
Schooling reforms in England: from quasi-markets to co-opetition?

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Greater competition in schooling markets seems to promote higher levels of academic attainment, but so does increased co-operation within and between schools. School choice reforms have a tendency to reinforce local schooling hierarchies and increase differences in the mean pupils' academic attainment between schools. In England, the processes causing these effects have been strengthened by the introduction of school performance tables. Beacon Schools, Education Action Zones, and the current specialist schools initiative seek to alter the mix of competition and co-operation within local schooling markets. Co-opetition, competing in some markets and co-operating in others, is the dominant strategy in the business sector, but policy-makers have been slow to recognize the need to promote such behaviour in education. The English quasi-market processes still reward schools inappropriately and discourage mutually beneficial co-operation between schools.

Introduction

Education policies in developed economies have deployed an increasingly complex range of incentives intended to improve school performance. Market-based reforms have generally sought to increase inter-school competition, neglecting its impact upon the nature and extent of co-operative behaviour in local schooling markets. In this study of England, where quasi-market reforms were generally more pervasive than elsewhere in Britain and Europe, we suggest that schooling policies have now evolved to selectively promote both competition and co-operation. While some English policies, such as the introduction of open enrolment and school performance tables, have been aimed at stimulating increased inter-school competition, other recent initiatives have sought to foster co-operation (e.g. Education Action Zones and Beacon Schools). The extent to which the current policy mix represents a complementary and effective package is not immediately clear, since the incentives offered to schools are of differing size and effectiveness. Moreover, as we shall show, the interactions between these individual policies generate complex responses in local schooling markets.

Headteachers in England tend to see competition and co-operation as opposing and mutually exclusive policies (Ribchester and Edwards 1998). During the 1990s,

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self-reported competition between English secondary schools increased (Foskett 1998), and co-operation decreased (Power *et al.* 1997, Ribchester and Edwards 1998). In 1992, the majority (61%) of headteachers (Bullock and Thomas 1997) believed that significant changes in their school roll were primarily due to demography and a minority (16%) described their local markets as competitive. By 1997, 86% of headteachers (ICOSS 1999) regarded their relationships with other schools as fairly or highly competitive. Supporters of competitive markets typically assume that all agents (such as teachers) act from unbridled self-interest, and that competitive markets will create incentives that align self-interest with general welfare. Supporters of co-operation between schools have typically been sceptical of these incentives, anticipating an increase in inequality, and being more inclined to believe that selfish and public interest may be better aligned by strengthening teachers' professionalism and collective ethos. According to Finkelstein and Grubb (2000), such disagreements have settled into a ritual, with some empirical support being found for each position, although the generalization of this evidence is made complex by the variety of market-based reforms adopted. We argue below that a further reason for this stand-off is the lack of evidence concerning the impact of different regimes on the rate of innovation and the speed of dissemination of best-practice in schooling markets.

In this study, we present an economic analysis of the impact of recent schooling reforms in England designed to promote competition or co-operation between schools. Our argument is that both competition and co-operation have a mix of desirable and undesirable properties that bear upon school effectiveness, but one school cannot at the same time compete and collaborate with another school in providing the same outcome. We, therefore, argue a case for identifying the most desirable foci for competition and co-operation. Continuing school improvement requires not only that a schooling system is efficient in meeting principals' (parents and students) current needs, but also that it innovates effectively and ensures that new knowledge about effective schooling spreads rapidly from school to school. We argue that competition is more likely to promote short-run efficiency and co-operation is more likely to promote long-run dissemination. Whether competition or co-operation is more likely to promote effective innovation depends on the strength of market hierarchies, first-mover advantages, and the resources required for successful innovation. We also argue a case for creating opportunities for schools to compete in one arena (a particular group of schools or a particular educational outcome) whilst collaborating in another. In both arguments, our focus is upon the incentives that are likely to generate more desirable combinations of competitive and co-operative behaviour. We pay particular attention to school performance tables on the grounds that these have established a powerful context for the incentives introduced by subsequent reforms.

There are three important characteristics of this context generated by school performance tables. First, they specify a particular weighting for the different outcomes of schooling (e.g. future productivity, socialization, personal fulfilment, happiness of pupils whilst at school). Secondly, they attach a particular weighting, perhaps of zero, to the contribution of intake characteristics, school effects and peer effects to those outcomes. Thirdly, success in a local market depends upon the *relative* performance of a school in those tables. In England, the publication of simple performance indicators for schools has effectively rewarded schools on the basis of their unadjusted, relative performance over a narrow range of academic outcomes.

This has created some dysfunctional effects in terms of the narrowing of schooling targets, restriction of co-operation, and wasteful duplication. A number of policy initiatives in England have attempted to correct these defects, promoting alternative forms of competition and providing financial inducements for increased co-operation. However, effective policy co-ordination requires that the dysfunctional effects of school choice reforms be minimized at the time policy is designed and implemented, rather than these effects later providing a rationale for further interventions. In this paper, we argue the need for co-ordinated and mutually consistent policy that targets improvements in educational value-added at the school level.

In the following two sections, we outline the theoretical relationships between school competition and co-operation and school effectiveness. We then briefly describe the development of policy in England and analyse the interaction between the incentives for competition and co-operation created by this system.

Competition and school effectiveness

The market choice critique of the state allocation of school places on a zonal basis is that governments allow schools a captive market where they have no need to innovate or to respond efficiently, or sometimes at all, to consumer preferences (Shleifer 1998). When open enrolment is instigated, the school choice argument asserts that parents and pupils have incentives to choose both the type and duration of schooling which best suits their abilities, aspirations, and the needs of the economy. The proposition that open enrolment will also raise educational attainments, i.e. productive efficiency, rests upon a belief that greater rivalry stimulates schools and teachers to reduce x-inefficiency (internal slack) and improve educational outcomes as measured by the dominant performance indicators. The belief that competition may improve incentives for efficiency by allowing performance comparisons, competition by comparison (Vickers 1995), has caused open enrolment reforms to be frequently coupled with measures to publicize simple indicators of schools' performances. These arguments stress the value of competitive markets in creating incentives for agents to fulfil the wishes of principals through exploiting existing resources and through innovation.

The incentive for innovation depends on the existence of advantages for first-movers. Such advantages arise if the innovator is able to prevent rivals from acquiring the knowledge or the resources necessary to replicate the innovation. These conditions are generally unlikely to be met for innovations in schooling processes (Davies *et al.* 2002), though if rivals are impeded by bureaucratic or professional inertia then advantages may accrue to the first-mover (Švecová 2000). A more likely source of first-mover advantage in local schooling markets is the capture of a market niche. This occurs if there are insufficient parents seeking a particular type of schooling to support provision in more than one school or through reputation effects acting as an effective entry barrier. The incentives encouraging the dissemination of knowledge following innovation arise from the benefits for rivals from emulating successful first-moves, and the benefits to first-movers from 'selling' their innovation to others (particularly if they are not local rivals).

Extending the arguments of Dixit (2002), we can identify five characteristics of schooling markets that create problems for the design and implementation of effective incentives following the introduction of market-based reforms. First, most of the goals of public education are not precisely measurable, making it difficult for principals to identify accurately a school's contribution to educational value-added. Secondly, schooling markets involve multiple principals (parents, pupils, taxpayers, government, and headteachers) with diverse preferences regarding the weights that should be attached to these goals of state schooling. Targeting allocative efficiency, therefore, requires some prior agreement amongst these principals as to the desired combination of schooling outcomes. Reforms which increase parental power in schooling markets reduce those of other principals and lead to changes in the mix of educational outputs which local schools seek to produce. This causes tensions between alternative government policy objectives. Governments have often been enthusiastic in making schools more receptive to parents' wishes. However, they have been generally unwilling to relinquish control over the determination of the composition of outcomes which schools are required to achieve.

Thirdly, the agents (teachers and heads) that these principals seek to direct are in part motivated by professional and public service considerations (Francois 2000). Market-based incentives may, therefore, produce dysfunctional effects to the extent to which 'professionalism' and 'collegiate ethos' mechanisms are displaced (Adnett 2003). Fourthly, schooling markets are local markets, in which a small number of schools 'compete' for a largely fixed number of pupils. Oligopoly, competition amongst the few, is the dominant form of competition. Here, decision-making is inter-dependent in that the expected behaviour of one school influences the behaviour of all other local schools (Davies *et al.* 2002). In addition, the fixed locations of schools, the absence of significant entry and exit threats and costly search, travel, and relocation for parents and pupils cause each school to have market power over certain groups of pupils. Moreover, those markets have an history that has generated an established hierarchy amongst local schools largely based upon the average absolute levels of academic attainment of their pupils (Taylor 2001). The strengthening of market forces is, therefore, taking place in the context of a market where clear rankings exist and in which zonal systems of allocating pupils have caused ability to be unevenly distributed between schools. Together these two characteristics raise questions about the sustainability of dynamic competition given the persistent dominance of a market leader in local markets.

Finally, there are significant externalities from schooling which make the equation of 'popular' with 'successful' problematic (Vandenberghe 1999, Walford 2001a). Schools that are highly successful in socializing pupils in ways that benefit other pupils should attract parents who value these benefits. However, socialization benefits that will accrue to others after the pupil has left the school are not internalized within the school choice process, unless they are jointly produced with socialization benefits experienced by other pupils. Schools that succeed in recruiting an able peer group secure ownership of the positive externalities created by these pupils (Feinstein and Symons 1999). This may act as a powerful cause of their continuing popularity, regardless of the strength of their school effect or indeed the overall impact on the level and distribution of educational value-added.

In addition to these arguments applying to markets in principle, there are additional issues to be considered when evaluating incentives in practice. For example, the competitive markets argument also assumes that under performing

schools face credible threats to their viability, not least through expansion by rivals. In practice, exit and entry market threats to the viability of English schools have been the exceptions rather the norm (Hargreaves 1996, Fink 1999), particularly since expansion has been limited by physical capital and financial constraints.

Co-operation and school effectiveness

School effectiveness research normally concentrates on the determinants of effectiveness perceived as being internal to the school. Amongst these determinants are factors such as 'shared vision' and 'collegiality' (Sammons *et al.* 1995), but rarely is the direct impact of external co-operation on these internal factors analysed. Orthodox economic analysis goes a stage further, treating competition and co-operation as incompatible. The latter in this case being viewed as a mechanism for collusion aimed at subverting consumer welfare. In contrast, co-operation between teachers and schools is usually regarded in the broader education literature as an unambiguous good (e.g. Wallace 1998). If it is assumed that professional culture esteems the public interest, it follows that co-operation which nurtures that professional culture is in the public interest. Professional culture which encourages schools to reduce costs by sharing specialist resources (e.g. through consortia arrangements in the provision of a broad 16–19 curriculum) and which discourages schools from engaging in zero-sum promotional activities that utilise scarce resources can be interpreted in this light. Professional culture may also encourage the dissemination of knowledge, if teachers and schools gain satisfaction from the acceptance of their ideas and practice by others. This provides an incentive for professionals to make their knowledge available, but, by itself, it provides no incentive for this knowledge to be taken up by others. The difficulties in 'spreading innovative practice' are widely documented in reviews of past curriculum development in England (e.g. Parsons 1987).

Providers may also face market incentives to co-operate in order to generate successful innovation. Schools serving different markets may benefit from pooling specialist expertise and from sharing information about markets and processes. In this way, socially wasteful duplication of research may be avoided and the speed at which successful innovation is disseminated may be increased. As Brandenburger and Nalebuff (1997) explain, in practice the optimal strategy for any business usually involves a mix of competition and co-operation, a practice they term 'co-opetition'. Incentives for beneficial co-operation may, therefore, arise either from professional culture or from market forces. However, market forces may also discourage co-operation. First, since *relative* performance determines the extent of market success, co-operation now occurs only when both local schools believe that their *relative* performance will improve. Previous co-operations where both parties gained but unequally will no longer take place in a competitive local environment. Secondly, in markets the incentive to innovate is *negatively* related to the spillovers created for other providers, the appropriability problem (Spence 1984). Thirdly, increased inter- and intra-school competition encourage the retention of one's 'best practice' teaching materials and first-mover experience to gain competitive advantage. Indeed, in this case, it has the extra advantage of imposing additional costs on your competitors, since they have to incur costs in developing their own materials and duplicating learning-by-doing. This raises the question of how policy can succeed

in maintaining incentives for beneficial co-operation in a competitive environment, whilst at the same time discouraging collusion.

The development of policy in England

Education policy in England has sought over the last 20 years to strengthen competitive incentives for schools and teachers through a variety of initiatives. From the 1980s, a locally managed zonal system of allocation was replaced by a system in which parents have an opportunity to express their preferences in choice of school. In an open enrolment system, schools only have an incentive to provide information that they believe will encourage parents and pupils to enrol with them. It would also be inefficient for stakeholders in the schooling process to attempt to independently satisfy their own information needs. One way to reduce these asymmetric information and search cost problems is to introduce school performance tables, and this approach has been followed in England. Choosing an appropriate measure is problematic, since schooling outcomes, as we noted above, are disparate and the interests of stakeholders diverse. Moreover, general experience in the public sector suggests that performance indicators (PIs) that lack comparability, transferability, and, therefore, general acceptance by those subject to them, are unlikely to generate effective incentives to improve performance (Smith 1995, Pollitt and Bouckaert 2000).

Government policy has arguably pre-empted parental preference through the adoption of national targets and the publication of school performance tables. In England, these have a strong focus on absolute levels of academic achievement of students. Although only slightly over half of parents claim to understand school performance tables (West and Pennell 2000), evidence from the US (for example, Murray and Wallace 1997), as well as from the UK (Woods *et al.* 1998), suggests that they exert a strong influence on parental choice.

The incoming Labour Government's first White Paper on education, *Excellence in Schools*, suggested a shift from the previous government's pre-occupation with competitive market structures towards encouraging partnership and co-operation amongst schooling providers. A number of initiatives have sought to apply this new philosophy, though the movement away from competition by comparison has not been uniform. Barber (2001) and Walford (2001b) provide contrasting reviews of these developments. Education Action Zones (EAZs) are intended to promote innovation and the raising of standards in local areas of particularly intense social exclusion. Typically, such zones involve two or three secondary schools and their feeder primary schools and in total they now cover ~ 6% of the total school population. Selection is through a bidding process. Initial assessments point to the problem of sustaining partnerships built upon diverse interests and within an overall framework of competitive schooling markets and structural and organizational change (Easen 2000).

Beacon schools, introduced in 1998, and specialist schools gain additional funding to assume the task of developing and spreading best practice. Beacon schools are required to play a general developmental role in local markets (Burton and Brundrett 2000). Reflecting a weakness identified in an OfSTED study (2001), specialist schools are currently being encouraged to use their distinctive expertise as a resource for local people and neighbouring schools, rather than using it to gain

local competitive advantage. The Labour Government is committed to increasing the numbers of specialist secondary schools to 1500 by 2006, eight times the number in 1997.

Several other schemes in England and Wales have been recently introduced to address under-performance across geographical locations. The Excellence in Cities (EiC) scheme was launched in 1999 and now covers a third of all secondary age pupils in 1000 schools. Since September 2001, its approach has been extended to smaller areas of deprivation through Excellence Clusters. The programmes provide additional resources for: focused programmes for the more able; learning mentors to target obstacles to learning external to the school; Learning Support Units to tackle disruption and exclusions, and increase the number of Beacon and specialist schools in city areas. Special funding is also available for school co-operation in those areas where selective secondary schooling persists.

The 'Third Way' emphasis upon partnerships and co-operation as a means of tackling social exclusion and raising educational attainment is at odds with market-based reforms. As we have noted, the latter see co-operation in oligopolistic markets as a way of subverting competitive pressures that would otherwise stimulate increased efficiency and diversity. Perversely, rather than the divergence of school performance (discussed in the following section), it is the failure of the more competitive schooling environment to promote diverse secondary schooling which lies behind the provision of financial inducements for schools to become specialist providers of a specific curriculum in their local market. Overall, a fundamental principle underlying all of these initiatives is that 'schools achieve more when they work together to raise standards' (DfEE 2001: 45). The problems of reconciling this principle with the strengthening of competitive pressures are reflected in the comments of one participating head '... as a teacher you want to improve all pupils ... but perhaps not the ones in the school next door' (Rudduck *et al.* 1999: 4).

The impact of performance indicators and open enrolment

If we view the government as the sole principal in the schooling system, we can conclude that schools, as agents, are now fulfilling more completely the principal's objectives. In 2001, the government reported that its 1997 targets for the performance of 11-year-old pupils had been achieved following a 10% rise in English results and a 12% rise in Mathematics results (DfES 2001). The proportion of 16 year-olds in England achieving 5 grades A*–C in public examinations has also risen substantially, from 35.5% in 1992 to 45.8% in 1999. In the words of Bradley and Taylor (2000), this is a 'remarkable' increase. However, we face three difficulties in interpreting this improvement as reflecting the success of competitive markets in responding more effectively to parental preferences.

First, schools are multi-product institutions with heterogeneous inputs, and dysfunctional responses to the introduction of simple PIs are likely to be common. Dependent upon the extent to which the differing outputs are in competitive supply, the resulting 'improved' performance is to the detriment of unmeasured outputs. For example, West and Pennell (2000) review evidence suggesting a link between the publication of league tables and the trebling of permanent exclusions in the early 1990s. In turn, this outcome stimulated, in 1999, the government to set local targets to reduce the number of school exclusions by a third by 2002. Here,

the dysfunctional effects from target setting generated a new set of targets that again produced dysfunctional effects. These latter ultimately led to legal action against the refusal of teachers to teach re-admitted pupils. Schools may also be getting more technically efficient in the production of examination results. Although, if the government targets do not accurately reflect parental preferences, then allocative efficiency may not be improving in line with measured performance.

Secondly, the association between increased attainment, open enrolment, and the publication of school performance tables may be coincidental. Orthodox theory predicts that competition will be more intense and productive efficiency gains will be higher, when there are more schools competing in a local market. In markets with restricted exit and entry, competitive behaviour will be stronger if the total size of the market is low relative to producers' capacity. There is some broadly supportive evidence for these propositions. Headteachers are more likely to describe schools in their local area as highly competitive if there are more schools contesting the market (Foskett 1998, Levačić and Woods 1999). Glatter *et al.* (1997) also note that competitive pressures were least, and the hierarchy of schools less sharply defined, in markets with a small number of widely dispersed schools. Nevertheless, reflecting the importance of marginal changes in enrolment to the viability of small schools, rural primary schools have also reported significant levels of competition between schools (Ribchester and Edwards 1998).

An indication of the impact of competition upon educational standards is found in the ICOSS (1999) research which reported that schools' self-reported emphasis on examination results was positively correlated with a highly competitive climate. Bradley *et al.* (2000) find that examination results of other local schools have a significant but 'negligible' influence on the performance of each school. However, in a slightly later econometric study, Bradley and Taylor find that a 1% increase in the examination results of other local schools led to an 0.3% increase in a school's own examination performance, with the impact being nearly twice as great in metropolitan areas than in non-metropolitan areas. These studies also provide some evidence of an effect of examination results on enrolment. Bradley *et al.* (2000) conclude that an improvement of 10% in a school's examination performance will lead to an increase of seven pupil enrolments. As they point out, this modest increase may reflect capacity constraints faced by popular schools or the reluctance of headteachers to increase their roll in case this reduces the effectiveness of the school. Nevertheless, Bradley and Taylor (2000) also find strong evidence suggesting that schools facing excess demand during 1993–1996 have increased their pupil capacity.

Thirdly, an overall increase in attainment may be accompanied by a decrease in equity. The process by which open enrolment and the use of unadjusted school performance tables may provide inadequate incentives, for both high-ranking and low-ranking schools, to raise educational value-added is modelled by Adnett *et al.* (2002). Cream-skimming and/or the exercise of parental preferences reallocate positive peer group effects away from lower-ranked schools. Effectively open enrolment systems privatize ownership of the beneficial externalities produced by able pupils, with both parents and schools seeking to obtain the most favourable mix of peer group effects. Given that the allocation of peer effects is a 'zero-sum' game, schools which engage (or are perceived to engage) in cream-skimming are likely to rule themselves out of collaboration in the local market. The net impact of open enrolment on overall stratification of pupils by social class and ability in England is

currently much debated. Gorard and Fitz's (2000a, b) finding that at national, regional, and local government level segregation has been reduced being challenged by Bradley and Taylor (2000) and Gibson and Asthana (2000), as well as those by researchers using in-depth studies of parental choice (e.g. Gewirtz *et al.* 1995). The Chief Inspector of Schools in England noted a widening gap between the performance of pupils in the highest and lowest ranking schools (HMCI 1998, OfSTED 1999). This phenomenon has also been observed in studies of local schooling markets (Levačić and Woods 1999, Gibson and Asthana 2000, Davies *et al.* 2002). Moreover, between 1993–1997, whilst the average GCSE point score increased from 33.1 to 35.9, the top 10% of the cohort of pupils (by examination performance) experienced an increase of 4.4 and the bottom 10% of the cohort declined from 0.8 to 0.7 (West and Pennell 2000).

Apart from the overall impact on levels of academic attainment, our previous analysis indicates a need to address the impact of reforms on rates of innovation and the speed of dissemination of best practice. The scope for innovation by schools has been directly limited by government control over curriculum content and teaching methods. Although recent and proposed reforms have slightly relaxed the scope of the National Curriculum (introduced in 1988), a succession of major initiatives (Literacy, Numeracy, and Key Stage 3 strategies) have further increased government influence over the focus and nature of teaching in schools. Secondary schools have, by and large, enjoyed slightly greater freedom to innovate (in aspects of schooling such as the balance between academic and vocational courses for 14–18 year olds and the scope given to ICT in teaching) than primary schools. Central government has also displaced local government as the major conduit for the dissemination of innovation through the schooling system.

Perhaps most striking has been the impact of market-based reforms on the incentives and ability of individual schools to innovate and disseminate best practice. For schools at the top of the local hierarchy, there are no market incentives to undertake costly and risky innovation. Whilst for those lower down and losing market share, the market provides incentives for curriculum innovation but takes away the necessary resources (Adnett and Davies 2000). If enrolments fall then budgetary constraints are tightened, while average teaching costs per pupil rise given the presence of economies of scale in the size of schools currently found in the UK (Taylor and Bradley 2000). Schools in this predicament lack the resources necessary to fund curricula innovations and promote themselves in the local market place. A cycle of decline results (Woods and Levačić 2002). We stressed that, given the processes at work in contemporary quasi-markets, a school can face this outcome regardless of their absolute or relative success in promoting educational value-added. Indeed, for any school even 'doing the right thing' may not be sufficient for it to maintain market share against less effective schools who have an intake of higher average ability.

The introduction of the local management of schools while producing greater freedom and flexibility for schools also leads to greater isolation. In England, the reduced role of local government has also led to a reduction in schools' access to external expertise. Other quasi-market reforms have further contributed to a reduction in co-operation between local schools and teachers. There is some evidence that co-operation is more likely when a public service ethos dominates the local schooling market. In this case, heads and their governing bodies welcome co-operation and the perceived needs of all the children in the local community drive

school behaviour (Adnett and Davies 2002). Alternatively, where schools are part of a wider network sharing a common ethos and mission, for instance catholic schools (Grace 2002), voluntary co-operation may extend even outside of the local market.

Given the pressures of competition, co-operation within networks of secondary schools or networks of primary schools is less likely to persist over time than between primary and secondary schools. Levačić (1995) finds evidence that secondary schools often subsidize the costs of networking with their feeder primary schools, as reflected in arrangements whereby specialist (e.g. science and modern foreign language) secondary school teachers assist in the teaching of children in their final years of primary school. Here, we observe collaboration between some schools encouraged by competition between other schools, although we cannot be sure whether this sharing of specialist resources is improving pupil attainment. Some secondary schools also share specialist resources through consortium arrangements to provide a broad 16–19 curriculum. This has the advantage for students of enabling a wider choice of subjects (increasing allocative efficiency). However, our study of two local schooling markets (Davies *et al.* 2002) found that this was associated in the 16–19 curriculum with comparatively modest attainment in academic subjects, high enrolment, and high drop-out rates in vocational subjects, yet a strong improvement in the attainment of 14–16 year olds.

In these two instances, we observe contrasting relationships between competition and collaboration. Collaboration between one group of schools (primary–secondary liaison) prompted by competition between another group (secondary–secondary), appears likely to lead to improvements in primary attainment whilst risking lower attainment in secondary schools. The latter is due to a switch of resources and assumes that the successful ‘capture’ of primary schools restricts competition between secondary schools. Schools that collaborate in the achievement of one outcome (16–19 attainment) and compete in the achievement of another (14–16 attainment) seem to be more likely to raise attainment of the outcome in which they compete. However, the potential benefits of sharing information, specialist services, in-service training and curriculum development, and exploiting economies of scope, such as avoiding duplication of minority subject provisions, together suggest that the benefits from co-operation are likely to be greater within the primary and secondary sectors than across them.

Conclusions

Analysis of school performance data in England suggests that competition between schools has a small, positive, impact on school effectiveness. This is consistent with school performance tables and open enrolment reducing x-inefficiency via increased local competition. This effect appears to be greater than any loss of efficiency due to reduced collaboration or resources being diverted to school promotion. However, whilst stratification across all schools has not increased, a variety of data indicate an increase in polarization between the highest achieving schools (and pupils) when achievement is measured in absolute rather than in value-added terms. There is also evidence that head teachers’ professional culture has in some local school markets resisted the incentives created by absolute school

performance tables and open enrolment to cream skim and ignore externalities. The scope for this resistance is least in large urban areas with over-lapping local schooling markets. It is not surprising then that competition is clearly fiercest in areas like London, and that policy may be disproportionately influenced by the concentration of researchers and policy-makers who reside there.

To some extent, there is a 'chicken and egg' problem in interpreting the effect of school performance tables and open enrolment on innovation and dissemination of knowledge. That is, through choice of school performance data, control of the curriculum, retention of funds and active control of large scale innovation (e.g. through the introduction of strategies for literacy and numeracy), central government has pre-empted parental influence. In some respects, it has reduced parents to the role of agents, putting pressure on other agents (schools) to achieve the outcomes that the government, as principal, has determined. However, secondary schools have enjoyed a measure of freedom in the choice of curriculum and methods of organization that has conspicuously failed to result in a burst of innovation. Government intervention in the form of a specialist schools' programme and the creation of Education Action Zones reflects this failure of current quasi-market arrangements to deliver in this area. Absolute school performance tables make the problem more profound by strengthening hierarchies of schools in local markets. The persistent dominance of a market leader curtails dynamic competition, while market incentives discourage the dissemination of knowledge. Recent financial incentives introduced for 'Beacon' Schools, and the announcement of greater curricular freedom for high achieving schools, appear likely to reinforce these problems.

We have argued that increasing inter-school competition is more likely to favour short-run efficiency and co-operation to promote faster dissemination of best-practice. If this is the case, then there are important policy implications of our analysis for all countries experimenting with market-based reforms of state schooling. It is possible to design market incentives that would be more likely, than those chosen in England, to encourage an efficient mix of competition and collaboration. These include value-added school performance tables, biasing access to additional financial incentives in favour of schools at a disadvantage in terms of peer group effects, and re-organizing the administration of schools so that they were able to collaborate more easily with other schools with whom they were not competing.

The arguments for value added measures of school performance are expounded in detail elsewhere (Goldstein and Spiegelhalter 1996, Goldstein and Thomas 1996, Meyer 1997). Our analysis reinforces these arguments by suggesting that such tables reduce, but do not remove, the incentives for cream-skimming which discourages helpful collaboration. The policy of directing additional financial incentives towards higher achieving schools has tended to reinforce traditional forms of schooling. The response to the increased appropriability problems created by greater competition has been to subsidize collaborative innovation. The logic of locally managed schools and Fair Funding (competitive tendering) would suggest that allowing the 'less successful' schools to buy in expertise from rival providers would create both greater static and dynamic efficiency. It also prevents the higher ranked schools from exercising their market power to effectively 'top-slice' the additional resources meant to assist less-advantaged schools. Finally, if schools cannot compete and collaborate with the same schools over the same outputs, then there is a case for

organizing schools so that they collaborate with schools outside their local market, whilst still competing with other local schools. The policy of encouraging schools to specialize within a local market would, if successful, actually reduce the scope for competition between local schools, as each school would be providing something different, leaving parents who value a particular combination of outputs with only one choice. If there is some merit in encouraging local schools to compete, then each school could be part of a larger regional organization, with these regional organizations competing within each local market. Local Education Authorities would then have a responsibility solely to their electorate, rather than acting both as a representative of agents as well as principals. Recent policy on Local Education Authorities in England has been moving in this direction, so this might be seen as a natural extension of current trends.

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