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CMPO

Research in PUBLIC POLICY

Bulletin of the Centre for Market and Public Organisation

Can Public-Private Partnerships Deliver Better Services?

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Contents

Governments are increasingly using public-private partnerships – like the UK's private finance initiative – to build hospitals, schools, prisons, government offices, roads and other big infrastructure projects. In this issue of *Research in Public Policy*, we have four articles on key issues surrounding the implementation and effectiveness of these schemes, including their relationship with public service reform.

This issue also introduces the newly launched Bristol Institute of Public Affairs, of which the Centre for Market and Public Organisation (CMPO) is a constituent part.

To listen to a podcast interview with the author, visit: http://www.bris.ac.uk/Depts/CMPO/audio/main.htm

The Bristol Institute of Public Affairs

The Bristol Institute of Public Affairs aims to establish itself as the foremost location for national and international research on public affairs, comparable to the Woodrow Wilson School of Public and International Affairs at Princeton University.

The Institute was opened on 25 May 2007 by the then Economic Secretary to the Treasury, Ed Balls MP, who has since been appointed to the cabinet position of Secretary of State for Children, Schools and Families. His speech at the launch – on financial inclusion and saving – is published in the following pages.

The Institute draws on established teams of economists, developmental psychologists, legal scholars, educationalists, sociologists, epidemiologists and many others to influence and study public affairs and policy. In addition to the Centre for Market and Public Organisation (CMPO), it currently comprises two other leading research centres within the Faculty of Social Sciences and Law at the University of Bristol: the Centre for Multilevel Modelling; and the Centre for the Study of Ethnicity and Citizenship.

The Centre for Multilevel Modelling focuses on the development of innovative approaches to and software for quantitative social science research. The head of the centre is Professor Jon Rasbash and other members of staff include Professors Kelvyn Jones and Harvey Goldstein.

The Centre for the Study of Ethnicity and Citizenship co-ordinates and promotes the study of ethnicity. The head of the centre is Professor Tariq Modood, an expert on racial equality, multiculturalism and ethnic identities.

Other leading research centres from the Faculty will join the Institute as it develops, and new centres will be established. The Institute will build on the existing centres' track record in helping to understand and resolve issues that matter to communities everywhere, including public service performance, children's life chances, social deviance, ageing, ethnicity, family breakdown and governance.

Ed Balls MP, at the opening of the Bristol Institute of Public Affairs, Bristol University, 25 May 2007

Financial inclusion and saving

Speech by the then Economic Secretary to the Treasury, Ed Balls MP, at the opening of the Bristol Institute of Public Affairs, Bristol University, 25 May 2007

Lord Mayor, Mr Pro-Vice Chancellor, Dean, it is a great honour to be here today at the formal opening of the Bristol Institute of Public Affairs. Let me start by thanking both the Economic and Social Research Council (ESRC) and the Leverhulme Trust for their support, and Ian Diamond for his vision.

Over the past decade the Treasury has had a strong relationship with this university. Paul Gregg, now a professor in Bristol University's economics department, joined the Government in 1997 as a founding member of the Treasury's Council of Economic Advisers. Paul led work on labour market policy and was our key adviser in designing the new deal jobs programme for young people.

More recently at the Treasury, I have worked closely with Professor Elaine Kempson, director of the university's Personal Finance Research Centre, who has 20 years experience of research into personal financial services, and is a valued member of the Financial Inclusion Taskforce. Paul and Elaine are two examples of academic social scientists who recognise and champion the important link between academic and empirical research and public policy making. And they have other distinguished colleagues at the Institute: Carol Propper, working on health, Simon Burgess on education, Tariq Modood on ethnicity and citizenship, John Rasbash and Harvey Goldstein on modelling. I wish the new Institute every success in building on this experience and reputation in its own work on issues of public policy.

When Paul invited me here to open this Centre, and asked me to speak to you about an important area of public policy I decided that the obvious topic to choose was the interaction between financial inclusion and savings. I chose this for three reasons. Firstly because of the important role Elaine has played in developing our policies on financial inclusion and savings for those on low incomes. Secondly because the evaluation of our first Saving Gateway pilot was conducted by Bristol's Personal Finance Research Centre. And thirdly, because I am today able to share with you the conclusions of the second pilot of the Saving Gateway.

So today, I want to talk about the importance of saving in achieving financial inclusion. And I also want to talk about the Saving Gateway pilots' findings, which will help to shape our policy on saving incentives for those on lower incomes in the months and years ahead.

Financial inclusion and social justice

I want to begin by talking about the link between financial inclusion and social justice.

As a Government, social justice is at the heart of our ambitions for the country, and of our policies. We're cutting child poverty, and aim to eradicate it – to give every child the best possible start in life. We're addressing pensioner poverty. And we're supporting working families – rewarding work through the National Minimum Wage and tax credits, and bringing millions of people into employment.

Through these policies, and many others, we've improved opportunities in Britain. But we recognise that we can do more. And one area where we want to do more is in ensuring that people have access to the financial services they need – the opportunity to make the most of their money.

Britain has one of the largest, most sophisticated and most competitive financial services sectors in the world. It has responded quickly to the demands of a rapidly changing economy – new technologies, higher living standards and changes to the ways people live and work – and it provides a wide range of financial products to meet evolving needs.

But there is growing evidence that the market doesn't meet everyone's needs. A small but significant minority are unable to access even the most basic financial services.

I have spoken in the past about the special nature of banks. Banks are fundamental to the working of the economy and are amongst our biggest companies. But at the same time, as I have said, we must recognise the integral role banks play in our society and in our lives. Like any company, banks operate within society and have social obligations and responsibilities. Which is why I welcome the banks' continued recognition of the role they must play in ensuring that no people or social groupings in Britain are excluded from our financial life.

The most recent public figures show that, despite real progress made in partnership with the banks in the last few years, two million adults in the UK still don't have access to a bank account. It is estimated that at least 165,000 families in Britain today are forced to use illegal loan sharks instead of affordable mainstream credit. And last year tens of thousands of people, many among our most vulnerable, suffered great hardship with the collapse of the Christmas hamper company Farepak.

Addressing these issues is about achieving financial inclusion. But it's also about achieving our wider objectives, of increasing opportunities and increasing fairness – and our ambition for social justice.

So the Government wants everyone to have access to appropriate financial products, the information and capability to prevent avoidable financial difficulty, and access to sources of advice if they find themselves in distress.

Progress

We've made significant progress since 1997, working with the banking industry to bring basic bank accounts to the market and piloting the Saving Gateway.

Debt advice agencies funded through the financial inclusion fund have recruited over 400 new money advisers – with 100 more in the pipeline – who have helped more than 26,000 people since April last year. The Growth Fund has helped make over 21,000 affordable loans through credit unions and Community Development Financial Institutions (CDFIs) to those worst affected by financial exclusion. And the latest data from the Family Resources Survey shows that by 2005-06, the banks and the Government had brought over 800,000 adults into banking.

These initiatives have made a real impact, but more needs to be done. That is why, in the new financial inclusion strategy published two months ago, I set out a range of measures strengthening the Government's commitment to financial inclusion.

These include:

- a new financial inclusion fund for the next spending period;
- a ministerial working group to deliver a detailed action plan later in the year;
- and the continuation of a Financial Inclusion Taskforce to monitor progress and advise the Government up to 2011.

In this strategy, I also set out the Government's response to Brian Pomeroy's independent Review of Christmas Savings Schemes. This considered the implications of the Farepak collapse for Government policy on saving and recommended a new agreement with the hamper industry for an industry-led scheme to protect consumers' funds in secure ring-fenced accounts; and a £1 million Office of Fair Trading awareness campaign to ensure that customers are aware of their saving choices.

And in addition, the financial inclusion campaign launched in January this year, 'Now Let's Talk Money', is working with local charities and community organisations to promote the important role credit unions can play as trusted alternatives to hamper schemes.

This is particularly important in the context of the issue I want to talk to you about today – how the Government's savings strategy can help us achieve financial inclusion.

Savings strategy

Since 1997 our savings strategy has focused on improving the environment for saving, providing adequate incentives to save and empowering individuals with the capability to make the right saving choices.

Where we have the Child Trust Fund for children, the Individual Savings Account is the Government's primary vehicle for tax-advantaged savings for adults, outside pensions. ISAs have been successful in extending saving more widely throughout the population – including among the young and low-income groups. This morning, I have visited Bristol Credit Union and seen how, with funding from the Growth Fund, they are providing services to low-income communities in Bristol. Following the Farepak collapse, they have recently launched a Christmas savings account and are set to launch a Child Trust Fund account in the coming weeks.

But tax relief is not an effective incentive for lower income earners who pay little or no tax.

Our research shows that lower income households may be less likely to save than other households and may not have sufficient levels of savings to draw upon, for times of adversity or to plan ahead and take advantage of opportunities such as lifelong learning.

Indeed the latest data from the Family Resources Survey shows that in 2005-06 28% of households had no savings, rising to 43% for households earning less than £300 per week.

And so a particular challenge has been providing targeted saving incentives for lower income households who may not have much previous experience of saving.

Saving Gateway

In response, and as many of you here today will know, since 2002 we have been piloting the Saving Gateway – a savings account targeted at lower income households to encourage a saving habit and promote engagement with mainstream financial services.

In the initial pilot, the Government matched individuals' savings pound-for-pound up to £25 per month over an 18 month period.

In 2005, a second, larger pilot was launched to test alternative match rates, different monthly contribution levels and a range of financial education support. The accounts were also made available to a wider range of income groups than the first pilot.

Building on the conclusions of the initial Saving Gateway pilot, I am able to share with you today the findings of the second evaluation, which was carried out by MORI and the Institute for Fiscal Studies.

Final evaluation findings

Overall, the evaluation found that the pilots were very successful in generating savings – around 22,000 participants managed to save a total of around £15 million and earned a total match of over £5 million.

Saving responses varied but the evaluation finds that the Saving Gateway encouraged some lower income participants in particular to save regularly and to reduce their expenditure in order to save. There was also a positive impact on participants' attitudes to saving, which was most marked among those who had little or no prior experience of saving.

The research also found that the pilots gave participants a sense of achievement – in particular among those new to saving – and an increased sense of security.

Key lessons learnt

Some important policy implications can be drawn from the results of the pilot. The findings point overwhelmingly to the success of matching as a targeted incentive for lower income savers.

Participants in the pilot liked the concept of matching. Like many of us, they found it easier to understand pounds rather than interest rate percentages.

This echoes the findings of the first pilot. However the results of the second pilot go further, demonstrating that while higher match rates may have a small effect on take-up, there is no need to offer match rates as high as pound-for-pound in order to incentivise people to save.

The evaluation also finds that monthly contribution limits provide a structure for regular savings. One interesting point from both pilots is that participants tended to see the monthly contribution limit as a target, with the amount most commonly saved being equal to the contribution limit. Overall, the pilots suggest that, for those at the lower end of the income distribution, £25 per month is an affordable saving limit.

In addition the evaluation found that most participants in the pilots believed they would continue to save after Saving Gateway ended. This suggests that a time-limited account – 18 months in the pilots – could kick-start a saving habit among those new to saving.

So matching and monthly limits worked well, especially for savers on lower incomes. But the evaluation found that participants on higher incomes were more likely to save in their accounts by recycling existing savings. This suggests that the policy focus on people on lower incomes – up to around £15,000 household income as used in the first pilot – is about the right level.

The evaluation also found that individuals living closer to a Halifax branch were more likely to open an account than those who lived further away – demonstrating the importance of ease of access. This is likely to be especially important for those on lower incomes who prefer to save in cash.

Participants in the Saving Gateway were able to access their money in both pilots but very few withdrawals were made: 98% of savers left their savings untouched throughout the 18 month period.

We can draw parallels here with Brian Pomeroy's findings in his recent review following Farepak. Customer workshops found that while people were willing to accept – and indeed welcomed – a lock-in of their own money when they are pre-paying for goods for Christmas, they are not attracted to a lock-in on general savings. An important conclusion is that Christmas Hamper Schemes and the Saving Gateway meet quite distinct savings needs and so each may require distinct product characteristics.

On financial capability, the first Saving Gateway pilot provided significant support to participants, especially at account-opening, through the Community Finance Learning Initiative.

However, the account-opening process in the second pilot was operated directly between the Halifax Bank and participants. And a wider range of community finance education support was provided alongside.

The results of the second pilot demonstrate that, on the whole, take-up of opt-in financial capability opportunities linked to the Saving Gateway was low. In general, individuals simply did not think it was relevant for them.

Like the first pilot, the second pilot found that many on low incomes are skilled money managers as they have little financial room for manoeuvre each month and little in the way of disposable income.

But there may still be a need for some measure of additional support. Although many participants of the second Saving Gateway found the accounts easy to understand and operate, less financially-confident savers said they would have liked a meeting to explain the account in more detail at account opening and more guidance on options for their money at account maturity.

On the one hand this may suggest that we should build appropriate defaults into the system so that, for example, Saving Gateway accounts should automatically roll-over into cash ISAs on maturity.

But it also suggests that less financially-confident savers might still need to draw on some additional measure of support with understanding product rules such as the right to withdraw money and pay in by direct-debit.

The second pilot demonstrates that there are financial inclusion benefits to extending a structured matched savings account to people on lower incomes. The evaluation found that the scheme brought some individuals into contact with a bank for the first time, that the experience was useful in familiarising new savers with the mechanics of saving and encouraged them to think more carefully about their finances.

To quote a member of the Halifax Bank in the East London area: 'It brought in a lot of people that we have never seen before ... got them on that step to banking. Gave them a bit of confidence, not just in Halifax but any bank really.'

Overall then, the Saving Gateway pilots provide a wealth of data on which to base informed policy decisions about how to target incentives on lower income savers. We can conclude that there are clear benefits around formalising informal savings, promoting regular saving and getting people into financial institutions for the first time.

But even having conducted these extensive research pilots, there remains a key set of challenging policy decisions to consider as we move ahead.

Future challenges

A key challenge will be the eligibility criteria that would apply to any roll-out of the Saving Gateway and how that would be administered. Would we 'passport' access through existing benefits and tax credits? How would that work in practice? Or would a separate income or asset test be more appropriate?

Given that the Saving Gateway is a short-term account to kick-start a saving habit we would also need to consider whether we should restrict eligible individuals to one account in their life-time. But this brings its own challenges – policing the rule and equipping individuals to make informed decisions about when to take up the opportunity.

And then there is the appropriate delivery model. This might be open-competition like the Child Trust Fund with a range of providers around the country – but there are other models. And we would need to consider the valuable role that local organisations such as housing associations and credit unions can play in reaching the hard-to-reach.

And of course all of these challenges will have to meet a tough value-for-money test.

Next steps

We will need now to spend some time further analysing and reflecting on the evidence emerging from the second pilot.

I am publishing the final evaluation report on the second pilot as conducted by MORI and the IFS on the Treasury website. I hope many of you will take time to look at the report, and let us know your views on the way ahead. I especially look forward to hearing the views of Elaine Kempson and her team.

Following an initial gathering of views, and further analysis of the findings of the pilot, we plan to make further announcements on the next steps for the roll-out of the Saving Gateway in the Pre-Budget Report.

Closing

In conclusion, we have made real progress on financial inclusion and saving but there is still a lot more to do.

Tackling financial exclusion, spreading financial capability and helping to set more low income earners on the path towards a regular saving habit is essential for both our economic prosperity and for social justice. It is good both for individuals and for society and the economy as a whole. This is an area in which Bristol University has led the debate. I look forward to working with you and colleagues at this new Centre to drive this agenda forwards in the coming months.

Public-Private Partnerships

The last 15 years of the twentieth century saw a global explosion of privatisation. By 2004, almost 40% of all the world's stock markets outside of the United States consisted of privatised companies. The rationale was part economic (replacing 'soft' public budget constraints with 'hard' market constraints while bolstering treasury coffers at the same time) and part political (ushering in market mechanisms in transition economies and elsewhere, making voters more conservative).

But for other services, governments need to maintain a closer relationship with the private sector. The only purchaser may be the government agency itself (defence or, in many economies, health or primary education services) or the nature of the services may make the fully privatised model impractical (for example, an integrated urban road network). In these cases, governments around the world have increasingly been turning to partnerships between the private and public sectors.

Upfront expenditure by the private sector followed by long-term payments by the public sector for the service are the key themes of all public-private partnerships (PPPs). Besides roads, other activities where PPPs are used in the UK include building hospitals, schools, prisons, the Channel Tunnel, government offices and embassies, developing computer systems and updating the London Underground.

This issue of *Research in Public Policy* features four articles on PPPs. First, *Paul Grout* provides an introduction to why governments are turning to them and outlines some of the core issues and the early evidence.

The private financing structure of PPPs is a central concern, particularly for private finance initiative (PFI) deals. In the next two articles, *Tim Stone* discusses public service reform and the role of PFI in the process of reform, and *Elisabetta Iossa* highlights the problems with the PFI procurement process.

PPP financing arrangements generally take the form of separate project finance deals set up directly for the particular project. In the final article, *Bill Megginson* and *Stefano Gatti* assess whether the leaders of project finance deals can create value.

Can public-private partnerships deliver better services?

Why are governments increasingly using public-private partnerships to build hospitals, schools, prisons, government offices, roads and other big infrastructure projects? *Paul Grout* outlines the basic rationale – and assesses the evidence on whether they work.

The International Monetary Fund describes public-private partnerships (PPPs) as 'a wave that is sweeping the world'. But why has a concept barely mentioned until a decade ago become such a global phenomenon? What led the UK to use PPPs to build hospitals, schools, prisons and government offices? And most importantly, do PPPs make sense as a way of delivering public services?

A PPP is a long-term contract between the government and a private supplier involving upfront expenditure by the private sector followed by long-term payments by the public sector. The private contractor owns the physical 'asset' and makes money from the payments for the services that it generates.

For example, with traditional public provision of a new road, the government signs an agreement with a contractor, pays them when the road is built and then owns and maintains it. With a PPP, the contractor builds and owns the road and the government pays a fixed fee for every vehicle that uses the road over a certain period.

The basic argument for PPPs is one of efficiency. If under traditional arrangements, the road turns out to be poor quality, then the government faces a complex legal battle to prove that bad building, rather than misspecification or incorrect maintenance, is at fault.

But with a PPP, the government pays for the service it gets: if the road is poor quality and needs expensive repairs, then the builder pays and also suffers lost income if cars use other routes while the road is repaired. The idea is that the contractor has strong incentives to ensure good quality and to deliver on time (to start the money flowing).

But PPPs have found favour for another reason. Just as privatisation proved popular with governments for adding to treasury coffers, so PPPs are attractive as a way to get new infrastructure without paying upfront. An agreement for a new hospital signed today will only start to cost the government money once it is up and running, and the cost is spread over the next 25 to 40 years.

There are good reasons why governments favour public-private partnerships

This argument has proved very powerful in the UK. PPPs were a natural extension to the Conservative government's privatisation policies of the 1990s. The private finance initiative (PFI), as the early projects were collectively known, brought private incentives and money into services that were not suitable for full privatisation, and made it possible to modernise infrastructure without directly raising government borrowing.

PPPs also proved popular with New Labour as a way to deliver on its promise of improving public services while convincing the City of its financial prudence. Of course, a legal commitment to pay in the future should not be different from borrowing today, but for various reasons, these are not seen as quite the same thing.

It is common to criticise the second, essentially political, argument for PPPs, and to suggest that if there are no clear

efficiency arguments, then PPPs are undesirable. But since politicians are usually deemed too short-term, it is far from obvious that the biases of PPPs are all bad.

The poor state of public infrastructure in the UK is well documented, caused in part by reluctance to commit expenditure with no immediate benefits to voters. So a mechanism that allows politicians to improve infrastructure while passing on the cost to future generations as they benefit from it seems a good way to correct the distortion.

Public-private partnerships are attractive as a way to get new infrastructure without paying upfront

Do PPPs work? Unfortunately, comparative research on PPPs is limited and so it is difficult to know whether the efficiency argument really works. There are case studies of the failings of individual projects, but public sector delivery is also fraught with problems so the case study approach makes comparisons very hard.

The National Audit Office (NAO) survey of PFI construction projects up to 2002 assesses them against comparable projects traditionally procured. Nine out of the 11 PFI hospitals and all seven PFI prisons were delivered on time or early. This compares very favourably with 61 traditionally procured hospitals, three quarters of which were delivered late. Of course, being on time is not the same as being better value.

The survey also compares private prisons with equivalent public prisons, concluding that the former perform well although they are among the best and the worst of the sample. Taking account of quality and overcrowding, private prisons are clearly better value than public prisons, but their complex financial structure makes it harder to say whether all private prisons are better than public prisons.

There are, however, some well established problems with PPPs that arise because of the long-term contracting structure. One is procurement. Because a single provider signs a long-term contract, the chosen company enjoys some monopoly power. As a result, any benefits that the contractor can make from this must be extracted upfront in a competitive bidding process.

This leads to a major change in the status of public sector jobs. In traditional provision, those involved with service delivery have a critical role and procurement is somewhat secondary. With PPPs, delivery shifts more to the private sector and good quality procurement is the critical role of the public sector.

Another big issue is renegotiation. One in five of the PFI construction projects assessed by the NAO were expanded within a few years of contract because of changing needs. Detailed renegotiation rules are now built into contracts and we await evidence on whether this resolves the problem.

Despite these problems, there are good reasons why governments favour PPPs and plenty of evidence that they work well. Combined with the 'political' benefits of postponing payment, it is clear why PPPs are proving so popular around the world. They are a legitimate part of a package to deliver better public services and are here to stay.

To listen to a podcast interview with Paul Grout, visit: http://www.bris.ac.uk/Depts/CMPO/audio/main.htm

PFI and public service reform:

Challenges for research, policy and practice

The UK government's private finance initiative (PFI) has become a massive experiment in the reform of public service delivery. *Tim Stone* challenges policy-makers, practitioners and researchers to have a properly informed public debate about what works and why – and how PFI can be developed most effectively.

Reform of the UK's public services began back in the early 1990s with a process driven by the need to reduce the government's capital expenditure as part of the 'Maastricht criteria' for potential participation in Europe's monetary union. That process created the private finance initiative (PFI), a way of modernising infrastructure and improving public service delivery without directly raising government borrowing

In its earliest form, the PFI adopted the idea of service contracts as opposed to asset acquisition by the public sector. The logic was driven by the accounting rules then in force: whereas conventional asset acquisition triggered recognition of the whole asset on the government's balance sheet, service contracts recorded only the annual expenditure as it was incurred.

To create these service contracts, payment had to follow performance against what became known as 'output specifications' – and so the PFI process evolved into a form of its own. There are seven key features of PFI deals but it is the effect of the seven combined that creates the unique features that drive reform:

- The public sector buys outputs or (better still) outcomes rather than assets – trained pilots, for example, rather than flight simulators. Monitoring of quality or utility is built into normal operational activity (for example, through a help desk) and not superimposed after the fact.
- The deals are characterised by risk allocation based on any one party's ability to manage and control a specific risk.
- The payment for service (the payment mechanism) is linked to the quality or utility of the service according to the original output specifications.
- Significant external finance is injected into the service provider so that the external lender (through conventional credit forces and specific powers such as step in rights) provides a powerful driver of the negative feedback loop created by the payment mechanism.
- Long-term contracts relate to the overall life of the asset/service combination and not to some (arbitrary) budget time-cycle.
- There is integration of tasks conventionally segregated into silos to create economies of scope.
- Application of competitive pressure to creation of the service solution drives innovation from the inception of a project.

The new focus on performance against a required output is a radical departure from traditional government behaviour

Historically, private sector contractors have provided much of the public sector's assets but with little or no connection between the cost and design of their work with the results that follow. Traditional contractors, for example, have no responsibility for the future availability of an operating theatre in a hospital even though a material factor might be the design of the supply of medical gases or the ability to create sterile environments as effectively as possible. Under such arrangements, contractors earn profits largely through mechanisms unrelated to the ultimate public service delivered.

The new focus on performance against a required output is a radical departure from traditional government behaviour where the performance of a process is the normal goal. This focus on performance against a target has now evolved into a tool to assist in public service reform. Moreover, the recognition that performance against a desired result might actually be a useful political weapon has enabled PFI-type deals to be adopted in many countries around the world.

The relationship between the public and private sectors has conventionally been on an annual, cash-accounting basis with a corrupt structure: the public sector has a motive to persuade itself that the cost of delivery is low in order to obtain internal budgetary approval; and the private sector bidder will only win work if they bid the lowest price. The lack of true accountability in the public sector ensures that there are post-contract adjustments up to and beyond a reasonable price, behaviour that subsequently goes unpunished both for the managers and for the wider economy.

The focus on performance against a target has become a tool to assist in public service reform

Meanwhile, financial institutions have historically been relatively myopic, focusing on short-term performance rather than long-term earnings profiles. But the demands of the pensions industry have changed that for good. Specialist funds like Macquarie, Carlyle, Henderson, 3i, i2, HBOS, RBS, Barclays Capital, JPMorgan Chase, Innisfree and Goldman Sachs are looking for long-dated investments and have focused on large-scale infrastructure deals such as the acquisition of major airports, water utilities and massive road and other transport investments. The last 12 months have seen these behemoths raise $15-20 billion between them.

Despite all this activity, the quality of public debate is appalling. True, the subject of public service delivery is complex but the lack of comparable data for both conventional and PFI projects continues to stymie that debate. While there is an increasing amount of data available from the over 700 signed projects in the UK alone, there is remarkably little data of useful quality for the conventional procurements. This asymmetry results in a debate like 'the sound of one hand clapping': the PFI deals are compared with a presumption of near perfection for the conventional cases.

The unions have been shockingly handled. At the beginning of the PFI era, one major union only recruited in the public sector and any reforms based on contestability inevitably challenged the very existence of those unions and the debate became one of survival. Again, the paucity of data has bolstered the unions in their (entirely understandable) opposition.

Parliamentary oversight hasn't helped. The Public Accounts Committee (PAC) provides distorting influences on public and private sector alike with 'grandstanding' performances by members and almost zero tolerance for any sort of failure and little reward for success in taking or managing risks. And the National Audit Office (NAO), which reports directly to the PAC, focuses on 'agreed' reports on a small sample of deals: when taken with patchy technical support for select committees and a widespread lack of commercial and financial expertise among politicians, the potential of these reports for improving public debate is seriously hampered.

Meanwhile, industry has been transformed. A number of conventional infrastructure companies such as VT (formerly Vosper Thornycroft) and Carillion have focused increasingly on delivery of public services such as hospitals, schools and roads. Their share prices demonstrate the attitude of their clients and the City (see Figure 1).

Politically, the Blair government's line – 'what matters is what works' – has increasingly focused attention on public service outcomes rather than process and inputs. Along with increasing recognition of the wildly asymmetric approach to risk management in the public sector has come a growing need for reform. The private and voluntary sectors often operate in environments where there is constant reform of different parts of the organisation. But the 'generate and test' approach to reform is rare in the public sector except as a consequence of a politically led initiative.

The UK needs to develop first-class contractual relationships between the public and private sectors

If the UK is not to lose its place in the global competition for the best long-run, risk-adjusted value-for-money in provision of public services, there needs to be a sea change in the collection, analysis and interpretation of data around the provision of services by both conventional and PFI models.

But there is an apparent lack of academic engagement. Economics departments develop simplified models of PFI so that the mathematics becomes tractable, but in so doing, they lose key aspects of the overall structure. Public policy departments and construction management departments focus on subsets of the problem. And so far the business schools have had limited engagement.

Studies to date also seem largely disconnected from practical data. The 'top-down' studies generally use relatively simplified theoretical models for reasons of tractability and these have not been used as a basis for extensive quantitative research. There have been some useful 'bottom-up' studies (including some by the NAO) but again they have not been used as the basis for substantive quantitative research. Such quantitative research as does exist is largely based on opinion rather than fact, and indeed some of the studies are of questionable research design and quality.

Comparison of public and private sector norms in reporting is illuminating. Private sector reporting is principally about the protection of financial interests and in general, financial and operational performance measures are approximately aligned (though the mechanism is not perfect and some members of the accounting profession are calling for companies to move towards real-time accounting).

But in the public sector, the focus is much more on conformity to process as opposed to the private sector objective of 'true and fair'. The public sector tends to look at measures such as 'has the money been spent on the purposes for which it was given?' or 'have the departmental accounting manuals been followed?' – in other words, assessments of whether the process has been accurately and properly applied.

There needs to be a sea change in the collection, analysis and interpretation of data around the provision of public services

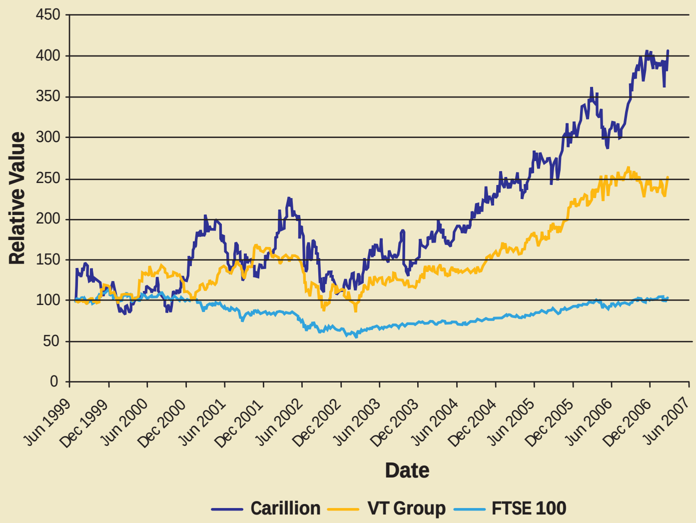
The lack of true equity in government conspires to reinforce this lack of accountability since there is no natural attractor for success that then results in celebration and search for more of the same. Similarly, there is nothing that inevitably suffers from poor performance and leads to a search for more effective solutions, driving out the behaviour that contributed to failure in the first place. While this undoubtedly has roots in avoidance of corruption, the lack of equity in the public sector ensures that this focus on process rather than true and fair remains generally unchallenged and success and failure remain obscured.

A further consequence is that cost systems in the public sector are often far less sophisticated than in the private sector with the result that they are often not fit for purpose in devising reform. This all drives a lack of recognition of better or weaker behaviour, a lack of opportunity to learn within a peer group, a lack of opportunity to challenge within the public sector and a lack of opportunity to challenge by the voluntary or private sector.

Reform of public services is now entrenched in many countries' political narrative. There is an international competition for resources. The financial capital of the infrastructure funds is of course immensely mobile. More worryingly, the 'human capital' that drives the application of reform – the programme managers, the deal managers, the senior managers and the specialist advisers – are increasingly scarce and, in the twenty-first century, almost as mobile as the financial capital.

The poster example is the Trans-Texas corridor. The UK began a PFI roads programme in the mid-1990s and, to date, 19 deals worth around $12 billion have been completed, with four more in tender worth around $8 billion. Meanwhile, the Republic of

Figure 1: Carillion and VT share prices against the FTSE-100



Ireland has a $2.74 billion programme underway with $1.37 billion already signed.

The Trans-Texas corridor programme, which was announced two years ago, has a total value of around $200 billion of which $153 billion is for roads alone. The first deal has a preferred bidder announced in a $2.8 billion deal. The UK's largest road deal – the M25 project – begins to struggle against such competition and there are already good reasons for thinking that many of the active roads bidders may have their 'B' team in the UK with their 'A' team abroad.

Of course, the scale of the US market will dwarf the rest of the world. But it is now critical for the UK to create a market that will retain the human capital through first-class developmental and contractual relationships between the public and private sectors. That depends crucially on a proper understanding of what works, why and how it can be improved.

The opportunity for decent quality, substantive research is obvious – without it, public sector clients cannot learn and the UK will become a place for the private sector to train its apprentices and the 'A' teams will move abroad. The gap between academic practice and need is enormous and the public sector should throw down a gauntlet. There has probably never been such a massive experiment in developing new public policy ideas anywhere in the world – why is it not being crawled over in detail and becoming one of the hottest topics in the academic world?

Tim Stone, Chairman of the Global Infrastructure and Projects business at KPMG, writes here in a personal capacity.

PFI procurement:
A lengthy and costly process

In March, the National Audit Office (NAO) published a report examining the tendering process for all PFI projects by central government departments in England that closed between April 2004 and June 2006, including PFI schools and hospital projects. The report emphasises the lengthy and costly nature of the PFI procurement process, which, it suggests, is having a negative impact on the value-for-money of PFI deals.

The NAO report reveals that tendering periods for PFI deals with a capital value of over £20 million are lasting an average of 34 months. The consequences are twofold:

- First, there is a direct cost of tendering delays to the public sector. Based on figures provided by the public sector procurement teams, the NAO estimates that the delays in the sample period cost the public sector at least £67 million.

- Second, the lengthy tendering periods and the associated high costs of bidding are contributing to the private sector being more selective in developing detailed bids for PFI projects. One in three projects that closed between 2004 and 2006 had only two detailed bids competing for the business, compared with one in six prior to 2004.

The findings of the NAO report are important. The PFI currently accounts for about 15% of total investment in public services, including London Underground and Channel Tunnel Rail Link projects. By March 2006, 700 PFI projects had been signed for a total capital value of £46 billion, and the government's commitment to PFI is as strong as ever. PFI deals are being signed for schools, hospitals, prisons, roads, bridges, accommodation, leisure facilities, military training and waste management.

The lengthy and costly procurement process for provision of public services is not just a UK issue: over the past two decades, many countries have seen increasing involvement of the private sector in the provision of public services and a general downsizing of governments. Public-private partnerships (PPPs), of which PFI is a form, have been part of this trend. It is their very nature that calls for complex procurement.

This is because one of the main distinguishing features of PPPs is the 'bundling' of project phases. In a PPP, the private sector takes responsibility for all or almost all aspects of project delivery, which can include the different stages of the design, building, financing and operation of the project.

We need to think carefully about how to reconcile the potential benefits of PFI with an effective tendering process

Because each phase of the project requires specialised skills, PPP contracts are generally characterised by different private firms forming a consortium (or 'special purpose vehicle'). The consortium typically includes a construction company and a facilities management company, and it is responsible for contracted services.

This bundling of responsibility comes together with a greater transfer of risk to the private sector than under traditional procurement. So for example, under PPP contracts, the risks associated with design, costs and schedule are generally transferred to the consortium company. The consortium company then reallocates risk to the company that is in the best position to manage it. Construction risk, for example, will be allocated to the construction company.

This means that while members of the consortium are jointly liable to the public authority that is procuring the project, a nexus of complex and detailed contracts allocates individual responsibilities and rewards among the various members of the consortium. The number of deals involved is substantial.

The private finance initiative (PFI) currently accounts for about 15% of total investment in UK public services. *Elisabetta Iossa* explains why the procurement process for these projects is so complex – and proposes ways of making it more effective so as to get better 'value-for-money' from PFI deals.

Furthermore, PFI deals are long-term contracts, lasting around 25-35 years, and the output specifications set up in the initial PFI contract may become inadequate over time. It is therefore necessary to try to plan for potential contingencies that may arise in the future and discuss in the contract how to deal with the possibility that output specifications need to change. Even when this is feasible, writing these plans into a contract can be very costly and time-consuming.

'Bundling' – in which a consortium takes responsibility for all project phases – has many benefits but can make initial contract negotiations highly complex

All these characteristics of PFI contribute significantly to increasing the complexity and importance of contract negotiations compared with negotiations under traditional procurement. They also provide an explanation for the lengthy and costly nature of the PFI procurement process.

At the same time, however, the bundling of project phases, the greater risk transfer under PFI deals and the long-term contracts that characterise them all come with potential efficiency gains:

- First, as emphasised in my research with John Bennett (see below), in situations where the quality of an asset decreases the costs of managing the asset once it has been built, bundling induces the contractors to look at the 'whole-life' performance of the asset. This provides greater incentives to invest in asset quality so as to reduce management and maintenance costs. The greater the potential gain from whole-life costing, the greater the benefit of bundling.

- Second, efficient risk transfer is key for incentives. For example, to the extent that construction risk and demand risk can be controlled by the contractor, efficient incentives call for the contractor to bear these risks.

- And third, with financially freestanding projects, long-term contracts guarantee that the stream of expected revenues is sufficient to cover fixed costs and running costs. Long-term contracts also help to protect relationship-specific investments and to realise all the benefits from a whole-life cost approach.

For all these reasons, it is now imperative to think carefully about whether it is possible to reconcile the potential benefits of PFI with an effective tendering process and how to do it. There needs to be renewed debate about the possibility of stimulating competition through prizes to participants, about further use of standardised contracts, and even about procurement platforms that manage more than one deal.

Since each of these and other possible options come at a cost, in-depth research is needed to compare the likely costs and benefits and improve the value-for-money of PFI deals.

Elisabetta Iossa is Professor of Economics at Brunel University. Her forthcoming CMPO Working Paper – 'Public-Private Partnerships and the Bundling of Project Phases' – looks at the benefits and costs of bundling.

Her study with John Bennett – 'Building and Managing Facilities for Public Services' (CMPO Working Paper No. 05/137) – was published in the *Journal of Public Economics* in 2006.

The loan arrangers:
Value creation in project finance

During the past three decades, project finance has emerged as an important method of financing large-scale, high-risk business ventures. *Bill Megginson* and *Stefano Gatti* investigate whether lead arrangers of project finance loans create value by certifying a project's intrinsic worth to outside capital providers.

Project finance is usually defined as limited or non-recourse financing of a project that is newly to be developed through the establishment of a vehicle company. Its distinguishing features are first, that creditors share much of the venture's business risk; and second, that funding is obtained strictly for the project itself without an expectation that the corporate or government sponsor will co-insure the project's debt, at least not fully.

Project finance is a way of financing projects off balance sheet. Project sponsors – usually big contractors or engineering firms, often in alliance with parties interested in purchasing the output of the venture or selling it raw materials and services – set up a special purpose vehicle (SPV), which receives a limited amount of equity and a large proportion of debt, usually in the form of a syndicated loan.

If a prestigious bank is the lead arranger of a project finance loan, the cost of funding is reduced

Project finance lending has become an important part of the global market in syndicated loans. In the period 2003-06, loans arranged on a project finance basis have grown at an impressive compound annualised growth rate of 21.5%, and today the market accounts for more than 5% of the overall amount of syndicated loans.

Project finance is an interesting topic for research since the venture is financed exclusively on the basis of its ability to generate cash flows and without (or with only limited) recourse to project sponsors. Since the venture is not incorporated in an already-existing firm, every decision regarding leverage and credit pricing can be analysed separately from the other projects of an existing firm.

The cost of funding for the venture is a crucial decision that is always delegated to the 'mandated lead arranger' of the syndication group. Research in financial economics recognises the certification role that prestigious financial intermediaries can play for their clients. The purpose of this study is to examine first, whether the involvement of a prestigious arranger can create value for the borrower (the 'valuable certification hypothesis') and, if so, how arrangers are compensated for providing this certification.

Remuneration for the value provided by the arranger can take the form of either a higher level of fees (the 'direct compensation hypothesis') or a greater market share in the overall project finance loan market (the 'indirect compensation hypothesis'). A greater market share can be obtained by financing larger projects or by making larger loans to projects of a given size, for example, by increasing the project's leverage. The principal prediction of the indirect compensation

hypothesis is that certified projects will be larger and have higher debt-to-equity ratios than otherwise comparable non-certified projects.

Top-tier loan arrangers are *not* compensated with higher fees

Using a sample of 4,122 project finance loans, worth $584 billion, arranged between 1991 and 2005, the study examines certification by lead arrangers of project finance loans. The valuable certification hypothesis predicts that certification by prestigious arrangers will determine a lower cost (spread) of funding for the borrower than would be required for a less prestigious arranger. The analysis shows that spread is indeed negatively related to arranger share after all other factors are accounted for, clearly supporting the valuable certification hypothesis.

Having a top-tier arranger involved significantly reduces the spread on a loan. There is also some evidence that longer maturity, as a proxy for the project's life, reduces spread. This makes sense as loan repayments can then be spread over a longer period of time and thus put less pressure on the project's cash flows.

With the valuable certification hypothesis supported, the study tries to identify which of the two competing remaining hypotheses is verified. The direct compensation hypothesis implies that top arrangers will receive higher fees, even if the overall cost of the loan is reduced by certification. This is not verified: the top arrangers are not directly compensated in terms of higher fees and must thus be compensated indirectly.

Overall, the indirect compensation hypothesis is supported as lenders pay lower fees to top arrangers – only when multiple top arrangers are part of the syndicate is there evidence of stable fees. Furthermore, top arrangers are able to assemble and fund larger and more leveraged loans, a result that supports the indirect compensation hypothesis.

Bill Megginson is Professor and Rainbolt Chair in Finance at the University of Oklahoma's Michael F. Price College of Business.

Stefano Gatti is Professor of Finance at Bocconi University in Milan.

Hospital Care in England: Who will choose?

Restrictions on where patients in England can be treated are being rolled back. By 2008, it is envisaged that there will be free choice of any provider of hospital care. But who might take up this choice? Will it be used only by the more affluent or those located in cities? And will choice of hospital be taken up more by adults or children?

Early pilots of the choice agenda in healthcare indicated that there were few differences in the social background of those who took up choice. It was as likely to be taken up by women as men and by the less affluent as the more affluent.

But the patients in these pilots were special. Those who took part had all been waiting at least six months. They had all been waiting for treatment for conditions that seriously restricted their daily activities. And all were offered help in making these choices, both in meeting the costs of travel and in understanding the choice process.

Now that choice is, in theory, open to all, who is most likely to exercise it? To answer this question, researchers at CMPO and the King's Fund have analysed the travel patterns of people admitted to hospital for inpatient or day care in the NHS in 2003/4. This was just before the choice agenda began but not so long ago that the pattern of hospital location has changed dramatically in the interim. So the results offer a reasonable guide to likely outcomes in the new world of choice.

The study first looked at the distances travelled by all people and found, perhaps surprisingly, that they are quite long. The average distance travelled for elective care is just over 17km and only slightly less for emergency care. But within this average, there are some important differences. People in rural areas travel considerably further than those in urban areas: on average, the former travel just over 27km for elective care while the latter travel only 15km.

Map 1, which charts travel distances for elective care for the whole of England, shows this quite clearly. The red areas mark those wards where people travel furthest – these are all rural areas. The green areas mark those wards where people travel least – these are all located in the major conurbations. This is as might be expected: more hospitals are located in urban areas than in rural areas.

The research also finds that children often travel further than adults for their care. The average distance travelled by someone under 18 is around 20km while the average distance travelled by someone over 65 is closer to 10km. And some children make very long journeys: around one child in every 10 travels 50km or so.

Again, these differences between children and adults probably reflect the location of facilities: there are fewer specialist children's hospitals than hospitals that provide hip and knee replacements and treatment for cataracts, all of which are used disproportionately by older people. So the location of hospitals means that elderly people will travel less far for their care.

People from deprived areas travel less far to receive elective care than those from affluent areas

But the averages also mask some more surprising and perhaps worrying differences. The researchers compared the distances travelled for elective care – exactly the kind of care that is covered by the 'choose and book' system – by those patients who live in more deprived areas with their more affluent counterparts.

Overall, those who live in more deprived areas travel less far. In particular, there is a large difference between what might be termed 'long distance' travellers – the 10% of people who travel furthest. In affluent areas, these people travel around 40km for their elective care; the comparable distance for those who live in the most deprived wards is below 20km.

This difference might simply reflect the fact that many – though not all – hospitals are located in inner city areas and inner cities tend to be more deprived. That is part of the story but not all of it since the same pattern emerges after taking account of the location of hospital facilities. Allowing for distance to the nearest hospitals, people who live in more deprived areas – and who, by extension, are themselves poorer – travel less far to receive elective care than those who live in more affluent areas.

This is not due to differences in the location of facilities, so why does it happen? One possible explanation is that the better hospitals are in the inner cities, and patients who live in the inner city go to them and get better care. But looking at various

Across England, patients are beginning to use the new 'choose and book' system to select the location of their hospital care. But will the affluent be more likely to exercise choice than people from more deprived areas? Research by *Carol Propper* and colleagues looks at the evidence.

rankings of hospital quality produced by government agencies, it is clear that not all inner city hospitals are at the top. What's more, not all deprived areas are inner city areas.

An alternative explanation is that the 'sharp elbows' of the middle classes mean that they get their GPs to refer them to the better hospitals and some of these are located outside the normal set that GPs choose for their patients. This would fit with an argument that is often made: richer people are able to get more out of tax-funded services. Another possible explanation is that poorer people are offered care outside their local areas, but turn it down because they feel they cannot afford the travel costs.

It seems likely that 'choose and book' will perpetuate existing differences between rich and poor

The evidence from the choice pilot indicated that patients of all backgrounds were willing to travel when their need was great enough and there was help for those travelling. But the evidence from this research suggests that, without policy effort to overcome biases, the 'choose and book' system will perpetuate existing differences between rich and poor.

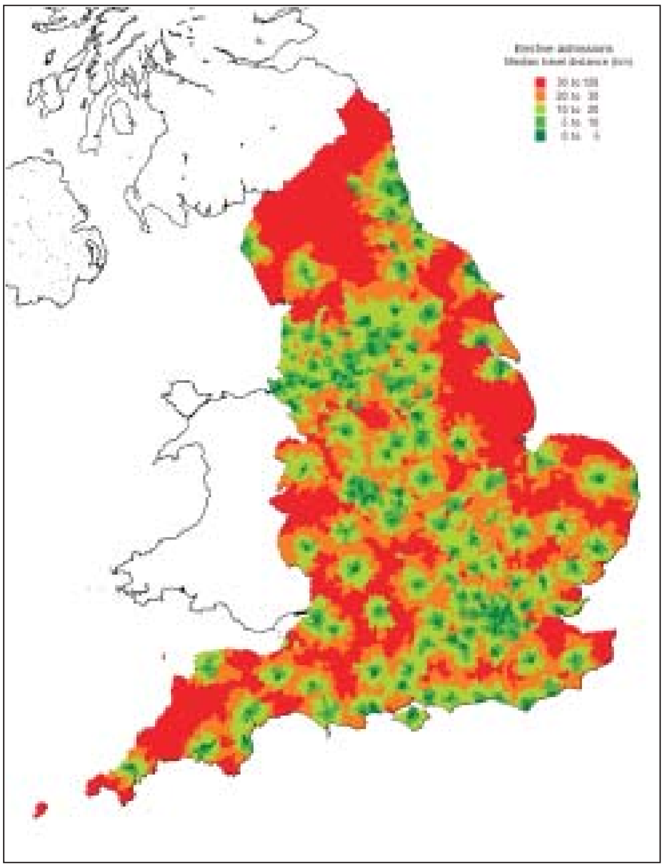
At the very least, GPs in less affluent areas are going to have to be more pro-active in encouraging choice than their counterparts in practices in more leafy suburbs. And perhaps there will need to be a scheme that helps poorer individuals with travel costs.

This article summarises 'Distance Travelled in the NHS in England for Inpatient Treatment' by Carol Propper, Michael Damiani, George Leckie and Jennifer Dixon, CMPO Working Paper No. 06/162, forthcoming in *Journal of Health Service Research and Policy*.

For the full paper, see:
http://www.bris.ac.uk/Depts/CMPO/workingpapers/wp162.pdf

To listen to a podcast interview with Carol Propper, visit:
http://www.bris.ac.uk/Depts/CMPO/audio/main.htm

Map 1: Distances travelled for elective care in England 2003/4



Fertility and women's education in the UK

Since the 1930s, there have been dramatic changes in fertility in the UK: smaller family sizes, increased childlessness and a rise in the average age at which women have their first child. *Anita Ratcliffe* and *Sarah Smith* examine how much women's participation in higher education has influenced these trends.

As in many developed countries, fertility in the UK has fallen in recent decades. At its peak in 1964, the total fertility rate (which measures the number of children born to a hypothetical woman who experiences the age-specific birth rates of a particular year across her own childbearing cycle) stood at 2.95 children. By 2001, the rate had fallen to just 1.63 children.

But this annual measure combines the fertility of several birth cohorts of women and can therefore be potentially misleading as to the underlying trends across different cohorts if there are big changes in the timing of births. Looking at the fertility of more than 40 cohorts of women born between 1935 and 1975, the following picture emerges:

- The average completed family size fell by 0.5 of a child for cohorts born between 1935 and 1965. This is smaller than the decline in fertility implied by total fertility rates. The other big change in fertility driving the fall in the annual measure has been the successively longer delay in women entering motherhood.

- Women with college education – those who report having left full-time education at the age of 21 or older – have consistently lower fertility than women without college education. But the expansion of higher education can account for only one half of the fall in cohort fertility. Declining fertility *among* women with college education is also an important contributory factor.

- Women's lifetime experiences have become increasing polarised between those who have experienced higher education and those who have not. Regardless of their education, most women born in 1945 had given birth to their first child by the age of 30. While this continued to be true for women born in 1965 without college education, the progression to motherhood was much later for women with college education. These women were more likely to spend their twenties forging a career for themselves.

- One of the implications of this increasing polarisation is that it is likely to increase the material advantages of better-educated mothers – both for themselves and for their children.

Trends in fertility across cohorts

The research uses data from the Family Expenditure Survey for the period from 1968 to 2003/4 and the Family Resources Survey for the period from 1995 to 2004/5. Fertility histories are constructed using information on household members. While this approach means restricting the sample to women aged 37 and under (otherwise the results would be subject to a bias caused by children having already left home), it provides information on fertility, education and employment for numerous birth cohorts.

Figure 1: Average completed family size, by cohort

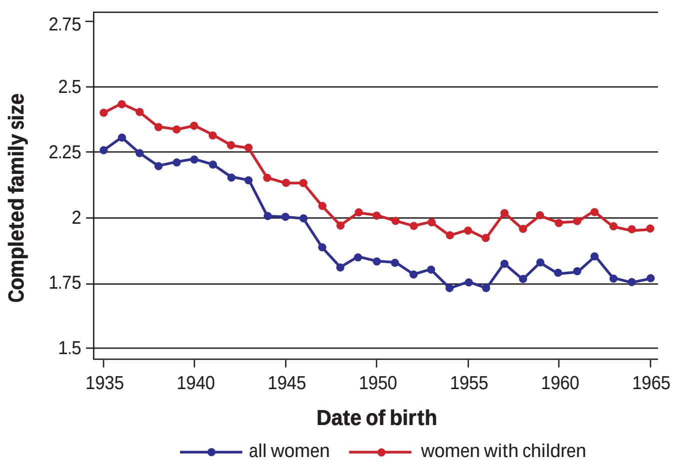


Figure 2: Proportion of cohort with different completed family sizes

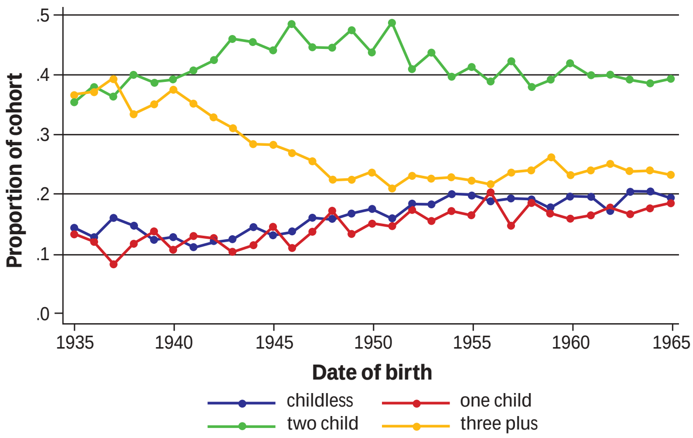
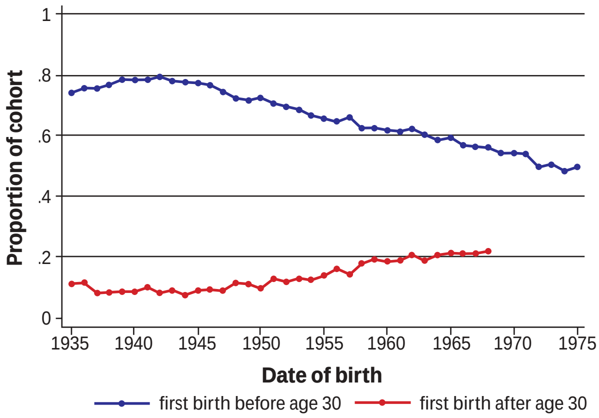


Figure 3: Proportion of cohort who gave birth by the age of 30



The analysis shows that between the cohort of women born in 1935 and the cohort of women born in 1965, the average completed family size fell by 0.5 of a child. This decline was driven both by a fall in the average number of children among women who had children and by a rise in the proportion of women who, for whatever reason, remained childless. Figure 1 makes clear that falling family size (rather than rising childlessness) accounts for the bigger portion of the overall decline.

Women's lifetime experiences have become increasing polarised between those who have experienced higher education and those who have not

The experiences of these cohorts can be described very broadly by a series of key fertility 'transitions'. As Figure 2 shows, the first fertility transition – affecting women born between 1935 and 1950 – saw a reduction in births beyond the first two. The proportion of women with three or more children fell by almost one half across these cohorts – from 40% to just over 20%.

In the second fertility transition – affecting women born between 1945 and 1955 – the main trend was a rise in childlessness. Around one in 10 women born in 1945 never had children, a proportion that rose to almost one in five women born in 1955. The trend towards later childbearing also started with these cohorts.

The final fertility transition for cohorts who have completed their fertility has been marked by relative stability in terms of family size. But as Figure 3 shows, there have been further changes in the timing of motherhood. The outlook for cohorts born from 1965 onwards in terms of completed family size is unclear but there has been a continued delay of entry into motherhood.

Explaining why these transitions occurred is not straightforward. One related factor is likely to be the introduction of the pill: evidence on take-up shows that when it was first introduced, it was used most widely by women who already had two children and only later (in the 1970s) by childless women (see Bone, 1978).

The changes in fertility have been accompanied by big shifts in women's employment, which are also linked. The cohorts of women that saw the biggest increases in childlessness also saw big increases in full-time employment rates among those without children, suggesting that some women were choosing careers not families.

Increasing polarisation is likely to increase the material advantages of better-educated mothers – both for themselves and for their children

Among more recent cohorts with more stable family sizes, full-time employment has grown among women with children, pointing to more women being able to combine career and motherhood. But while all these factors are important, it is far from clear whether changes in employment and the introduction of the pill can explain changing fertility or whether all are driven by underlying changes in women's aspirations.

Table 1: Fertility and employment, by education, selected cohorts

	Cohort date of birth			
	1945	1955	1965	1975
Percentage with college education	8.4%	12.2%	13.1%	29.3%
Average family size				
Left school at 16	2.04	1.89	1.97	n.a.
College-educated	1.60	1.38	1.39	n.a.
Percentage giving birth before the age of 30				
Left school at 16	81.5%	75.0%	71.8%	70.7%
College-educated	58.7%	41.4%	28.9%	20.9%
Percentage working full-time aged 25-29				
Left school at 16	21.5%	26.9%	32.1%	36.2%
College-educated	30.6%	50.4%	68.5%	70.8%
Percentage with children working full-time aged 30-34				
Left school at 16	14.2%	12.6%	14.1%	n.a.
College-educated	15.9%	23.8%	32.2%	n.a.

Note: College-educated is defined as those who report leaving full-time education at age 21 or above.

Fertility and education

Another possible explanation for declining fertility is that it has been driven by women's rising participation in higher education. It has been well established that women with college education tend to begin childbearing later and to have fewer children and higher rates of childlessness (see Rendall and Smallwood, 2003; and Berrington, 2004).

The results of this research confirm these findings but they also show that the expansion of higher education alone cannot account for the observed decline in fertility. In fact, if fertility rates by education are fixed to be those of the first observed cohort (1945), then changing participation in education across cohorts can explain only one half of the decline.

This indicates the need to look at trends within education groups to understand changes in fertility. Table 1 shows that there has been a decline in fertility among college-educated women together with a big delay of entry into motherhood. This contrasts with much more stable fertility patterns among women leaving school at 16.

What has driven falling fertility, therefore, is not just that more women are now pursuing a higher level of education, but that better-educated women now have very different work and family trajectories than they did before.

Better-educated women now have very different work and family trajectories than they did in the past

The result is an increasing polarisation between women according to their level of education. Among those with a college degree in the 1945 cohort, the majority went on to have their first child before the age of 30, while only a minority worked full-time, following broadly the same pattern as the group of women who left school at 16. By the 1975 cohort, things were very different for college-educated women, for whom their twenties had become the decade for pursuing a career and not for having children.

Much of the evidence suggests that this polarisation is likely to lead to an amplification of the material advantages of better-educated mothers – both for themselves and for their children.

Women with higher levels of education now work full-time for longer prior to having children and are more likely to work full-time when they do have children – and this will tend to raise household income and wealth.

A study of Canadian women finds that delaying motherhood increases earnings by 4-6% and even more for younger cohorts (Drolet, 2002). In the UK, analysis of the Millennium Cohort Study (a sample of children born in 2000) confirms that 'older mothers' (those aged 30-plus) typically had higher incomes even after controlling for educational attainment (Hawkes et al, 2004) The evidence therefore suggests that the combination of delayed motherhood and increased labour market attachment raises family income and wealth at the time of childbirth and in early childhood for children born to college-educated women. This will exacerbate social inequalities between children born to educated and less well educated women.

If, in turn, increased resources affect early childhood development, then delayed motherhood, together with the associated changes in employment of college-educated women, acts as mechanism for transmitting advantage – which has implications for social mobility.

The evidence on this linkage is mixed: a number of studies investigate the impact of income on child outcomes and find a positive association between child development and increased income, though these are bigger at lower income levels (see Blow et al, 2005). Given the big changes in the timing of births to college-educated women, understanding the impact of delayed motherhood on child outcomes is clearly an important area for further research.

This article summarises 'Fertility and Women's Education in the UK: A Cohort Analysis' by Anita Ratcliffe and Sarah Smith, CMPO Working Paper No. 06/165.

For the full paper, see:
http://www.bris.ac.uk/Depts/CMPO/workingpapers/wp165.pdf

To listen to a podcast interview with Sarah Smith, visit:
http://www.bris.ac.uk/Depts/CMPO/audio/main.htm

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