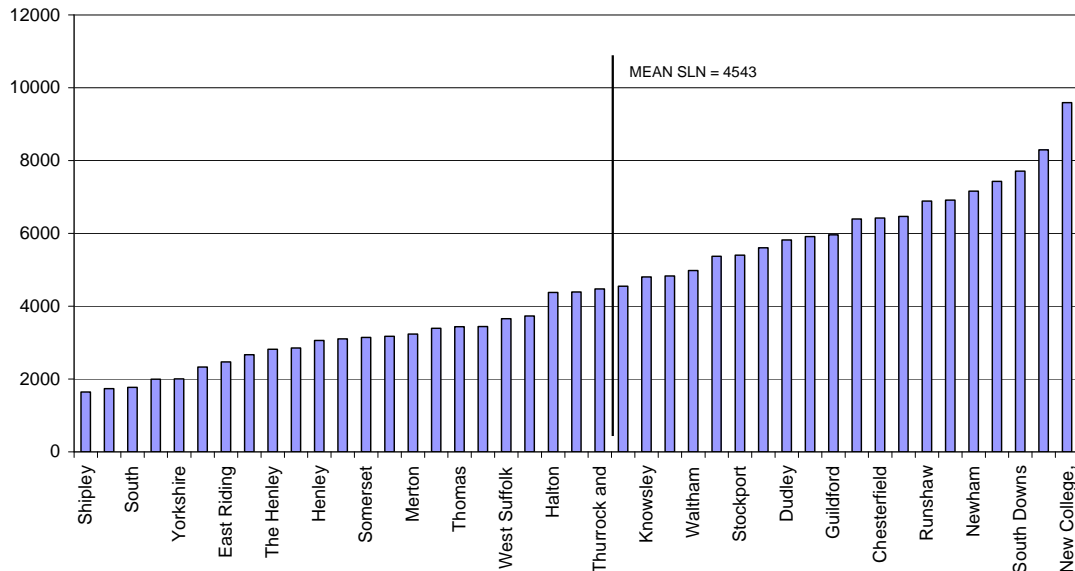


College size in terms of SLN ranges from 150 to 12,520, and the top 33 colleges account for 25% of total SLN¹⁶.

¹⁶ There are 250 GFECs for which we have SLN data.

The lower quartile of colleges are below 2,760 SLN , and the upper quartile are above 5,850 SLN, therefore a small college is defined as one with less than 2,760, large as over 5,850 SLN, and medium as between 2,760 and 5,850 SLN.

Distribution of Merged Colleges (SLN)



Amongst the merged colleges, size in terms of SLN ranges from 1,640 to 9,590 and merged colleges account for 17% of total SLN.

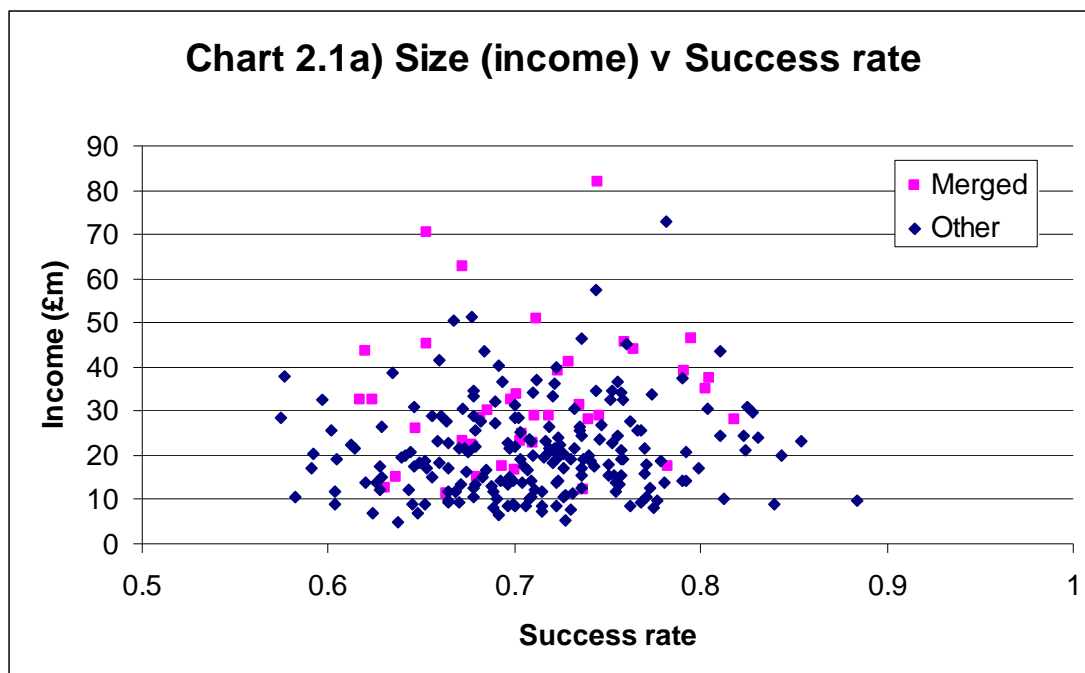
2) Is there any evidence of a link between college size and performance?

We have used a number of indicators for size and performance to examine whether there is any link between college size and performance. For size we have looked at college income and SLN, and for performance we have used success rates, OfSTED inspection grade data, and financial health data. The following analysis shows the extent to which these indicators of size and performance are correlated. For each relationship we have shown a scatter plot, correlation coefficient and, where useful, a table showing the probability (%) for each size band of being in each performance band.

2.1. a) Size (income) v Success Rates

There are 254 GFECs in the DLF model. Section 2.1 is based on 243 of these for whom both success rate and income data were available.

Chart 2.1.a shows the relationship between college income and success rates.



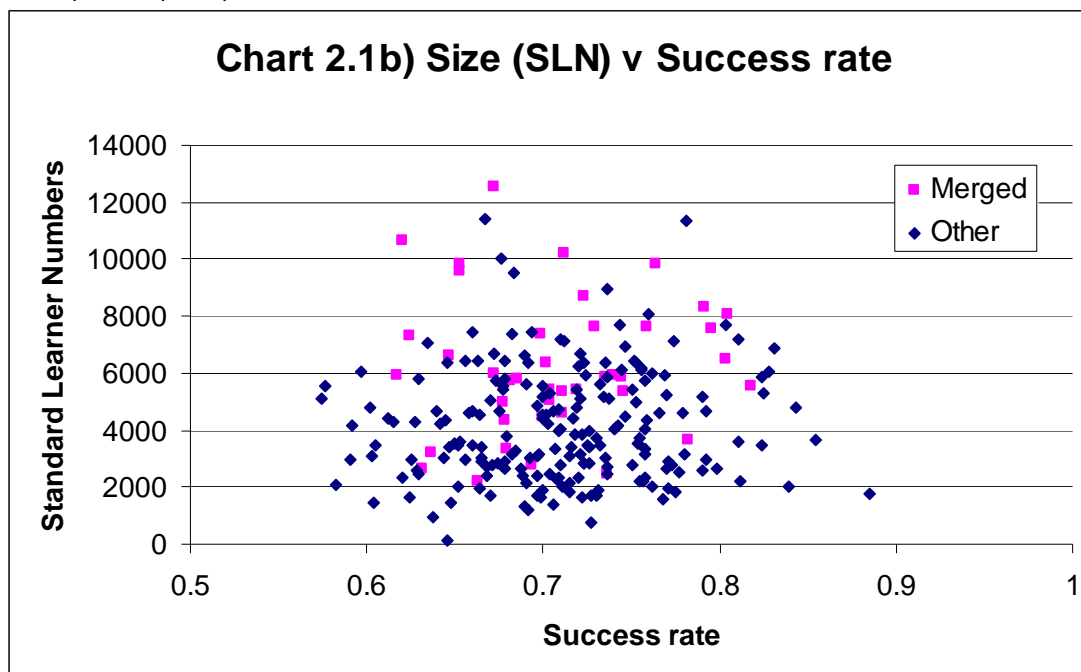
The correlation coefficient is 0.08 which suggest a weak correlation between income and success rates.

The table below shows the probability (%) of being in each performance band (success rate) for each size band (income).

		<i>Performance Band (success rate)</i>				<i>Colleges in band</i>
		<i><67%</i>	<i>67 to 70</i>	<i>71 to 74</i>	<i>75% +</i>	
<i>Size Band (Income £m)</i>	<i>29m +</i>	19	22	27	32	61
	<i>14m to 29m</i>	24	26	25	24	123
	<i>Below 14 m</i>	31	26	21	21	59

Although a lower proportion of large colleges show poor performance, and a lower proportion of small colleges show high performance, this grid shows that any college can show good performance regardless of size.

2.1. b) Size (SLN) v Success Rates



Using SLN as a measure of size gives a slightly lower correlation coefficient of 0.06 which suggests that there is little evidence of a relationship.

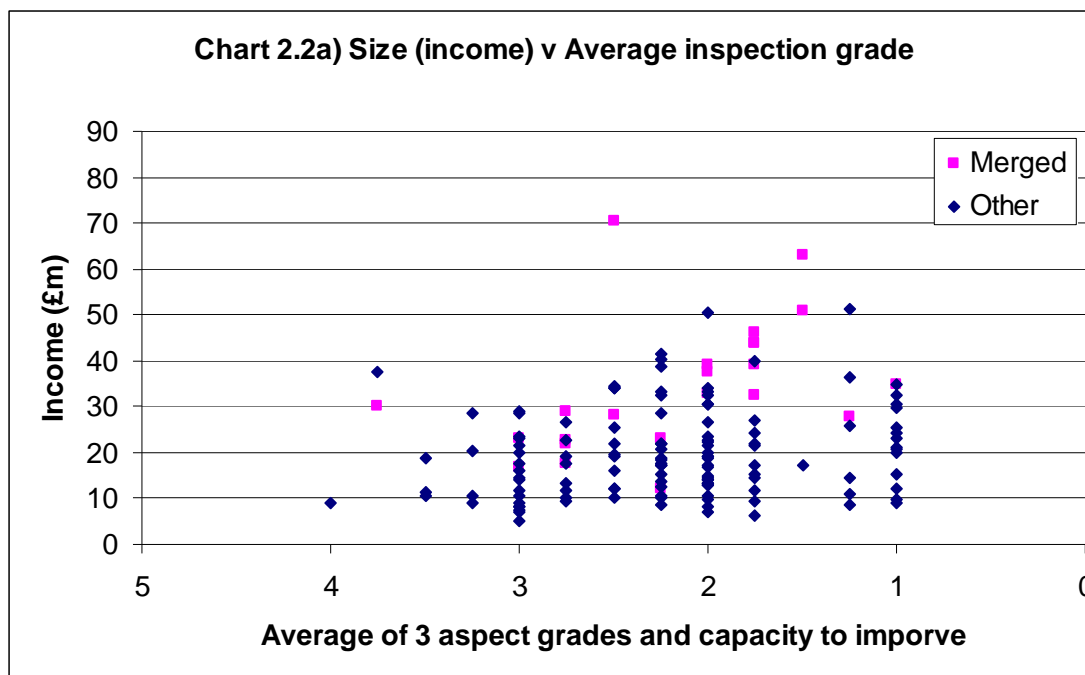
		<i>Performance Band (success rate)</i>				<i>Colleges in Band</i>
		<i><67%</i>	<i>67 to 70</i>	<i>71-74</i>	<i>75%+</i>	
<i>Size Band (SLN)</i>	<i>Below 2760</i>	28	25	22	25	60
	<i>2760-5850</i>	25	28	25	22	122
	<i>Above 5850</i>	21	20	26	33	61

Again, the grid showing the probability for each size band of being in each performance band shows that whilst a larger proportion of larger colleges do well, colleges of any size can achieve high performance.

2.2. a) Size (income) v Average Inspection Grade

There are 150 GFECs that were inspected between August 2005 and February 2008 in cycle 2 of the Common Inspection Framework (CIF), so not all of the 243 GFECs included in the previous section looking at success rates are included here.

The chart below shows the relationship between income and average OfSTED inspection grade.



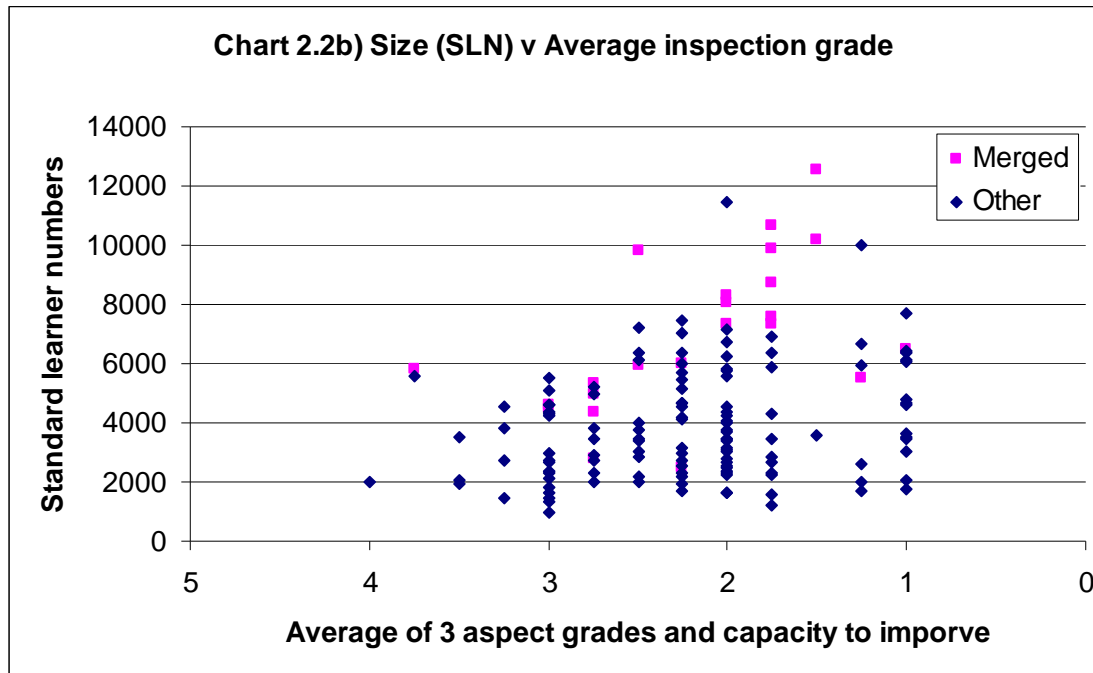
Although there is less variation for larger colleges in terms of average inspection grade, smaller colleges can achieve equally high average inspection grade scores. The correlation coefficient is -0.22 which suggests a modest correlation.¹⁷

		<i>Performance Band (Average Inspection)</i>			<i>Colleges in band</i>
		<i>4 to 2.75</i>	<i>2.75 to 1.75</i>	<i>1 to 1.75</i>	
<i>Size Band (Income £m)</i>	<i>29m +</i>	17	40	43	35
	<i>14m to 29m</i>	39	36	25	72
	<i>Below 14 m</i>	40	23	37	43

The probability (%) of being in each performance band (average inspection) for each size band (income) is shown above. Again, although a greater proportion of larger colleges are outstanding or good, 21% of smaller colleges have average inspection grades between 1 and 1.75. Medium sized colleges are evenly distributed across the average inspection grade performance bands.

¹⁷ The coefficient is negative because OfSTED grade of 1 is outstanding and 4 is inadequate.

2.2.b) Size (SLN) v Inspection Grade

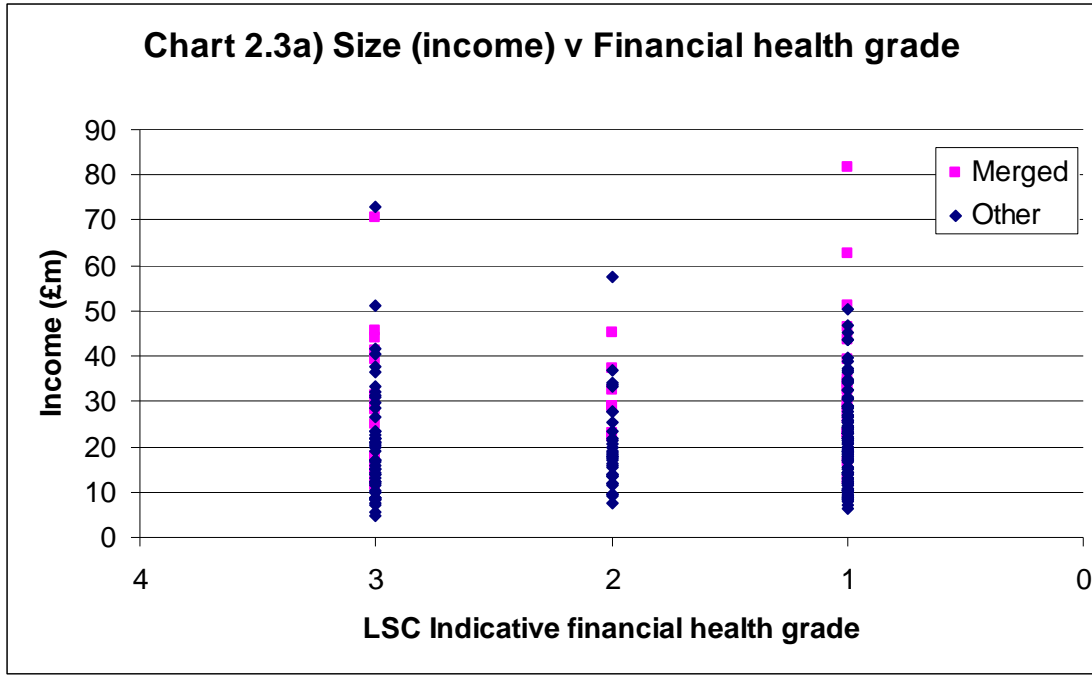


The correlation coefficient is -0.26 which again suggests a modest relationship that is very slightly higher using SLN instead of income as an indicator of size.

We have presented inspection grade data as an average across the three aspect grades (Leadership & Management, Quality of Provision, and Achievements & Standards) and Capacity to Improve. Annex 2 shows the scatter plots and correlation coefficients for each individual aspect, Capacity to Improve, and the overall inspection grade. These show a consistent message in terms of a lack of evidence for a strong relationship between income and inspection grade performance. The strongest (but still modest) coefficients are for leadership & management, capacity to improve, and quality of provision (-0.24, -0.23, and -0.22 respectively); whilst the correlation coefficients for achievements & standards and overall inspection are lower (-0.10 and -0.15 respectively).

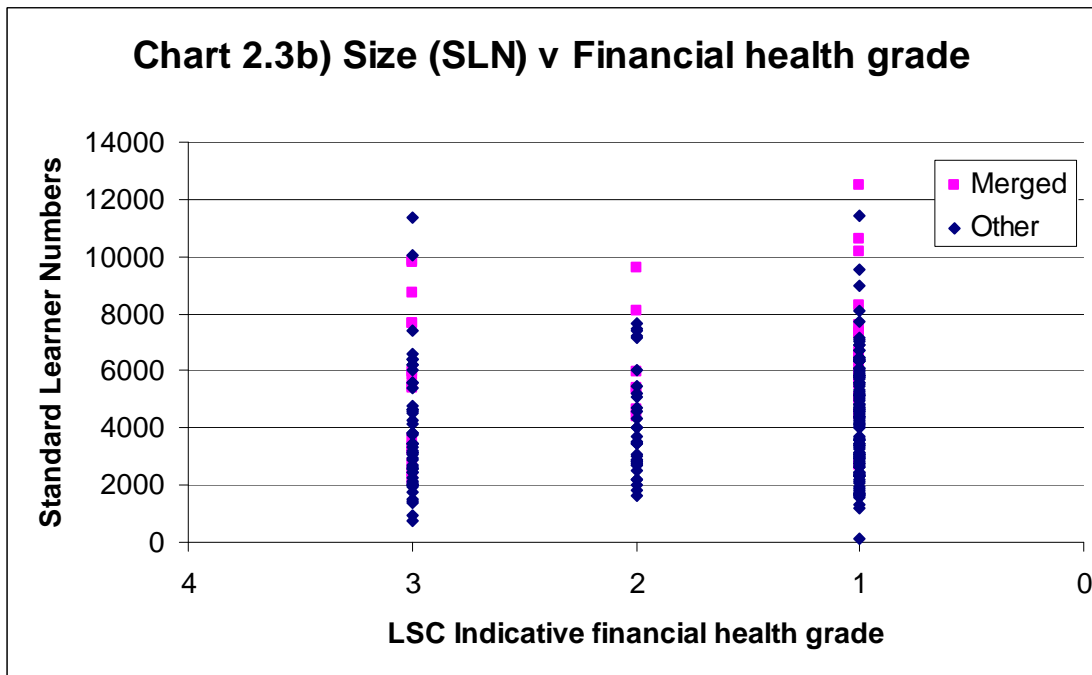
2.3. a) Size (income) v Financial Health

The following charts are based on data from the LSC provider financial returns mentioned above and include the same 243 colleges used in section 2.1. Financial health grade gives an indication of whether a provider is operating in surplus or deficit. Grade 1 represents the best performance and grade 3 the worst.



The correlation coefficient is -0.029 which shows that there is insufficient evidence of a link between income and financial health.¹⁸

2.3. b) Size (SLN) v Financial Health



Correlation coefficient for SLN and financial health grade is -0.08 which again is not suggestive of a relationship.

¹⁸ There are no tables showing the probability (%) of each size band being in each financial health indicator because the distribution of overall grades for financial health is not even so results would be misleading.

3) Do merged colleges perform better?

It is worth re-iterating that merged colleges are not necessarily the biggest colleges; although the largest college in terms of income is a merged college (City College Manchester), only 5 of the top 10 largest colleges are mergers, and income of merged colleges ranges from £12m to £82m.

Data on the number of mergers show there to have been 72 mergers since 1993, and these have created 43 merged institutions.¹⁹ All of the scatter plots in section 2 identify the colleges that have merged since 1993 compared to all other colleges that have not merged. Looking at the scatter plot shows no obvious relationship between whether a college has merged and college performance, for any performance measure.

There are too few mergers to repeat the tables showing probability for each size group of being in each performance group, but we can illustrate the pattern for mergers overall.

		<i>Performance Band (success rate)</i>				<i>Colleges in band</i>
		<i><67%</i>	<i>67 to 70</i>	<i>71 to 74</i>	<i>75% +</i>	
<i>Size Band (Income £m)</i>	<i>29m +</i>	19	22	27	32	61
	<i>14m to 29m</i>	24	26	25	24	123
	<i>Below 14 m</i>	31	26	21	21	59
<i>MERGERS</i>		22	32	27	20	41

		<i>Performance Band (Average Inspection)</i>			<i>Colleges in band</i>
		<i>4 to 2.75</i>	<i>2.75 to 1.75</i>	<i>1 to 1.75</i>	
<i>Size Band (Income £m)</i>	<i>29m +</i>	19	27	32	61
	<i>14m to 29m</i>	24	25	24	123
	<i>Below 14 m</i>	31	21	21	59
<i>MERGERS</i>		39	22	39	23

These tables should be treated with caution given the small number of mergers available for comparison, but they do illustrate that the performance of mergers is spread across the average inspection and success rate bands, thus there is no evidence to suggest that merged institutions perform better.

Much more detailed data and in-depth analysis is required to show whether there is any evidence to suggest that merged colleges perform better.

It should be noted that whilst we know which colleges have merged, we do not have data on organisational structure or the level of collaboration or partnership between colleges. More detailed information on organisational structure would allow us to say more about performance.

¹⁹ Some colleges may have merged several times during the period which explains why there are fewer merged institutions than there are mergers – e.g. City of Bristol was involved in one merger in 1996, another in 2000, and another in 2002.

POSSIBLE FURTHER ANALYSES

This paper has presented a descriptive statistical analysis of available data on college size and performance. With more detailed data further analysis may be possible in the following areas:

- Data on Minimum Levels of Performance (MLP) could be included as an additional indicator of performance to see whether there is any relationship with college size.
- More detailed OfSTED data may allow us to further disaggregate performance and assess the relationship between size and more detailed indicators of performance.
- Analysis of impact of college mergers – with detailed longitudinal data covering a sufficient period of time pre and post-merger we could investigate the impact of mergers on both size and performance. If we could collect new data (through quantitative research) we may be able to analyse the impact of college mergers on local choice and competition.
- Minimum viable size – quantitative research could attempt to identify whether there is a minimum viable size for colleges to operate successfully.
- Optimal college size – quantitative research could also attempt to identify if there is an optimal college size, beyond which colleges operate less efficiently.
- Modelling the determinants of good college performance – the analysis presented here has shown simple relationships between size and performance indicators. A more sophisticated approach could be to use regression analysis to model performance using a range of explanatory variables such as size, provision mix, demographics, whether institution has merged, geography, local labour market conditions, deprivation indices etc.
- In the future, the implementation of the Framework for Excellence will provide data on additional measures of quality across the three areas of responsiveness, effectiveness and finance.

CONCLUSION

The analysis presented here shows no strong evidence that bigger is necessarily better. Larger colleges tend to have smaller variation in performance indicators, but colleges of any size can achieve poor or outstanding performance. The analysis says nothing about causality between college size and performance.

The strongest correlation coefficient is between SLN and average inspection grade (-0.26), but this represents a relatively weak correlation.

There is no evidence that merged colleges perform any better than colleges that have not merged, or better than smaller colleges.

A more detailed programme of analysis and research is required to enable us to better understand the relationship between college size and performance.

ANNEX 1: REFERENCES USED IN LITERATURE REVIEW

DELNI (2005) ***Future Size and Structure of the Further Education Sector in Northern Ireland – Economic Appraisal*** Belfast: DELNI

Following the publication of the strategy review document ‘*Further Education Means Business*’ this document provides an economic appraisal for the options for changing the size and structure of the FE sector.

DfES (2003) ***An evaluation of Mergers in the Further Education Sector 1996-2000***: Nottingham, DFES

This DfES report, jointly commission with LSC, and carried out by the University of Warwick Centre for Education and Industry evaluates a sample of seventeen mergers using interviews with DfES and LSC personnel, review of LSC and available OfSTED/ALI data, and fieldwork visits at each of the seventeen case study sites.

FEFC (1998) ***The Financial Benefits of Merger in Further Education Colleges***.

The overall aim of this report is to provide guidance for college governors and principals who are contemplating merger with another college and who might wish to know something of the experience of other colleges which have undertaken merger since the establishment of the further education sector.

FEFC (2000) ***Mergers in the Further Education Sector – Summary Paper***.

A summary of merger activity since 1993, factors influencing potential mergers, and a provisional evaluation of nine mergers implemented between May 1997 and August 1998.

LSC (2007) ***Collaborations and Mergers: Rapid review of Research on Collaboration and Mergers between Further Education providers***:

In 2007 the LSC completed a ‘rapid review’ of existing evidence on mergers and collaboration with a view to informing further thinking on this topic in the sector.

LSDA (2006) ***Size Matters: economies of scale in schools and colleges***:

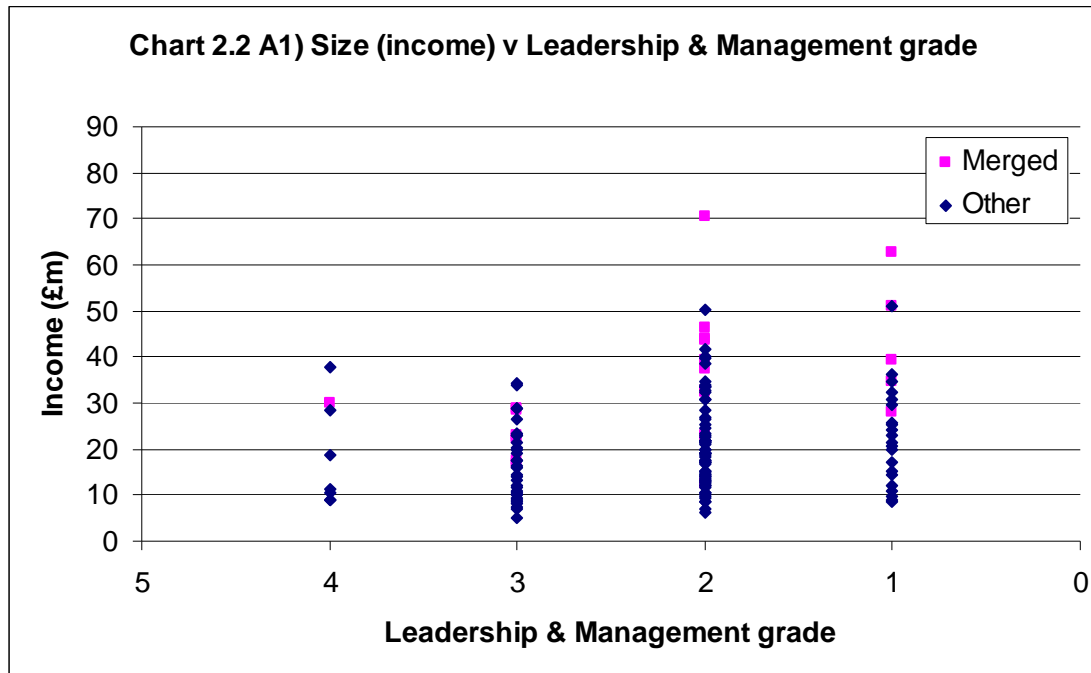
This small-scale study reviews the relationship in England between institutional size and the cost of Level 3 (mainly A Level) provision, models how institutions might behave, and examines qualitative and quantitative data from ten case-study institutions.

STEWART, G. (2003) ***College Mergers: Lessons to be learned from other sectors***: Research in post-compulsory education, volume 8, Number 3, 2003.

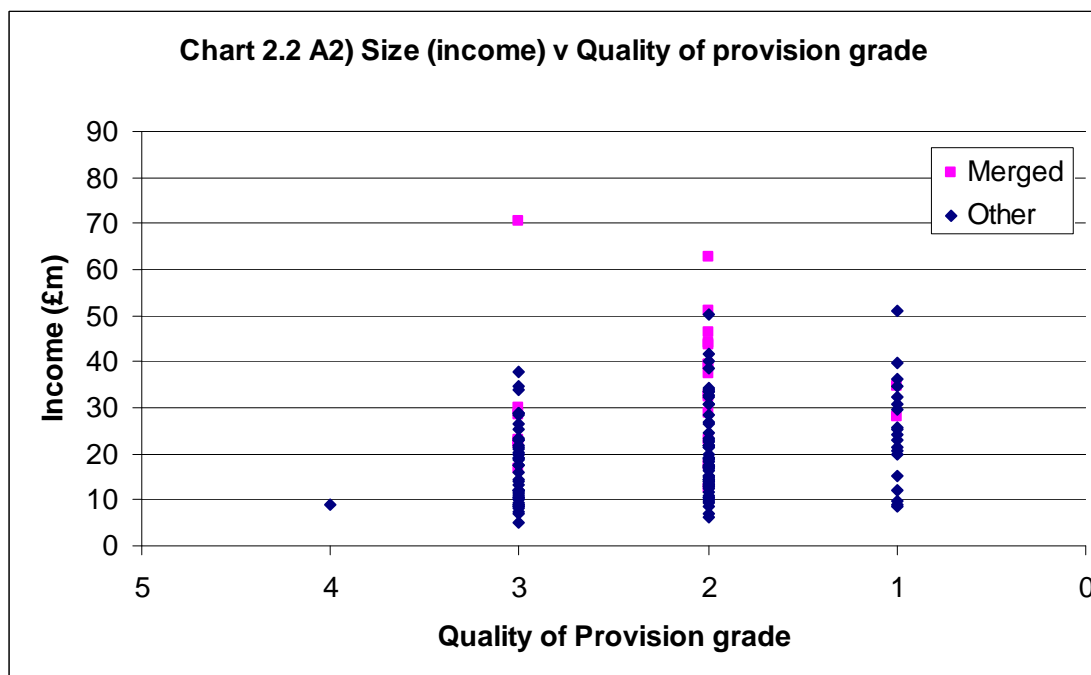
This article reviews merger activity in the further education sector since incorporation in 1993, considers the motives for mergers and discusses the processes that colleges go through

WELSH ASSEMBLY GOVERNMENT (2007) ***Promise and Performance: The report of the Independent Review of the Mission and purpose of Further Education in Wales in the context of the Learning Country: Vision into Action***. Webb Review

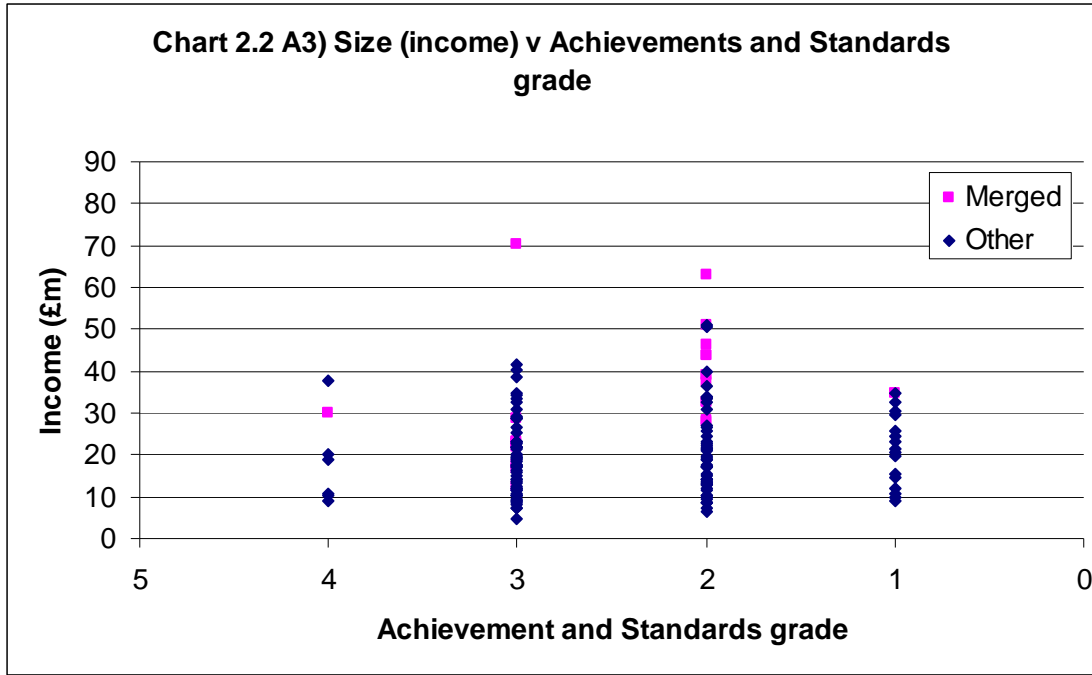
ANNEX 2: ADDITIONAL CHARTS TO SUPPORT QUANTITATIVE ANALYSIS



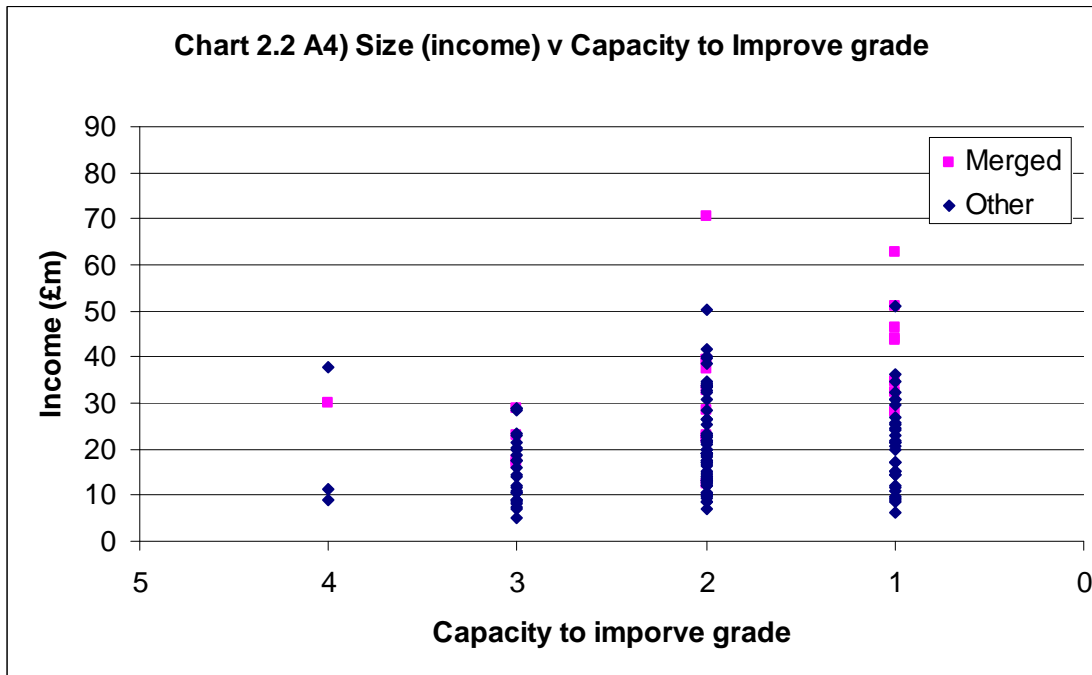
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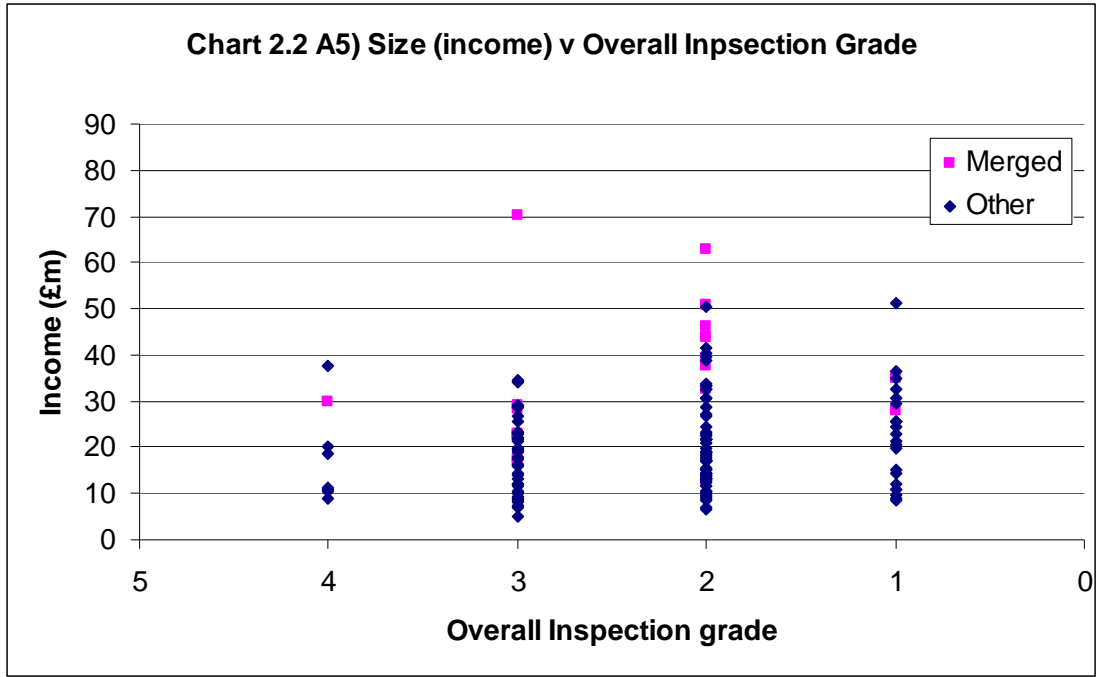
Correlation coefficient = -0.22



Correlation coefficient = -0.10



Correlation coefficient = -0.23



Correlation coefficient = -0.15

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