

Impact case study (REF3b)

Institution: University of York
Unit of Assessment: 19, Business and Management Studies
Title of case study: Public Sector Resource Management, Evaluation and Accountability
<p>1. Summary of the impact (indicative maximum 100 words)</p> <p>The impact of the research has been three-fold: firstly in encouraging cost-effective improvements in resource management within schools through the use of additional support staff to improve schools' skill-mix and workforce balance, secondly in promoting a more careful evaluation of the impact of the Academies programme within the school sector, and thirdly in encouraging improvements in the Government's accounting requirements for the major expenditure commitments which the use of the Private Finance Initiative involves for public services, such as education and healthcare.</p>
<p>2. Underpinning research (indicative maximum 500 words)</p> <p>The research was carried out during the period 1994 – 2009 by Professor David Mayston, Professor of Public Sector Economics, Finance and Accountancy at the University of York. It has three main strands as outlined below:</p> <p>A. Analysis of econometric issues which arise in evaluating the effectiveness of the provision of additional resources in education.</p> <p>This strand of the research has identified several key underlying relationships between desired educational outcomes and other resource and contextual variables. It goes beyond the single-equation uni-directional relationship between resources and educational outcomes assumed in many previous empirical studies cited by Hanushek (e.g. <i>Journal of Economic Literature</i>, 1986). The additional relationships identified in Mayston (1996, 2003, 2007) arise from the inclusion of demand-side funding formulae and resource allocation decisions by individual schools and local education authorities, from parental decisions and from the impact of the quality of the educational provision of local schools on the operation of the housing market and the labour market for teachers. In the presence of these additional inter-relationships, standard Ordinary Least Squares (OLS) single-equation techniques can significantly under-estimate the impact of additional resources on educational outcomes (Mayston 2009). This research challenged the much-publicised conclusions of Hanushek that additional educational resources have no significant impact on improved educational outcomes.</p> <p>B. Analysis of educational programme evaluation techniques and their implementation</p> <p>This strand of the research has examined the techniques which may be applied to the evaluation of innovations in the management of schools, such as the introduction of the Academies programme. The research report, <i>Educational Value Added and Programme Evaluation, Department for Education and Skills</i> (2006) (item 3.4) highlighted the importance of carefully selecting comparator schools for the programme evaluation using detailed pupil-level data in the new National Pupil Database. It also identified the scope for deploying educational value-added measures of pupil performance that systematically take into account the impact of additional contextual variables on pupil attainment as regression-adjusted conditional difference-in-differences outcome measures for evaluating the effectiveness of the programme (see also Mayston, 2003) even where perfect comparator schools are not available.</p> <p>C. Analysis of the issues which arise in seeking to ensure greater efficiency and accountability in the financial management of public services.</p> <p>This strand of the research has examined the problems which arise in seeking to ensure greater efficiency and accountability in the financial management of public services, through initiatives that have been introduced into the public sector in the UK, such as Resource Accounting and Budgeting, and the Private Finance Initiative (PFI). The associated problems are analysed in detail in Mayston (1998, 1999) cited in references 3.2. and C.3 below. The research emphasised</p>

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the need for positive steps to be taken to overcome the weaknesses inherent in the existing proposals if perverse incentives for the inefficient management of capital assets, such as NHS beds and operating theatres, and for the accumulation of excessive financial liabilities, are to be avoided.

3. References to the research (indicative maximum of six references)

1. D. J. Mayston (1996) "Educational Attainment and Resource Use: Mystery or Econometric Misspecification?", *Education Economics*, 4 (2): 127 - 142. DOI: 10.1080/09645299600000013
2. D. J. Mayston (1999) "The Private Finance Initiative in the National Health Service" in *Financial Accountability and Management*, 15: 249 – 275, and reprinted in *The Economics of Public Private Partnerships*, D. Grimsey and M.K. Lewis (eds.), International Library of Critical Writings in Economics, Edward Elgar, 2004. DOI: 10.1111/1468-0408.00084
3. D. J. Mayston (2003) "Measuring and Managing Educational Performance", *Journal of the Operational Research Society*, 54: 679 - 691. DOI: 10.1057/palgrave.jors.2601576 *
4. D. J. Mayston, *Educational Value Added and Programme Evaluation*, Department for Education and Skills Research Report RW87, Department for Education and Skills, London, 2006, 140 pp., currently on the Department for Education website: <https://www.education.gov.uk/publications/eOrderingDownload/RW87.pdf> *
5. D. J. Mayston (2007) "Competition and Resource Effectiveness in Education", *The Manchester School*, 75 (1): 47 – 64. DOI: 10.1111/j.1467-9957.2007.01002.x *
6. D. J. Mayston (2009) "The Determinants of Cumulative Endogeneity Bias in Multivariate Analysis", *Journal of Multivariate Analysis*, 100: 1120 – 1136. DOI: 10.1016/j.jmva.2008.10.010

The journals in 1, 2, 3, 5 and 6 are all peer-reviewed, with those in 2, 3 and 5 rated 3* in the Association of Business School 2010 journal list. 6 is ranked in the top third of international statistics journal rankings published by journal-rankings.com. 4 was published by a major UK Government Department. *This output was submitted to RAE 2008 where the relevant UoA had 96.6% of its submitted research outputs graded at 2* or above

4. Details of the impact (indicative maximum 750 words)

The research on additional resources in education in Strand A has had positive impact through helping to secure educational funding for a major increase in the availability of teaching assistants and other support staff to improve the skill-mix within schools. The continuing benefits from the resultant subsequent expansion in school support staff and the associated rebalancing of tasks within the school workforce are confirmed in a recent report by Ofsted (2010), which found that these changes have "made a considerable difference to pupils' learning" in the most effective schools visited. Similarly the report by Ofsted (2008) confirmed that "Members of the wider workforce are particularly successful in engaging pupils at risk of underachievement or permanent exclusion, in developing links with the community and in increasing the involvement of parents and carers in their children's learning". The beneficiaries include the pupils whose education and subsequent career opportunities have been improved by such increased learning, teachers who are under less stress from no longer being required to undertake numerous non-teaching tasks, the support staff who can secure employment within local schools, the local and national economy that gains from a more educated workforce and increased employment opportunities within schools, and the wider society that benefits from the reductions in crime and in substance abuse which more educationally motivated pupils can foster. The research in strand A was disseminated amongst policy-makers and their advisers through (i) two published Department for Education Research Reports that highlighted related policy and management issues, as in A.4 and A.5 detailed in Section 5 below (ii) presentation of a paper emphasising the main lessons of the research at a seminar on Public Services Productivity at HM Treasury, as in A.3 below and (iii) detailed discussions with the Chief Adviser to the Secretary of State for Education on School

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Standards and Head of the Standards and Effectiveness Unit at the Department for Education, Michael Barber, who later became Head of the Prime Minister's Delivery Unit, as cited in A.2 below. These discussions resulted in a successful Departmental funding bid for a major expansion of 86,000 extra full-time equivalent support staff within schools (Department for Education and Skills, Departmental Report 2003, Cm 5902, p.88). This expansion has been sustained, with the number of teaching assistants in publicly funded schools in England rising from 115,000 in 2008 to 219,800 in 2011 and 232,300 by 2012, with non-classroom based school support staff rising from 57,600 in 2008 to 137,800 in 2012, compared to 442,000 teachers in 2012 (as evidenced in reference A.6 below), with continuing benefits over this period.

Strand B. of the research, on educational programme evaluation techniques, was disseminated to policy analysts through its publication as a Department of Education and Skills Research Report, which recommended the use of comparison groups based upon Overlapping Intake Schools which overlap significantly with the evaluated Academies in the primary feeder schools from which they recruit their pupil intake in the evaluation of the Academies programme. The research report also recommended the use of comparisons based upon contextual value-added measures of pupil performance that systematically take into account variations across individual pupils both in their prior attainment scores and in a wide range of other socio-economic characteristics of the pupil intake. The impact of the research was through the adoption of both of these recommendations in the evaluation methodology deployed by PricewaterhouseCoopers in their final Report of the Academies Evaluation programme (PwC and Department for Children, Schools and Families, 2008), as in B.1 below. The resultant conclusion was that rather than there being a simple uniform 'Academies effect', a more complex and varied process of educational change had taken place within them. This has had wider benefits in informing the public debate in advance of the Academies Act 2010, as confirmed in the House of Commons reference B.2 below. It has also underlined the need for the careful management of the subsequent expansion of the Academies programme, which has increased to include 203 schools by May 2010 and over 1,950 schools by July 2012.

Strand C. of the research was disseminated by giving oral and written evidence to a House of Commons Select Committee hearing on the implementation of Resource Accounting and Budgeting, as in C.3 below, and through Professor David Mayston's membership for eight years from 1996 to 2004 of HM Treasury's Financial Reporting Advisory Board (FRAB), as the independent economist nominated by the Head of the Government Economic Service, advising on the detailed introduction of Resource Accounting into central government and the NHS in the UK. In line with the concerns expressed in Mayston's (1999) research, the Annual Reports of HM Treasury's Financial Reporting Advisory Board from 1999 onwards, as in C.2 below, consistently emphasise the need for improvements in the rules being followed for accounting for PFI projects. This need was subsequently acknowledged by HM Treasury, with the impact that revised rules have been implemented for PFI accounting from 2008 onwards within the NHS and other parts of the public sector, as evidenced in C.4 below. The future PFI liabilities revealed by the improved accounting arrangements exceed £144 billion in present value. As confirmed by HM Treasury's (2012) revised policy document *A New Approach to Public Private Partnerships*, there are continuing benefits to taxpayers and the users of public infrastructure assets from the greater transparency and accountability that results from improved PFI accounting. These include incentives for improvements in the financial management and value for money achieved by PFI schemes, including new hospitals, schools and other major infrastructure projects that impact upon the delivery of public services.

5. Sources to corroborate the impact (indicative maximum of 10 references)

A.1 Office for Standards in Education, Children's Services and Skills (Ofsted), *Workforce Reform in Schools: Has It Made a Difference?* www.ofsted.gov.uk/publications/080263, 2010 and *The Deployment Training and Development of the Wider Workforce*, www.ofsted.gov.uk/resources/deployment-training-and-development-of-wider-school-workforce, 2008.

A.2 Sir Michael Barber, currently Chief Education Advisor, Pearson plc, 'the world's largest

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learning company', formerly Chief Adviser to the Secretary of State for Education on School Standards and Head of the Standards and Effectiveness Unit, Department for Education, London, Head of the Prime Minister's Delivery Unit, and Partner at McKinsey & Company.

- A.3** D.J.Mayston, "Value for Money, Educational Resourcing and Pupil Attainment", *Public Services Productivity*, HM Treasury, London, 2003, pp. 27 – 31, Proceedings of Seminar on Productivity in Public Services held at HM Treasury, June 2002, <http://www.hm-treasury.gov.uk/d/adproduct378kb03.pdf>
- A.4** D.J.Mayston, *Tackling the Endogeneity Problem when Estimating the Relationship Between School Spending and Pupil Outcomes*, DfES Research Report 328, Department for Education and Skills, London, 2002, 95 pp., ISBN 1-84185-667-3.
- A.5** D.J.Mayston, *Linking Educational Resourcing with Enhanced Educational Outcomes*, DfEE Research Report 179, Department for Education and Employment, London, 1999, 126pp., with David Jesson, ISBN 1-84185-183-3.
- A.6** Department for Education, *School Workforce in England*, November 2012, SFR 15/2013, and November 2010, SFR 06/2011.
- B.1** PricewaterhouseCoopers, *Academies Evaluation Fifth Annual Report*, Department for Children, Schools and Families, London, 2008, http://www.employers-guide.org/media/21007/academies_annual_report_pwc.pdf
- B.2** C. Gillie, *Academies: an overview*, House of Commons Library SN/SP/5544, 2010.
- C.1** Professor Sir Andrew Likierman, Dean of the London Business School, and formerly Head of the Government Accountancy Service and Managing Director of the Financial Management, Reporting and Audit Directorate, HM Treasury, London.
- C.2** Financial Reporting Advisory Board, *Annual Reports* (especially 13th Annual Report 2009-10, p. 6, 8; 11th Annual Report, 2007-8, pp. 3-6; 8th Annual Report 2004-5, pp. 5 -6; 7th Annual Report 2003-4, pp. 3,5,12,15-16; 3rd Annual Report 1999-2000, p. 7), HM Treasury, London, accessible via www.official-documents.gov.uk
- C.3** D.J.Mayston, "Resource Budgeting, Capital Charging and the Private Finance Initiative", in *Resource Accounting and Budgeting*, Second Report of the House of Commons Procedure Committee, HC 438, Session 1997-98, TSO, London, pp. 65 – 71, 1998.
- C.4** Financial Reporting Advisory Board, *Accounting for PPP Arrangements including PFI Contracts*, HM Treasury, December 2007.