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Schools in England: Structures, Teachers and Evaluation

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In this paper, we offer a review of the key features of the English school system and discuss a number of issues which are the subject of debate and analysis. We start in Section 1 with a short description of the English school system, including some discussion of recent reforms. Then in Section 2, we discuss aspects of the labour market for teachers. After a description of the main features of teacher training and how pay is set, we discuss determinants of the supply and demand for teachers and then reforms to teacher pay and training. In Section 3, we discuss how schools and teachers are evaluated and how effective these evaluation mechanisms are perceived to be. This comes in three parts where we discuss school inspections, school performance tables and school governance respectively. We conclude our review in Section 4.

1. The English School System

1.1. General Structure

In England pre-school education is available for children aged two and over through nursery schools and playgroups. All children are entitled to up to six terms of free early education from their third birthday (and there is a government commitment to extend provision to two year olds in the future). Education is compulsory from the beginning of the school term after a child's fifth birthday until the end of the academic year in which the child reaches the age of 16. In practice, children often start formal schooling at the beginning of the academic year in which they turn five. In most cases children attend primary school from the age of 5 to 11, then secondary school from the age of 11 to 16.¹ Many secondary schools cater for the initial phase of post-compulsory education (up to age 18). However, it is also possible to attend different institutions for these years.

The broad structure of schooling from pre-school settings to tertiary education is illustrated in Figure 1. The Figure also illustrates the year groups associated with National Curriculum 'Key Stages' (i.e. KS1-KS4). What is taught is organized into 4 stages: Key Stage 1 (for pupils of age 5-7); Key Stage 2 (for pupils of age 7-11); Key Stage 3 (for pupils of age 11-14) and Key Stage 4 (for pupils of age 14-16). At the end of each Key Stage, all pupils sit national tests (which are externally set and marked) in addition to teacher assessment. At the end of Key Stage 4, students take their GCSE examinations (General Certificate of Secondary Education) in a range of subjects. From then on, students who remain in education may take the academic route, studying for A-Levels in 2 or 3 subjects² or pursue a vocational course of study.

Most schools in England are maintained by their Local Authority (of which there are 150 responsible for education) and could be described as comprehensive. This means that they cater for pupils of all abilities.³ The main school types are listed in Table 1 (showing the number of schools and pupils): nursery, primary, secondary, Pupil Referral Units, special

¹ Some Local Authorities operate a system of middle schools, where children attend 'first schools' from age 5 to 9, middle schools from about age 9 to 13 and then upper schools.

² There have been attempts to broaden the curriculum for A-levels by introducing AS-levels (since 1987), which are designed to occupy half the teaching and study time of an A-level. Two AS-levels are generally accepted in place of one A-level for university entrance.

 $^{^{3}}$ There are a small number of Local Authorities that retain a 'selective system' (i.e. whether children are separated into different secondary schools on the basis of a test which is undertaken at age 10). This practice of segregating children into different school types based on ability was phased out over most of England in the 1960s and early 1970s.

schools, City Technology Colleges and Academies. There are 17,361 primary schools and 3,343 secondary schools which are maintained by the Local Authority. The Local Authority is responsible for the allocation of funding to schools (discussed below) as well as the strategic management of local authority education services including planning the supply of school places, ensuring every child has access to a suitable school place and intervening where a school is failing its pupils.

There are some schools that are independent of the Local Authority. These include independent schools (which are fee paying), attended by 7 per cent of the school age population. They also include two types of state-funded schools: City Technology Colleges (CTCs) and Academies. The former were established by the Education Reform Act 1988. They were set up to provide a broadly based secondary education with a strong technological element offering a wider choice of secondary school to inner city children aged 11-18. The majority of CTCs will become Academies in the next few years. Academies are a newer initiative (from 2002 onwards), which are funded directly by the government and private sponsors. They have also been established in an attempt to turn around the fortunes of those going to school in inner city areas. The rationale is as follows: "Sponsors challenge traditional thinking on how schools are run and what they should be like for students. They seek to make a complete break with cultures of low aspiration which afflict too many communities and their schools".⁴ Special schools provide education for children with special educational needs who cannot be educated satisfactorily in an ordinary school. Finally, Pupil Referral Units aim to provide a suitable and appropriate education to children of compulsory school age who, because of illness, exclusion or otherwise, are unable to attend a maintained (i.e. mainstream or special) school.

Schools in the state sector differ in terms of the way they are governed, the ownership of the school buildings, and who controls pupil admissions. This is illustrated in Table 2, where schools are classified according to their administrative and financial structure. Particular points to note that what are called "foundation" schools and "voluntary aided" schools control their own admissions whereas Local Authorities control the admission arrangements of other schools. The majority of schools classified as "voluntary aided" or "voluntary controlled" schools are "faith schools". In this case, the land and buildings are normally owned by the religious organization and if over-subscribed, it is permissible to prioritize applicants who have the relevant religious affiliation. The admissions system for all schools is regulated and has been recently revised.⁵ Since the 1980s, parents have been entitled to send their child to a school of their choice. However, if the school is oversubscribed, the admissions authority then applies over-subscription criteria. This must comply with the School Admissions Code, which details what information they can and cannot ask of parents when they are applying for schools. Commonly used criteria include sibling attendance and proximity to the school.

The overall direction of a school is set by a governing body, which appoints the headteacher and holds them to account. The governing body sets the strategic direction of the school, draws up policies, and monitors performance, while the head teacher and other senior management are responsible for the day to day running of the school. Who is represented on the governing body varies by type of school, though this always includes elected parents and members of staff and LA representatives. Where relevant, the religious or other charitable organisation (a 'foundation') will also be represented. The composition of the governing body is important because it determines how much influence different stakeholders will have

⁴ <u>http://www.standards.dfes.gov.uk/academies/what_are_academies/?version=1</u>

⁵ http://www.dcsf.gov.uk/sacode/docs/DfES%20Schools%20text%20final.pdf

on school policy (Gibbons *et al.* 2008). This is particularly important with respect to the balance between the number of places held by the LA and those reserved for the foundation. Schools differ in the extent to which they have autonomy from the Local Authority and this may affect what they do.

Finally, most secondary schools (about 85%) now have 'specialist' status. This means that the school is associated with one of ten specialisms (arts, business & enterprise, engineering, humanities, languages, mathematics & computing, music, science, sports and technology). They must raise a certain amount of money themselves, which is matched by a capital grant from central government and extra pupil funding over subsequent years. Specialist schools are allowed to select up to 10% of their intake by aptitude in their specialist subject(s), though many do not. Specialist schools have a special focus on those subjects relating to their chosen specialism but must also meet the National Curriculum requirements.

1.2. Funding

Most funding of state schools goes through Local Authorities (except in the case of Academies and City Technology Colleges where funding comes directly from central government as well as from sponsors). In the case of most state schools, about 75-80% of Local Authority education resources come from central government, with most of the rest coming from local taxation. Once the funding gets to schools, the decision about how to spend it is up to the headteacher and governing body (although they are constrained by national pay agreements in the extent to which they can increase teacher salaries). About 60 per cent of expenditure is accounted for by teachers and a further 20 per cent by either support staff or other staff. Building and Maintenance accounts for about 6 per cent; Learning resources/IT for about 5 per cent; and an unknown category for 8 per cent (Holmlund et al. 2008). Funding is allocated from central government to Local Authorities mostly on the basis of pupil numbers, measures of deprivation, ethnicity and area costs. The Local Authorities distribute funding to schools based on formulae, which vary between Local Authority.

There have been changes over time both in how funding is allocated to Local Authorities and regulations about how they allocate funding to schools. A major change in how central government allocated funding to Local Authorities took place in 2003/04. This involved a change in the funding formulae and the indicators used to measure 'additional educational needs' (see West, 2008). Changes that affect how Local Authorities pass on funding to schools include changes in the percentage of funding that must be 'pupil-led'⁶; an obligation (from 2002/03) to include a factor in their formulae based on the incidence of social deprivation in their schools; and a 'minimum funding guarantee' in 2004/05 which guaranteed that each school would get a per pupil increase and an increase for fixed costs. Since 2006/07, the funding allocated to Local Authorities has been 'ring-fenced' (i.e. they are obliged to pass it all on to schools, whereas previously they could spend part of the education budget on other services).

1.3. Recent Reforms

In this section we consider reforms to the English schooling system, beginning with market reforms, moving on to curriculum reform and then on to reforms to the post-compulsory stage.

⁶ 'Pupil-led' means funding that has the same value for pupils of a certain age regardless of school attended. This change from 80 per cent to 75 per cent in 2002/03. It was abolished as a rule in 2006/07.

Market-orientated reforms

During the 1970s and 1980s many fears were expressed about low standards in education, especially compared to other developed countries. This concerned both low levels of basic skills and of formal qualifications. The proportion of students succeeding in their exams at age 16 remained about the same from 1970 to the mid 1980s: by the end of this period, around half the cohort left full time education after the age of 16, often with no qualifications. There was a widespread perception of the UK having a problem with a long lower tail of poor educational attainment (Machin and Vignoles, 2005).

Because of these concerns, Conservative governments in the 1980s and 1990s introduced reforms in an attempt to raise standards in schools. The 1988 Education Reform Act was path-breaking in that it introduced (or facilitated subsequent introduction of) a number of market-orientated reforms, aimed at increasing parental choice, thereby disciplining state funded schools through competition for pupils. Parents could (in theory) choose which school their child attended, and school funding became more closely linked to enrolment, providing an incentive to schools to attract and admit more students. Parents also gained the right to representation on school governing bodies.

Information available to parents about the quality of schools was improved through making test scores publicly available, resulting in school performance tables which show the position of schools relative to one another. The National Curriculum made clear the standards that pupils were expected to achieve at each level, and regular inspections provided broader assessments of schools' effectiveness (see section three for a more detailed discussion of these developments).

Despite these reforms, there are significant limits to the operation of a quasi-market in the UK education system. Schools rarely go 'bankrupt', i.e. exit from the market, and many parents still lack full information on the quality of schools. This may weaken the incentive for schools to improve. In fact understanding the exact nature of the incentives faced by schools is a problematic area, from a theoretical perspective. The literature on public sector service delivery suggests that it is not clear what the objectives of decision makers in schools actually are (Dixit, 2002; Besley and Ghatak, 2003; 2005). Schools are not like private sector firms where the objective is generally to maximise profits. Rather, in the case of schools, and teachers and head-teachers have often-conflicting objectives. Of course there are also multiple outputs from the education system, ranging from improving test scores to engendering a love of learning. Thus, as Besley and Ghatak (2003) state, the critical issue facing policy makers is to work out the best means by which competition, incentives and accountability can be brought together to enhance educational outcomes in the broadest sense. Whether the UK achieved this is, of course, an empirical question.

Bearing this theoretical literature in mind, it is unsurprising that a major concern in the UK is the unforeseen incentive effects of the market reforms. The evidence (mainly from the United States, e.g. Hoxby, 2000, 2003a, 2003b) shows that increased competition among schools and moves to decentralize school finance can enhance attainment, but can also raise inequality because richer parents are better able to take advantage of a more market-oriented system. This has a productivity cost associated with it, in that often more able pupils from poor economic and social backgrounds fall behind. This is particularly important in the UK context with its tail of poor achievers, which is most obvious amongst poor and disadvantaged students. Empirical evidence is emerging that these concerns are manifest on the ground. For example, high socio-economic groups appear to have better information on, and understanding of school performance, via league tables (West and Pennell, 1999). If wealthier parents act on this information, choosing for their children to attend the best

schools, then there is a clear tension between strategies to raise standards and policies to reduce inequality.

With regard to an improvement in standards, evidence for the UK comes from Bradley *et al* (2001) and Gibbons et al. (2008). The former study found that secondary schools with the best examination performance grew most quickly and that increased competition between schools led to improved exam performance. The paper by Gibbons et al. (2008) use pupil-level data and are thus able to look at this issue in greater depth (for primary schools). They find little evidence of a link between choice and achievement, but find a small positive association between competition and school performance. However, they attribute this to endogenous school location or pupil sorting. Only in a minority of cases, the 1 in 5 or so of the school population who attend religious primary schools (those with the most autonomy), is there any positive causal impact of competition on pupil achievement.

Curriculum Reform

The UK has a particular problem with basic skills, as shown for example, in the International Adult Literacy Survey (Machin and Vignoles 2005). Two significant national policies that were designed to address this were the introduction of the National Curriculum by the Conservative government in the late 1980s; and the introduction of the National Literacy and Numeracy strategies by the Labour government in 1998.

The National Curriculum was first introduced for pupils aged between 7 and 16, the aim being to raise standards by requiring that students study at least the prescribed set of subjects to a minimum level until the end of compulsory schooling. It aimed to provide clear objectives for schools; targets for pupils and teachers; information for parents about their children's achievement, and the opportunity to compare this with expectations for each level; and continuity across years and schools. It determines the content of what will be taught and sets attainment targets, as well as setting out how performance is assessed and reported (Chan *et al.* 2002). Subsequently, students' attainment began to be tested through the use of national tests taken at ages 7, 11, 14 and 16 (Key Stages 1, 2, 3 and 4). In addition, from 2000 there has been curriculum guidance for the Foundation Stage, for children aged three to the end of the reception year in primary schools. Nationwide baseline assessment was introduced in September 1997 for all pupils starting primary school, which was replaced in 2002 by the new statutory assessment for the foundation stage (DCSF 2008a).

These curriculum reforms are an example of a highly centralised education policy, in contrast to the devolution of power and accountability to schools emphasised by the market reforms. On the other hand, providing more information about each school and its relative performance may have enabled the better functioning of market mechanisms. Because the National Curriculum was introduced nationally it has not been possible to undertake a robust evaluation of its impact.

The introduction of the National Literacy and Numeracy strategies in the late 1990s required primary schools to allocate at least an hour a day to each of literacy and numeracy, in order to develop pupils' basic skills. Interestingly, these programmes did not just specify the content that was to be taught and the amount of time to be spent teaching it (as the National Curriculum had before), but also the teaching styles to be used (Hansen and Vignoles, 2005). Because these programmes were piloted before being introduced nationally, it is possible to get good evidence on their effectiveness. Machin and McNally (2008) evaluated the pilot project, the National Literacy Project (NLP), in which the literacy hour was piloted in about 440 primary schools in 1997 and 1998, two years before the national roll-out. They find substantial improvements in reading and English (for example, reading scores rose by around .09 of a standard deviation) for a relatively inexpensive policy: the cost

per pupil per year was just over £26 in 2004 prices. This suggests that greater centralised control over pedagogy in the form of a well-structured policy could provide a cost-effective means of raising attainment.

Reforms to post-compulsory schooling

Relatively few young people stay in education in England beyond the compulsory school age, and only a small proportion of those who leave pass into high quality vocational training, resulting in low attainment in terms of both academic and vocational qualifications (Machin and Vignoles 2006). Policies to address these problems include continual attempts to reform the vocational curriculum and the introduction of the Education Maintenance Allowance, which pays students from disadvantaged backgrounds a weekly means-tested allowance if they stay on in full time education beyond the age of 16. We discuss these reforms in turn.

Vocational education in the UK is seen as a particularly problematic area. The system of vocational training and qualifications in the UK is complex and has changed substantially over time. There is no unified system of vocational education, as is found in some other countries such as Germany, but there are hundreds of vocational qualifications currently available. Providers offer very different qualifications, with quite different requirements in terms of achievement. This has left students, parents and employers somewhat confused about the content and economic value of different vocational qualifications. Nevertheless, 25% of 16 and 17 year olds in the UK are in full time vocational education (West and Steedman, 2003), and it therefore represents an important part of the education system.

In the 1960s vocational education was usually one day a week of study at a further education college, in conjunction with an apprenticeship. Qualifications were awarded by different bodies depending on the industry. This system largely collapsed in the 1970s and 1980s, though many qualifications were developed to replace them, usually with a much larger component in further education colleges and no work-based element. The most common among these are National Vocational Qualifications (NVQs) and General National Vocational Qualifications (GNVQs). NVQs were introduced in 1988 and targeted at those already in work, as competence-based qualifications designed to certify existing occupational knowledge and skills. They have been criticised for being too low-level. GNVQs were introduced in 1992 as largely classroom-based qualifications, leading either directly to work or to continued study. These will shortly be abolished while other vocational options have been introduced into the syllabus for the General Certificate of Secondary Education (GCSEs). In 1995 the Modern Apprenticeship scheme was introduced to provide a high quality vocational option for more able students. Based on the German dual system of apprenticeship, these are aimed at 16-19 year olds and last around 3 years.

Low-level vocational qualifications have been found to have minimal economic value in the labour market (Dearden *et al*, 2002). This could reflect the effect of negative signalling, that is, employers perceive that those who opt to undertake these qualifications are of low ability. However, higher level vocational qualifications (especially those which are longer established) appear to have a high labour market value (McIntosh, 2006).

Overall then, past attempts to reform the system of vocational qualifications have not had much success. New reforms are currently being introduced alongside an increase in the age of compulsory education.⁷ The latter involves that everyone will stay on in learning or training to age 17 (by 2013) and then to 18 (by 2015; subject to legislation). There are many other aspects of the 14-19 Reform Programme, which includes an update of qualifications (GCSEs and A-levels) and an increase in the number of Apprenticeships. There will be a new unified academic and vocational framework of diplomas by 2014. It will incorporate existing

⁷ <u>http://www.dcsf.gov.uk/14-19/index.cfm?go=site.home&sid=46</u>

qualifications (such as GCSEs and A-levels) and add new programmes of study (including vocational lines of learning). All pupils will have to study core subjects and develop essential skills including mathematical skills, communication, ICT, problem solving and working with others.

The Education Maintenance Allowance (EMA) has been designed to raise postcompulsory participation and retention in education of 16-19 year olds from low income families, by providing a financial incentive to stay on and to help them meet some of the costs of full time education. They are weekly (means tested) payments made directly to students during term time for staying on in full time education for 2 or 3 additional years. The payment is conditional on attending school or college, and also provides bonuses for successful completion of courses. In 2004, around 50% of young people of the relevant age were eligible for the EMA based on the income of the household in which they lived. The EMA was piloted in 1999 and was rigorously evaluated. It was extended to about a third of the country from 2000 to 2004, and has since been rolled out throughout the UK.

The EMA evaluation found a strong impact of the policy. Compared to the control sample, which had a post-16 education participation rate of 64.7%, Dearden *et al.* (2005) found that those eligible for the EMA had a participation rate 4.5 percentage points higher. The impact differed by gender: males had a participation rate which was higher by 4.8 percentage points, and females by 4.2. It is possible that young people could be encouraged to stay on at school for a year, only to find that the course is too hard and drop out subsequently. However, for individuals in their second year of receipt of the EMA, its impact on participation increased to 7.6 percentage points for males and 5.3 for females. The evaluators therefore concluded that the EMA not only increased participation in full time education beyond 16 but that it also enhanced retention subsequently. However, approximately half those who stayed in education were drawn from inactivity rather than work.

2. The Labour Market for Teachers

2.1. Teacher training and qualifications

In order to teach in state-maintained schools at primary or secondary level, individuals must be qualified. In practice, this means that they must hold certain academic qualifications or their equivalents, and in addition must obtain qualified teacher status (QTS). The minimum level of educational qualification includes holding GCSEs in English, maths and science at grade C, and a UK Bachelors degree, but 'a recognised equivalent' may be substituted for all of these and so this is quite a flexible requirement. Candidates who meet these requirements may be accepted onto a programme of Initial Teacher Training (ITT), which leads to QTS. This covers a number of different routes: undergraduate and postgraduate college-based routes, and training and employment based ones. In all cases, ITT combines theoretical learning with at least 18 weeks practising teaching during school placements (Training and Development Agency for Schools, 2008)

The traditional routes to QTS are through studying at a higher education institution, either through an undergraduate degree (a three or four year Bachelor of Education, BEd) or a postgraduate degree (a one year Postgraduate Certificate of Education), and these remain the most common routes into teaching. Since the government controls the number of places available on these courses, it has some control over the supply of new teachers. However, recently there have been shortages in applications for training places, especially in subjects such as mathematics and foreign languages, so the power to restrict supply does not bite.

Moreover, the flow of newly qualified teachers is not necessarily a good indicator of overall supply, as trainees do not necessarily continue in teaching, and if they do, this is not necessarily in the state sector. Smithers and Robinson (2003) show that for 100 registered trainees, 88 passed the final examination, yet only 59 were teaching a year later, and only 53 after three years.

2.2. Teacher Pay

Teachers' pay is heavily regulated and set at the national level. Some teachers earn high salaries, but these are usually head teachers or other senior managers: traditionally, the way to reach higher pay levels for teachers has been to take on management responsibilities, reducing the time they spend teaching. Because of the structure of teachers' pay it can also take a long time to reach this level of income. Teachers in leadership positions are paid on a 43-point spine, and although their position on this is largely determined by the number of pupils in a school, governing bodies do have some discretion over heads' pay. There are also payments available for teachers taking on responsibilities such as form tutors or heads of year, and schools can make discretionary payments to recruit and retain teachers (Freedman *et al.* 2008).

The School Teachers' Review Body (STRB) reviews teachers' pay and conditions on an annual basis. Under the most recent system, classroom teachers start on a main pay scale that has six levels. Newly Qualified Teachers (NQTs) usually start at the bottom of the scale but schools have discretion to start them on a higher point on the basis of previous experience. Subject to satisfactory performance, they can expect to move up one point each year; in the case of exceptional performance they can move up two. Once at the top of the scale, teachers can apply to be assessed against the post-threshold standards. If approved, they are put onto a higher scale (which has three levels). Technically, progression on this part of the scale is performance related, and is at the discretion of the governing body of the school.

There are separate scales and levels for Advanced Skills Teachers (AST) and excellent teachers (ET). These are school leadership roles which are mainly classroom-based, recently created to allow experienced and skilled teachers to move up the salary scale without having to reduce their teaching load and take on management responsibilities. ASTs work as classroom teachers for 80% of their time and spend the rest working on developing teaching standards across the school or in other local schools. Something under 1% of classroom teachers had AST status in 2007; ET is effectively an extra point above the upper pay scale, reached after external assessment, with responsibility for mentoring other teachers.

However, the scales on which teachers' pay is based are set at the national level, and therefore may not be appropriate for all regions. Moreover, despite the supposed flexibility of the pay regulations, Hodgson *et al.* (2007) found that almost all pay decisions were made on the basis on time served. For instance, along the first six points of the classroom teacher's pay scale, progress is almost always annual and automatic. Once on the upper pay spine progress is usually once every two years, and only when final point is reached can the teacher be considered for AST status. Based on this, it would take at least ten years to get to the highest pay scale for classroom teachers, and then more to climb up the scale. Taking on managerial responsibilities as a senior manager would result in faster pay growth, but would require a reduction in the amount of teaching they could undertake. The number of senior management positions is also limited.

2.3. Supply and Demand for Teachers

The structure of the labour market for teachers in England is much like that for other publicsector occupations, where the state holds a monopoly in entry to the profession: setting standards for who is qualified to teach, but also determining the supply of the majority of training places. It also holds a substantial monopsony in the recruitment of teachers since most teachers are employed in maintained state schools (Chevalier and Dolton, 2005).

With regard to the demand for teachers, one of the key determining factors is the number of pupils. The UK school-aged population has varied between 3.5 million in 1946 and 1985, to 5 million in the mid 1970s. Moreover, increases in the school leaving age from 14 to 15 in 1947, and to 16 in 1973, created important increases in the number of secondary school pupils. Proposals to increase the school leaving age to 17 by 2013 (and then potentially 18 by 2015) could have the same effect, although based on demographic projections, secondary rolls will have fallen by then. Regulations about pupil-teacher ratios may also affect how many teachers are needed, and these have tended to become more demanding over time. Demand for new teachers is also affected by the age distribution of existing teachers. About 35% of teachers are already over 50, and so will retire in the next 15 years (GTCE 2007).

Over the past 50 years, the UK has experienced recurrent crises in the supply of teachers, both in terms of recruitment and retention. Problems are particularly acute in certain subjects and geographical areas. Shortages are often difficult to measure accurately. For instance, government estimates of shortages are often based on existing vacancies, while figures based on desired pupil-teacher ratios would result in much higher estimates. Schools may increase class sizes, fill vacancies with unqualified temporary teachers or ask other qualified teachers to teach out of their field, all of which mask the real level of shortage. They may also employ qualified teachers of a lower quality than they feel is necessary to deliver an adequate education.

One of the reasons behind the recruitment and retention problem is teachers' relative earnings compared to that of other graduate professions. Teachers' relative earnings have declined since the 1950s, though they demonstrate a cyclical pattern over time, with each period of decline followed by a rapid increase as policy attempts to address the issue of teacher supply (Chevalier and Dolton, 2005). It does seem that relative pay affects the decision to become a teacher (Chevalier *et al.* 2007). Labour market conditions at the time that the occupational choice is made can also be important. Dolton *et al.* (2003) find that the supply of graduates to teaching is counter-cyclical, with graduates' willingness to enter teaching increasing when graduate unemployment is high and graduate prospects are poor in alternative occupations. Relative pay can also affect retention. Dolton and van der Klaauw (1995) show that the higher the relative earnings of teachers, the less likely they are to leave teaching.

Of course relative pay is not the only factor influencing recruitment and retention. Surveys of teachers and non-teachers suggest that a major reason for entering the profession are the non-pecuniary benefits, such as long holidays and family-friendly hours of work. It is possible that the reforms aimed at improving standards through increasing accountability have rendered these benefits less attractive. Increased workloads and increasingly poor pupil behaviour are also cited as factors that drive people out of the profession, or which prevent them from entering. The government was sufficiently concerned about the issue that it commissioned a report into teacher working conditions (Coopers and Lybrand, 1998), which suggested that teachers faced more paperwork than before. Interviews conducted with teachers leaving the profession found that increased workload and the characteristics of

schools were more important than salary as reasons for leaving (Smithers and Robinson, 2003). Of this sample, over 40% claimed that nothing could have made them stay, though for the others, changes in the workloads or in school characteristics were more likely to be cited than salary as increasing the likelihood of staying. Chevalier *et al.* (2007) suggest that teachers are less satisfied with their conditions of work than comparable graduates in other fields, particularly with respect to pay and hours worked. Smithers and Robinson (2005) also found that there is a tendency for teachers to move from schools with poor GCSE results to schools with better results, and that teacher turnover and wastage are higher in schools with below average GCSE results, above average free school meals entitlement, and above average special needs.

All these factors play out differently for graduates of different disciplines and in different parts of the country. This can lead to shortages in some areas or subjects, and excess supply in others. Training places for teachers specialising in mathematics and languages are continuously surplus to take-up, while others such as physical education are over-subscribed. Because outside options for teachers with high ability in mathematics or languages tend to be higher, they are also more likely to leave the profession (Lazear 2003). Smithers and Robinson (2003) find that teachers of maths, ICT, languages and English were much more likely to resign than teachers of other subjects. Walker and Zhu (2007) find that the average wage return to a mathematics degree is higher than for many other subjects (they estimate it at 39%). This implies that the opportunity cost of being a teacher could be much higher for a maths graduate, because of the foregone earnings.

Regional shortages of teachers are most marked in inner London and the south east of England. London has official vacancy rates that are two to three times higher than the national average, despite relying the most on temporarily filled positions. Teachers in London are also more likely to transfer to other schools or to leave teaching altogether than teachers in other areas (Smithers and Robinson, 2003). Turnover and wastage rates in 2002 were (respectively) 20% and 11% in London compared with 15% and 9% for England. Much of the difficulty in recruiting and retaining in London is thought to be the result of the higher wages available in other jobs in London, as well as high and rising living costs due to the competitive labour market in the city.⁸ A specific salary scale for London was introduced in 2003 (replacing a London allowance), and in fact schools do have the capacity to use recruitment and retention allowances to add flexibility to pay scales.

As well as the number of teachers entering and leaving the profession, another concern has been teacher quality. Although it is not obvious that individuals with better academic qualifications should make better teachers, individuals entering teaching have some of the lowest levels of qualification of any profession, and there is some evidence that entrants are currently drawn from further down the educational and ability distribution than in the past (Chevalier *et al* 2007; Nickell and Quintini 2002). Concerns about teacher quality are supported by figures on the entrance score of students to higher education courses (which is based on prior qualifications). Education is second to last in terms of point score by subject, only surpassed by creative arts and design entrants (UCAS 2007). Moreover, teaching out of field has become increasingly common: a study of maths teachers in 2006 found that 24% of staff teaching mathematics had neither a degree nor teacher training in the subject, which could further impact on the quality of education that pupils receive (Moor *et al.* 2006).

⁸ Hall, et al. (2008) look at these issues in relation to nurses' pay, which is also set centrally in England by a review body, and has little local variation. This means that high cost areas such as London struggle to recruit and retain staff. Areas with a strong outside labour market have higher nurse vacancy rates, and fewer qualified nurses work in the NHS. Interestingly, they find that this results in a lower quality of service provision and poorer outcomes for patients. No similar study has been done for teachers.

Furthermore, non-specialists teaching mathematics are disproportionately concentrated in poorly performing schools (based on GCSE results) and schools with a high proportion of students who are economically disadvantaged (as measured by the proportion of students eligible to receive free school meals).

2.4. Reforms to Teacher Pay

Most policies designed to increase the supply of teachers have focused on financial incentives. Performance related pay (PRP) was introduced in the UK in 2000 (this is the discretionary part of the salary scales described above). It was meant to increase teachers' earnings, conditional on their demonstrating effective performance in their jobs. There were two main elements to this. Each teacher was appraised annually by their senior line manager. Next, the assessment was used by the head teacher as a basis for teacher pay decisions for the coming year. This system only applied to the most experienced teachers, who had reached the threshold at the top of the pay scales for classroom teachers (6-7 years into a standard teaching career). Those who could show that they were effective could cross this threshold, receiving an immediate £2000 pay rise and access to a new higher pay scale for classroom teachers. When it was introduced, around 80% of teachers who were eligible for the threshold payment applied for it, and around 97% of these actually received it. This makes the initiative difficult to evaluate in a credible way. However, this is what Atkinson et al. (2004) attempt to do. They find that the scheme did improve test scores and value added, although there was heterogeneity across subject teachers. They interpret the findings as being indicative of extra effort on the part of teachers eligible for the award.

There have been some criticisms of the way PRP has been implemented, with schools not using enough discretion to get teachers to higher parts of the scale. This leaves teachers' pay as a slow progression along a scale with an ongoing problem of experienced teachers stuck at the top (Harding, 2007). There are some more general arguments against the efficacy of PRP as a way of addressing recruitment and retention problems, or even inducing effort on the part of existing teachers. For example, educational outcomes are difficult to use as measures of effectiveness, as pupil achievement is multi-dimensional and may well depend on the efforts of a group of teachers rather than a single subject teacher (Holmstrom and Milgrom 1991).

One of the new school types (Academies – which were introduced in 2002) may have an impact on teacher pay. As discussed above, Academies are schools which are state funded but not controlled by a Local Authority, and do not have to implement the standard teacher pay deal. The governing body is responsible for agreeing levels of pay and conditions of service with its employees, as well as policies for staffing structure, career development, discipline and performance management (DCSF 2008b). If schools in the most deprived areas also present the worst conditions for staff, the ability to adjust pay in order to compensate for this might make it easier for these schools to hire good quality teachers and to develop more rigorous performance related pay. However, the academies programme is in its early stages and it is not possible to tell whether this will happen.

Other reforms have attempted to remodel the career structure as well as pay in order to increase the attractiveness of a teaching career. The Fast Track programme was aimed at well-qualified individuals who might not otherwise consider teaching. Introduced in 1999, this was designed to offer rapid career progression by selecting highly-talented trainee and current teachers and guaranteeing them middle- and senior-management positions within a truncated timeframe. However, relatively few teachers were selected for the scheme, and it was restricted to serving teachers before being suspended at the beginning of 2008. From September 2009 a new scheme, "the Accelerated Leadership Scheme", will replace it.

2.5. Reforms to Training

Reforms to teacher training have been instituted in response to crises in the numbers recruited, as well as concerns about the quality of teachers being trained. Most reforms over the past 25 years have aimed to increase supply in terms of quantity and possibly quality (especially in shortage subjects), by either offering financial incentives to train, or providing more flexibility in the ways in which individuals can gain Qualified Teacher Status. Examples of ways in which attempts have been made to encourage entry into teaching include employment-based teacher training, 'Teach First' and 'golden hellos'. We discuss each of these initiatives in turn.

Employment-based teacher training was designed to enable people to earn whilst training to be a teacher. The first such scheme was the Licensed Teacher Scheme, launched in 1989, which allowed schools to hire unqualified non-graduate teachers to paid positions for two years (though they had to have two years of higher education). These were largely used to cover vacancies, often in poorly-performing schools, resulting in poor teaching (Furlong *et al.*, 2000). In 1998 this was replaced with the Graduate Teacher Programme. This is a programme of on-the-job training allowing graduates to qualify as a teacher while they work. It was designed for people who are not recent graduates who would like to change to a career in teaching but need to continue earning while they train. The trainee is employed by a school as an unqualified teacher, and training is tailored to their individual needs to lead to Qualified Teacher Status. Training usually takes one year full time, though it may be shorter. Technically, individuals could complete the GTP in any maintained school, so long as the school is willing to employ them as unqualified teachers. However, in practice schools advertise vacancies for the scheme and they can be difficult to find. It provides a relatively small proportion of new teachers (around 15%) (Freedman *et al.* 2008).

Teach First was introduced in 2003, and is a programme run by an independent organisation enabling high achieving graduates to spend two years teaching in challenging secondary schools in London, Manchester and the Midlands, qualifying as a teacher while completing leadership training and work experience with other employers. It is aimed at getting highly-qualified individuals, who might not otherwise consider teaching as a long- or short-term career, into urban schools. It leads to QTS, but also aims to develop skills that might be relevant to a commercial career. It takes two years to complete, and has strict entry requirement. The Schools Inspectorate judged half of the trainees produced by the scheme to be outstanding (Ofsted 2008a). Nevertheless, only 50% of trainees stay in teaching beyond the two years of their contracts, and they thus provide only a short-term solution to recruitment crises.

In 1999, a £5000 'golden hello' was introduced for graduates who began training in the key shortage subjects of maths and sciences and then continued to teach these subjects in state maintained schools, and a rise in maths and sciences applicants did follow. This was extended to other subjects from 2000, though from 2006 the amount was adjusted and subjects other than maths and science were rewarded at a reduced rate of £2500 (TDA 2008). The Training Grant was another policy aimed at increasing graduate applications. Announced suddenly in March 2000, it consisted of a £6000 grant for all postgraduate trainees taking the education qualification (PGCE), though not for trainees on undergraduate courses. The

government noted at the end of 2004 that the number of new recruits to teacher training rose

by 51% between 1999 and 2003. Some of this increase could have been due to the financial support on offer, although this has not been evaluated to our knowledge.

Finally, in addition to incentives and new schemes to train new entrants, reforms affecting the training of more experienced teachers have also been introduced. The Education Reform Act 1988 introduced five days of compulsory in-service training (INSET) per year. Prior to this, continued training was largely up to individual teachers. The General Teaching Council (GTC) was formed in 2001 to promote professional development, and the coordination of Continuing Professional Development (CPD) was taken over in 2005 by the Training and Development Agency. Nevertheless, funding for CPD is often tied to government priorities and schemes, and INSET usually involves whole-school updates rather than allowing teachers to choose courses for themselves. Most courses they can choose are short and have no follow up. In other words, the training days are largely used for information updates rather than a continual development of teaching skills throughout the career. One recent development which attempts to strengthen the skills of more recently qualified teachers is the status of Newly Qualified Teacher (NQT). This is the programme that teachers follow in their first year after gaining QTS, and includes an individual programme of professional development, a 10% reduction in the standard teaching timetable to allow time to develop teaching skills away from the classroom, support from an induction tutor, regular reviews of progress, and formal discussions at the end of each term with the tutor and/or headteacher (TDA 2008).

3. Evaluation of Schools and Teachers

There are three main components to the system of evaluation and monitoring used in English schools. The first is Ofsted (the Office for Standards in Education, Children's Services and Skills), the independent governmental department charged with inspecting schools and publishing reports based on their findings. The second is the system of national testing of pupils and the publicly-available league tables of schools derived from the results. The third is the system of governance within schools, through which each school's governing body sets the direction for school policies and holds the headteacher to account in how these are implemented.

3.1. School Inspections

The main component of school evaluation in England is through regular inspections conducted by Ofsted. Ofsted was first established through the Education Act 1992, in order to separate the education inspectorate from the government department in which it was placed, and to promote more frequent and rigorous inspection of schools. The focus was on providing information for parents about the quality of education available in a school, thereby promoting choice and the workings of the quasi-market in education. This was meant to form the basis of the 'Parents' Charter': parents should be able to make an informed choice over schools. According to the "Framework for the inspection of schools in England" (Ofsted, 2008b), from 2005 the main features of the inspections should be (amongst other things):

- Short, focused inspections that last no more than two days, and concentrate on close interaction with senior managers in the school, taking self-evaluation evidence as the starting point
- Short notice of inspections to avoid schools carrying out unnecessary pre-inspection preparation short notice should have inspectors see schools as they really are.

Schools are normally notified at least two working days before a planned inspection, unless there is a particular concern about the safety of pupils in which case Ofsted has a right to inspect without notice.

- Three years as the usual period between inspections, though occurring more frequently for schools causing concern
- Strong emphasis on school improvement through the use of the school's selfevaluation, including opportunities for input from pupils, parents and guardians, and other stakeholders. These should be the starting point for inspection and for the school's internal planning and development
- A common set of characteristics to inspection of schools, from provision for early childhood to the age of 19. To facilitate this there is a common inspection schedule for schools.
- There will be two categories of schools causing concern, those deemed to require special measures (because they are failing to give learners an acceptable standard of education, and the school leaders do not demonstrate the capacity to secure improvement), and those requiring a notice to improve (those which are performing significantly less well than they might; or a school which is currently failing to provide an acceptable standard of education, but has the capacity to improve)

Based on these short, short-notice visits to schools, inspectors are required to arrive at an overall judgement on the effectiveness of the school, which should be informed by the judgements that inspectors have made about the school's provision, learners' outcomes, leadership and management, and the school's capacity to make further improvement. The purpose of inspections is asserted to be the provision of an independent, external evaluation of the quality and standards of the schools. The published inspection report should tell parents, the school and the wider community about the quality of education at the school and whether pupils achieve as much as they can. However, periodic external inspection is meant to complement continuous internal evaluation. The methodology of the inspection aims at promoting a culture of self-evaluation: inspectors are meant to take as a starting point the school's self-evaluation form (SEF), in which the school is asked how it is doing in a number of areas and asked to provide evidence for this. This forms the basis for discussion between the lead inspector and the senior team. Ofsted claims that the quality and use made of school self-evaluation of the calibre of management.

Schools are required by the Education Act 2005 to notify parents of the inspection, and to include details of how they can contact the inspectors to share their views. The information letter also includes a questionnaire for parents to record their views about the school. After the visit, inspectors must feed back to schools and teachers to explain the judgements they have made and how the school could improve. Parents are to be the main audience for the written report, and inspectors should also write a brief letter to pupils that should be accessible to the majority of them. Once the governing body of the school has received the report, they must send a copy to all parents and guardians within five working days.

Schools causing concern are offered support through a range of interventions, though the exact nature of the solution will depend on the individual school. These usually include improving the leadership of a school (either through offering support to the head, or dismissing them), and providing extra support for teaching and learning. For serious cases there may be a Fresh Start (when a failing school is closed and a new one is opened on the same site), a collaborative restart or support federation (a restart in collaboration with a stronger school), or the appointment of an Interim Executive Board to temporarily replace the governing body. School Improvement Partnership Boards may be set up by local authorities to manage school improvement, or in some cases a failing school might be replaced with an academy (DCSF 2008c).

It is an open question whether schools can be pressured into improving where weaknesses are identified but the school is not actually failing. Unless a school is causing concern, the main thing Ofsted can do to promote school improvement following an inspection is to oblige the school to produce an action plan on receipt of the inspection report and to send this to parents. The idea is that governors should receive the information and should ensure that the school follows up on the report, while parents can hold the governing body accountable. The responsibility for improvement therefore lies with the school. Likewise, the stress of recent inspections is on schools' self-evaluations, and on encouraging schools to continuously monitor their performance for improvement. Matthews and Sammons (2004) suggest that there is no guarantee of improvement following an inspection unless there is an expectation of external follow up, or if something else is at stake (e.g. funding). They conclude, however, that inspections have a positive impact in the majority of cases, and that well-managed schools and those that cause concern are the most likely to benefit from inspections.

The impact of Ofsted inspections on the quality of education has largely not been evaluated. This is perhaps partly because of the way inspections began: they were introduced at national level without a pilot, and schools in the earliest round of inspections were not selected at random. The main evaluation of the impact of Ofsted's work is Matthews and Sammons (cited above), though the methodology is almost entirely qualitative. Cullingford and Daniels (1999) find an adverse effect of Ofsted inspections on exam performances, but do not exclude independent schools from the sample of schools they use (independent schools tend to have better exam results, and in most cases do not have to submit to Ofsted inspections). Rosenthal (2004) investigates whether Ofsted inspections had an impact on the GCSE performance of secondary schools in the year in which they were inspected. He finds that there is a small but significant negative effect associated with the Ofsted inspection, suggesting that the demands of the early inspections may have been sufficiently great to divert resources from teaching and adversely affect exam results. There was no significant impact on exam results in the following year. Other evaluations focus on the quality of Ofsted inspections, specifically on the consistency and validity of judgements made by inspectors. Ofsted undertakes exercises to test the correlation between judgements made by pairs of school inspectors observing the same lessons. The correlations between these were judged to be acceptable, and were rarely different by more than one grade on a seven-point scale. The large majority of schools were satisfied by the quality of the inspections, and fewer than 10 inspections have been annulled because of a seriously misleading report (of a total of around 45 000 inspections). There is also evidence that the quality of inspections has improved since their inception (Matthews and Sammons 2004).

A recent study by Hussain (2007) has evaluated the impact of inspection grade on pupil enrolments and the wages and retention of head teachers. He finds that both fail ratings and very good ratings have an effect on enrolment. He also finds that a very good school report is reflected in the wages of the head teacher whereas exit rates are very responsive to getting the worst possible result. All this constitutes evidence that the school accountability system does generate incentives that have real consequences for schools and teachers.

3.2. School Performance Tables

As described above, Conservative governments in the 1980s and 1990s introduced market mechanisms into the UK schooling system, with the aim of raising standards. Part of this involved improving the information available to parents and the public about the effectiveness of schools. The National Curriculum defined Key Stages and the level of attainment expected of children at each stage, and national testing allowed parents to monitor their own children's performance, as well as the percentage of pupils in each school reaching each level. School league tables started to be published in the early 1990s. The information is available in newspapers and on the Web.

The measures by which schools are judged have become more sophisticated, but the principle of comparison remains the same. The earliest school performance tables (known as 'league tables') only compared raw scores across schools, and only covered GCSE and A level results, before Key Stage test results at the end of primary school were added. More recently a 'value-added' score has been used to measure achievement, which measures attainment conditional on performance at a previous Key Stage and so takes account of the differing levels of achievement of pupils entering different schools. Contextual value added measures now attempt to take into account prior achievement as well the average prior achievement of a pupil's peer group, which essentially controls for eligibility for free school meals (a measure of deprivation) and the prevalence of English as an additional language. It is difficult to say whether these constitute good measures of school quality. Goldstein and Leckie (2008) argue that given the two principal justifications for league tables – institutional accountability, and aiding choice between schools – they are not fit for purpose. One reason for this is that although the official reports (published by the Department for Children, Schools and Families) make confidence intervals available so that an informed judgement can be made about the differences between schools, these generally do not figure in media presentations which tend to report only scores and rankings. Moreover, they argue that for the purposes of school choice what is relevant is not the value-added score, but the raw scores (and the correlation between the two rankings is only 0.76). By publishing both the raw scores and the value-added scores, it is left to schools to present whichever is more favourable for them, and parents may not understand the difference. They admit that these scores could be useful for schools' internal performance audits, or to assist school inspectors, but conclude that they are not reliable enough to fulfil either of their principal functions.

Moreover, there is a possibility of perverse incentives that high-stakes testing and league tables could induce. There is a risk of promoting "teaching to the test", whereby teachers provide pupils with the knowledge and skills needed to pass tests but not necessarily to gain a good foundation in the subject taught. There is also an incentive to prevent pupils taking 'harder' subjects which a lower percentage of pupils pass (such as sciences and languages). Since the headline statistics focus on boundaries such as attaining C grades at GCSE, there is also an incentive to focus on pupils at the borderline of attaining these grades, whilst neglecting both higher and lower performing pupils. There is limited evidence on whether schools do in fact respond to these perverse incentives, but a recent report by Ofsted (2008b) did find too much teaching to the test in mathematics, rather than developing pupils' ability to reason and discover solutions for themselves.

Nevertheless, whatever the limitations of national testing and league tables, it seems that parents do take them into account. Gibbons and Machin (2006) find a house price premium related to the performance of the nearest primary schools (since, proximity to the school is a commonly used over-subscription criterion). They find that a ten-percentage point improvement in the league table performance of a primary school adds at least 3 per cent to the price of properties located next to the school. This implies that even if league tables

provide imperfect information with respect to school quality, parents are to some extent convinced by them.

3.3. School Governance

As explained in Section 1, all schools in England are run by a governing body composed of members elected from amongst parents and staff, members appointed by the Local Authority, members appointed by the church or charitable foundation that owns the school premises, and members appointed from the community (e.g. local businesses). The school governing body sets the strategic direction of the school, draws up school policies, sets targets and monitors performance. As discussed above, the constitution of the governing body is crucial because it determines how much influence various stakeholders have in the way the school is run and, in particular, the balance between control by the LA, parents, members of the staff and the church or charitable foundation associated with the school.

While there is some anecdotal evidence on how these issues vary across school types, there is a lack of systematic and comparable data on governance, monitoring and admission practices in schools. Existing evidence suggests that more autonomous schools (such as Voluntary Aided schools) perform better (Gibbons and Silva, 2006). Furthermore, Gibbons et al. (2008) show that Voluntary Aided institutions respond positively to a greater degree of competition with other local schools by increasing their pupils' value-added. To rationalise their results, the authors argue that, for Voluntary Aided schools, the charity or foundation has a controlling majority within the Governing body and so a strong influence on the running of the school. Additionally, the governing body of these schools is directly responsible for attracting pupils and funding. Thus, the institutional arrangement of 'majority controlled' and autonomous schools make them more conducive to a focused, competitive ethos in which the setting of targets, drawing up of strategies, adoption of technologies and monitoring of performance will be seen as a way to attract pupils through the promise of excellence. Although these arguments are backed by institutional discussions and anecdotal evidence, there is at present no data to systematically study whether schools characterised by different institutional settings really operate differently and organise their governing body and leadership in ways that might be more or less conducive to educational excellence.

Besley and Machin (2008) suggest that head-teacher salaries in English secondary schools are linked to the performance of their school. However, the authors also show that head-teacher and school "fixed effects" account for a large variation of wages across head-teachers (e.g. much of senior staff salaries are explained by the size of the school), suggesting that there is a considerable amount of unexplained heterogeneity across schools and professionals in England. In fact, this might occur because of specific institutional arrangements. For example, the board of governors in some school might have extended control about pecuniary incentives used to attract and reward high value-added head teachers. Similarly, schools that allow head teachers more autonomy and control might be able to hire more entrepreneurial masters, driven by the desire to improve school standards and excel. On the other hand, it might be that an environment where the school governing body is formed by "active" stake-holders, regularly visiting the school and constantly assessing head-teachers' performance, is more conducive to high school standards and more inclined to reward excellence with higher salary for the staff.

Conclusions

In this review we have described and analysed the key salient features and modes of operation of the English schooling system. It is an interesting system to study since many (often market based) reforms have taken place in the last twenty years or so. We have studied three main areas, beginning with a description of the nature of English schooling and reforms, then discussing teaching and ending with the modes of evaluation and accountability that operate. The review makes it evident that English schooling has changed significantly in the recent past and that this dynamic of change is likely to continue into the future.

References

- Atkinson, A., S. Burgess, B. Croxson, P.Gregg, C. Propper, H. Slater and D. Wilson, (2004) Evaluating the impact of performance-related pay for teachers in England, Centre for Market and Public Organisation Working Paper.
- Besley, T. and M. Ghatak (2003) Incentives, Choice, and Accountability in the Provision of Public Services, *Oxford Review of Economic Policy*, 19, pp. 235-249.
- Besley, T. and M. Ghatak (2005) Competition and Incentives with Motivated Agents, *American Economic Review*, 95(3), pp 616-636
- Besley, T. and Machin, S. (2008) Are Public Sector CEOs Different? Leadership Wages and Performance in Schools, Working Paper.
- Bradley, S., G. Johnes and J. Millington (2001) School Choice, Competition and the Efficiency of Secondary Schools in England, *European Journal of Operational Research*, 135, pp. 527-544
- Chan, S-M. and P. East (2002) with A. Ali and M. Neophytou, Primary and Secondary Education in England and Wales: from 1944 to the present day, 8th Edition
- Chevalier, A. and P. Dolton (2005) The Labour Market for Teachers, in Stephen Machin and Anna Vignoles (eds.) *What's the Good of Education? The Economics of Education in the UK*, Princeton University Press.
- Chevalier, A, P. Dolton and S. McIntosh (2007) Recruiting and Retaining Teachers in the UK: An Analysis of Graduate Occupation Choice from the 1960s to the 1990s, *Economica*, 74(293), pp.69-96
- Coopers and Lybrand (1998) Reducing the bureaucratic burden on teachers, Department for Education and Employment Research Report 41
- Cullingford, C. and S. Daniels (1999) Effects of Ofsted inspections on school performance", in *An Inspector Calls: Ofsted and its effect on school standards* (ed. C. Cullingworth), pp. 9-31, London, Kogan Page.
- Gibbons, S. and O. Silva (2006) Faith primary schools: better schools or better pupils?, CEE Discussion Paper.
- Dearden, L., S. Mcintosh, M. Myck and A. Vignoles (2002) The Returns to Academic and Vocational Qualifications in Britain, *Bulletin of Economic Research*, 54, pp. 249-274
- Dearden, L., C. Emmerson, C. Frayne and C. Meghir, (2005) Education subsidies and school drop-out rates, IFS Working Paper, W05/11
- Department for Children, Schools and Families (2008a) The Early Years Foundation Stage, <u>http://www.standards.dfes.gov.uk/eyfs/</u>
- Department for Children, Schools and Families (2008b) "Academies", <u>http://www.standards.dfes.gov.uk/academies/</u>
- Department for Children, Schools and Families (2008c) Standards Site: Schools causing concern, <u>http://www.standards.dfes.gov.uk/sie/si/SCC/</u>

- Dolton, P., S. McIntosh, and A. Chevalier (2003) Teacher Pay and Performance: A Review of the Literature, Bedford Way Papers, Institute of Education, London
- Dolton, P. and W. van der Klaauw (1995) Leaving teaching in the UK: a duration analysis, *Economic Journal*, 105, pp. 431-444
- Dixit, A. (2002) Incentives and Organizations in the Public Sector, *Journal of Human Resources*, 37, 696-727.
- Freedman, S., B. Lipson and D. Hargreaves (2008) More good teachers, Policy Exchange, July 2008
- Furlong, J., L. Barton, S. Miles, C. Whiting and G. Whitty (2000) *Teacher Education in Transition: Changing Professionalism?*, Buckingham, Open University Press
- Gibbons, S. and S. Machin (2006) Paying for primary schools: admission constraints, school popularity or congestion?, *Economic Journal*, vol. 116, 510, pp. C77-92
- Gibbons, S., S. Machin, and O. Silva (2008) Competition, Choice and Pupil Achievement, Journal of the European Economic Association, 6 (4) pp. 912-947
- Goldstein, H. and G. Leckie (2008) School league tables: what can they really tell us?, *Significance*, Vol. 5, no. 2, pp. 67-69
- GTCE (General Teaching Council for England) (2007) Profile of the teaching profession, annual digest of statistics 2006-7, <u>http://www.gtce.org.uk/</u>
- Hall, E., C. Propper and J. van Reenen (2008) Can pay regulation kill? Panel data evidence on the effect of labour markets on hospital performance, CEP Discussion Paper No 843
- Hansen, K. and Vignoles, A. (2005) The United Kingdom Education System in a Comparative Context, in S. Machin and A. Vignoles (eds.) *What's the Good of Education? The Economics of Education in the UK*, Princeton University Press
- Harding, R. (2007) Poverty pay: How public sector pay fails deprived areas, Social Market Foundation, April 2007
- Hodgson, A., R. Minor, M. Pickett and D. Morgans (2007) Survey of Teachers' Pay 2007, ORC International for the Office of Manpower Economics
- Holmstrom, B. and P. Milgrom (1991) Multi-tasking principal-agent analyses: Linear contracts, asset ownership and job design, *Journal of Law, Economics and Organisation*, 7, 24-52
- Holmlund, H., S. McNally, and M. Viarengo (2008) Research on the Impact of School Resources on Attainment at Key Stage 2. Report prepared for Department Children, Schools and Families
- Hoxby, C. (2000) Does Competition Among Public Schools Benefit Students and Taxpayers?, *American Economic Review*, 90, pp. 1209-38
- Hoxby, C. (2003a) The Economics of School Choice, Chicago University Press: Chicago
- Hoxby, C. (2003b) School Choice and School Competition: Evidence from the United States, *Swedish Economic Policy Review*, 10, pp. 9-66.
- Hussain, I., (2007) School Choice, Information Disclosure and Sanctions: Evidence from an Unusually Tough School Accountability Regime, University College London mimeo
- Lazear, E. (2003) Teacher incentives, Swedish Economic Policy Review, 10, 179-214
- Machin, S. and S. McNally (2008) The Literacy Hour, *Journal of Public Economics*, 92(5-6), pp. 1441-1462
- Machin, S. and Vignoles, A. (2005) Education Policy in the UK, *CESifo DICE Report*, 3, pp. 64-74
- Matthews, P. and P. Sammons (2004) Improvement through inspection: an evaluation of the impact of Ofsted's work, Ofsted, July 2004
- McIntosh, S. (2006) Further analysis of the returns to academic and vocational qualifications,

Oxford Bulletin of Economics and Statistics, 68(2), pp. 225-51

- Moor, H., M. Jones, F. Johnson, K. Martin, E. Cowell and C. Bojke (2006) Mathematics and science in secondary schools: the deployment of teachers and support staff to deliver the curriculum, Department for Education and Skills Research Report 708
- Nickell, S. and Quintini, G. (2002), "The consequences of the decline in public sector pay in Britain: A little bit of evidence", *Economic Journal*, 112, F107-F118
- Office for Standards in Education, Children's Services and Skills (2008a) Rising to the challenge: a review of the Teach First initial teacher training programme
- Office for Standards in Education, Children's Services and Skills (2008b) Every child matters: framework for the inspection of schools in England from September 2005, Ofsted
- Rosenthal, L. (2004) Do school inspections improve school quality? Ofsted inspections and school examination results in the UK, *Economics of Education Review*, 23(2), pp. 143-151
- Smithers, A. and P. Robinson (2003) Factors affecting teachers' decisions to leave the profession, Department for Education and Skills Research Report 430
- Smithers, A. and P. Robinson (2005) Teacher Turnover, Wastage and Movement between Schools, Buckingham University
- Training and Development Agency for Schools (2008) http://www.tda.gov.uk/Recruit/thetrainingprocess/typesofcourse.aspx
- UCAS (Universities and Colleges Admissions Service) (2007) statistics http://www.ucas.com/about_us/stat_services/stats_online/
- Walker, I. and Y. Zhu (2007) The college wage premium, over-education, and the expansion of higher education in the UK, Working Papers 200720, Geary Institute, University College Dublin
- West, A. and H. Pennell (1999) School Admissions: increasing equity, accountability and transparency, *British Journal of Education Studies*, 46, pp. 188-200
- West, A. and H. Pennell (2000) Publishing School Examination Results in England: Incentives and Consequences, *Educational Studies* 26, no. 4, pp. 423-436
- West, J. and H. Steedman (2003) Finding Our Way: Vocational Education in England, Centre for Economic Performance Occasional Paper
- West, A. (2008) Redistribution and Financing Schools in England under Labour: Are Resources Going to Where Needs are Greatest? *Education Management Administration and Leadership*. Forthcoming

Figure 1: Education and Training Structure



Source: Department for Education and Skills.

http://www.dcsf.gov.uk/trends/index.cfm?fuseaction=home.showChart&cid=1&iid=1&chid=1

Table 1: `Main School Types

School type	Number of Schools (2007)	Number of Pupils (2007)
Nursery	448	37,730
Primary	17,361	4,107,680
Secondary	3,343	3,268,490
Special	1,078	89,410
Pupil Referral Units	448	15,160
Independent	2,284	577,670
City Technology Colleges	10	11,580
Academies	46	41,470
All Schools	25,018	8,149,180

Source: Department for Education and Skills. Schools and Pupils in England, 2007.

http://www.dcsf.gov.uk/rsgateway/DB/SFR/s000744/index.shtml

School type	Primary	Secondary	Description
	%	%	
Community	61.8	63.2	The LA employs the school's staff, owns the school's land and
			buildings and has primary responsibility for deciding the
			arrangements for admitting pupils
Foundation	2.1	16.9	The governing body employ the school's staff and having primary
			responsibility for admission arrangements. The school's land and
			buildings are owned by the governing body or a charitable
			foundation
Voluntary Aided	21.5	16.6	The governing body employ the school's staff and have primary
			responsibility for admission arrangements. The school's land and
			buildings are normally owned by a charitable foundation. The
			governing body contribute to the capital costs of running the
			school.
Voluntary Controlled	14.6	3.4	The LA employs the school's staff and have primary responsibility
			for admission arrangements. The school's land and buildings are
			normally owned by a charitable foundation

Table 2: School type by administrative and financial category

Source: LEASIS, 2007 (School Census).

Description of school types from Department of Education and Skills.