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CMPO

Research in PUBLIC POLICY

Bulletin of the Centre for Market and Public Organisation

Ready for school?

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Welfare reform: where next?

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On 2 December 2008, Professor Paul Gregg of CMPO delivered his independent report on welfare reform – *Realising potential* – to the Department for Work and Pensions (DWP). The report sets out his vision for a single personalised conditionality and support regime, where virtually everyone claiming benefits and not in work should be looking for or engaging in activity to help them move towards employment.

This issue of *Research in Public Policy* features five articles exploring the impact of past welfare reforms in the UK and elsewhere – and fresh ideas for future reform.

To listen to an audio interview with the author, visit: http://www.bris.ac.uk/cmpo/audio/

Family income and children's readiness for school

The basic skills that children have when they start school are a key determinant of how much they benefit from educational opportunities later on in childhood. *Elizabeth Washbrook* and *Jane Waldfogel* examine how much poorer children lag behind in these skills – and what it is about low-income households that hinders early development.

Politicians across the spectrum are agreed that equality of opportunity is fundamental to a just and fair society. Yet there is mounting evidence that traditional policies designed to ensure equality in access to schools and jobs are not enough to achieve this aim.

During the crucial first few years of life, low-income children experience poorer environments in terms of factors that would promote their cognitive, social and health development. They are more likely to begin school with deficits in their learning ability and social behaviour – and, as a result, they progress more slowly than their more affluent peers and achieve fewer educational qualifications, even in circumstances in which schools serve all pupils equally.

Our study makes use of two new sources of data to explore the extent to which recent generations of low-income children – those born in the twenty-first century – continue to enter formal education at a disadvantage in terms of the foundational skills necessary for success.

We analyse data on around 19,000 children born in the UK in 2000 (the Millennium Cohort Study) and parallel data on around 10,000 children born in the US in 2001 (the Early Childhood Longitudinal Study Birth Cohort). The children in both studies have been followed from the age of nine months onwards, and completed tests in language, literacy and mathematics skills at ages 3, 4 or 5.

We compare the average test scores of children in different income groups across the two countries. We then use detailed data on the American children, exploring the mechanisms by which family poverty affects children's development. The environments of low-income children differ in many dimensions from those of more affluent children. For example, access to toys, books, computers and learning-related activities may be directly affected by lack of income. But other dimensions, such as parental sensitivity and responsiveness to children's needs, may be linked more strongly to parents' education, knowledge of child development and psychological wellbeing.

Our study does not aim to establish conclusively how income affects child development. But it does throw light on where we should be looking to intervene if we are to close the cognitive gaps between low- and higher-income children.

It is important to note that the cognitive skills that we study are only one aspect of 'school readiness'. Social skills are also crucial for children's ability to learn and hence their educational success. But our study finds that income-related gaps in behaviour problems – such as hyperactivity and aggressive behaviour – are far smaller at the time of school entry than gaps in cognitive skills, and so we focus attention here on the domain in which low-income children are the most disadvantaged.

The poorest fifth of UK children are equally as disadvantaged in terms of 'school readiness' as their US counterparts

Figure 1 shows the magnitudes of the income gaps in cognitive ability at school entry for the two cohorts of children. Test scores are expressed in percentile form, with the poorest performing children given a score of 1 and the highest performing a score of 100. We calculate the average family income over the child's life, and divide families into those in the lowest 20% of the distribution, those in the second lowest 20%, and so on. The scores in Figure 1 are then the average for children in that income group.

If there were no relation between family income and cognitive ability, the average score would be 50.5 in every group. Deviations from this number show how far children in different income groups tend to over- or underperform relative to the average.

Figure 1 reveals that there are sizeable gaps in children's cognitive school readiness, and that the gaps are of comparable magnitude in the UK and the US. The poorest fifth of children in both countries score on average in the 32nd to 35th percentile across the tests.

But there are differences between the two countries in the relationship between income and cognitive outcomes among families higher up the income distribution. The gap between the bottom fifth and the middle fifth is smaller in the US, while the difference between the middle and the richest fifth is much larger.

Lower quality parenting behaviours are a key factor behind the deficits in school readiness of low-income children in the US

So although the UK appears to be relatively successful in promoting equality among children in families with incomes above some moderate threshold level, the poorest 20% are equally as disadvantaged, in relative terms, as the equivalent US children.

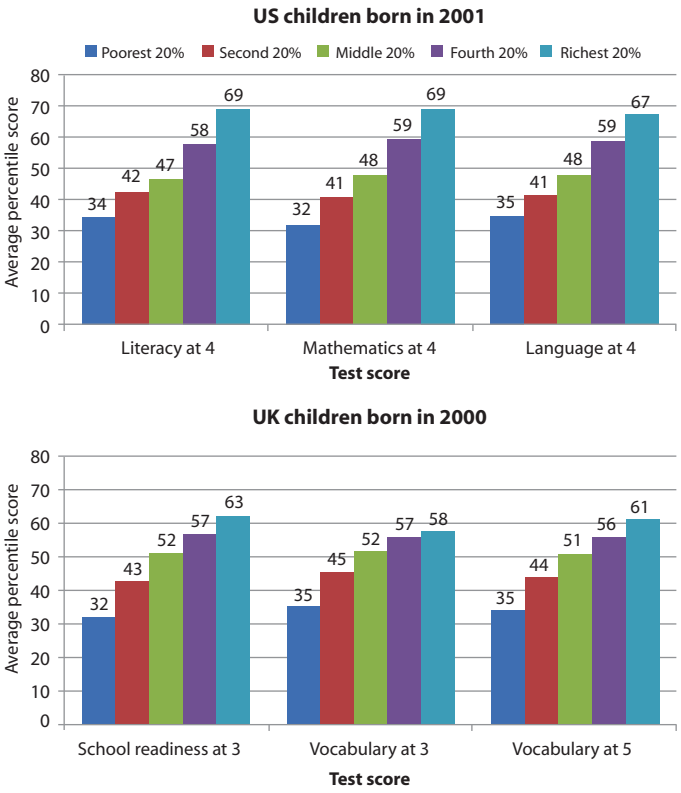
Figures 2 and 3 break down the gaps in the maths and language scores of the US children, focusing on the gap between the poorest and richest income children and taking the scores of the middle fifth as the reference. (The gaps for literacy outcomes are similar to those for maths.)

As a guide to interpretation, the top bars in Figure 2 imply that in the absence of any other observed differences between low- and higher-income children, differences in 'parenting style' alone (discussed below) would generate a gap of 3 percentile points in maths scores between the poorest and the middle fifths, and a gap of 6 points between the poorest and the richest fifths. These numbers can be compared with the actual raw bottom-middle gap of 16 points (the sum of all the yellow bars) and the raw bottom-top gap of 37 points (the sum of both the blue and yellow bars).

It is clear from Figures 2 and 3 that differences in the parenting received by low- and higher-income children appear to be one of the key drivers behind the income-related gaps in children's cognitive test scores. Together, the two constructs of parenting style and the home learning environment account for between a third and a half of the gaps between the poorest and middle income children (5.5 points of the total 16-point gap in maths, and 6.6 points of the 13-point gap in language).

A particularly important factor included in the parenting style domain is maternal sensitivity and responsiveness (what is sometimes called 'nurturance'), which was measured using

Figure 1: Income gaps in cognitive ability at school entry in the US and the UK



videotapes of mother-child interactions that were then scored by trained raters.

Higher-income mothers interact more positively with their children when they are as young as nine months old, show greater sensitivity to their needs, are less intrusive and provide more cognitive stimulation. These types of behaviours are then strongly related to children's performance at the time of entry to school, and in particular to language development.

Higher-income mothers interact more positively with their children when they are as young as nine months old

The home learning environment includes measures of parents' teaching behaviours in the home, as well as their provision of learning materials and activities, including books and CDs, computer access, TV watching, library visits and classes. These factors are also strongly related to income and predictive of early cognitive ability.

Differences in maternal health, maternal health behaviours and child health between rich and poor are also a factor in children's relative development. But these types of factors – birth weight,

Figure 2: Mathematics scores of US children at age 4 – gaps associated with income-related differences in particular factors

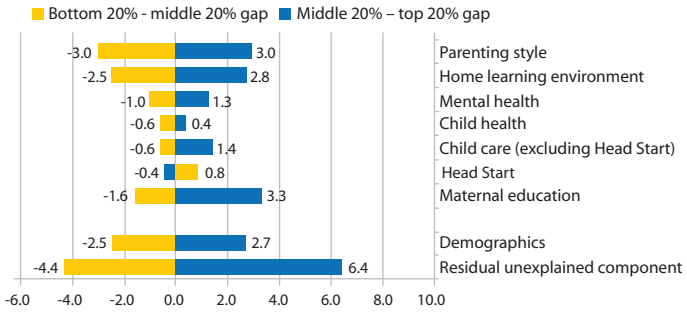
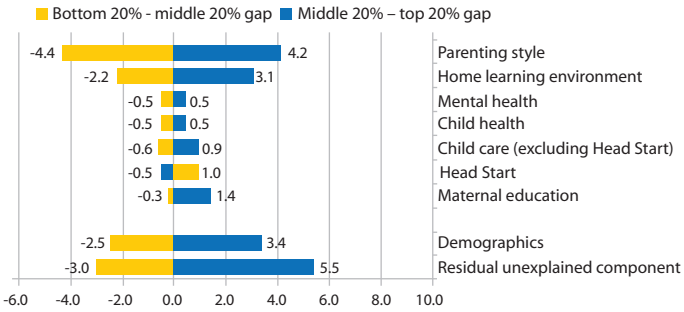


Figure 3: Language of US children at age 4 – gaps associated with income-related differences in particular factors



smoking, breastfeeding, prenatal care, depression, obesity and overall health – appear to be of secondary importance in accounting for the cognitive outcome gaps when compared with parenting behaviours.

The results also suggest a relatively modest role for differential childcare and pre-school experiences among poorer and better off children. This is perhaps unsurprising, as the largely private US childcare market is associated with a situation in which high quality school and centre-based care is far from universal, even among the most affluent.

But we do find evidence that participation in Head Start (a compensatory education programme targeted at low-income children) boosts the performance of the most disadvantaged children, and so reduces the gaps somewhat compared with what they would otherwise have been.

Although our data allow us to identify many of the factors that influence children's cognitive development, we cannot account for all of the income-related gaps. The role of unobserved differences in children's environments related to maternal education and demographic characteristics like single parenthood and family size are important, and would generate gaps even if incomes were equalised across all families.

Taking these characteristics into account, we are left with a residual component of around a quarter to a third of the overall gap that is associated with income itself, but not with any of the other factors we are able to measure. We can only speculate as to what is driving this residual association. Inherited differences in cognitive ability, parental attitudes towards learning and aspirations, and conditions of material deprivation and the associated parental stress are all possibilities.

Our research identifies lower quality parenting behaviours as a key factor behind the deficits in school readiness of low-income children in the US. We plan to extend our analyses to the UK cohort, and explore whether this finding is also true here.

If that is indeed the case, the question naturally arises of what can be done to improve parenting skills in the poorest families. In a separate study, we review programmes that have attempted in various ways to do just this.

We need a deeper understanding of how low-income parents can be helped to foster the life chances of future generations of children

For example, one potentially cost-effective intervention that we identify is 'Nurse-Family Partnerships', a programme that provides home visits by nurses to low-income first-time mothers during pregnancy and the first two years after the child is born. Rigorous evaluation of the programme has shown that it has positive effects on both parental sensitivity and home learning activities. In addition, it improves maternal and child health, reduces abuse and neglect, delays subsequent childbearing and promotes maternal employment.

The results of this intervention are encouraging. But our findings point to an urgent need for deeper understanding of how we can support low-income parents and help them to foster the life chances of future generations of children.

This article summarises 'Early Years Policy', a paper prepared by Jane Waldfogel and Elizabeth Washbrook for the Sutton Trust/Carnegie Summit on Social Mobility and Education Policy, held in New York on 1-3 June 2008.

To listen to a podcast interview with Jane Waldfogel, visit: http://www.bris.ac.uk/cmpo/audio/jane.html

Welfare reform

Introduction: *Paul Gregg*

Debates over the government's plans for further welfare reform have been running constantly through 2008, from the Green Paper response to the Freud review to the report that I recently wrote for the Department for Work and Pensions (DWP).* The government has included a fresh welfare reform bill in the Queen's speech and has just published a White Paper. Here we present a series of articles exploring the impact of past reforms in the UK and elsewhere – and fresh ideas for future reform.

The impact of welfare reform on family structure has been hotly debated. A number of politicians have argued that increasing benefit generosity for children has made it easier to be a lone mother and thus undermined marriage. These arguments have largely taken place without evidence or clear analysis of what the changes in incentives have been.

Dan Anderberg fills this knowledge gap. He shows how people are partnering less now than in the past and that the tax/welfare system penalises partnership compared with living alone in money terms though there are of course considerable cost savings from living as a couple. He also shows that the Working Families' Tax Credit made living as a couple more attractive but that the second set of reforms with new tax credits reversed this. Finally, he explores the sensitivity of partnership to financial incentives. The findings are clear: partnership patterns do change with financial incentives but the effects are not large. The tax credit reforms have, on balance, had very little effect on partnership patterns, and making a significant difference to partnership patterns via taxes or welfare changes would be very expensive.

Sarah Smith and her colleagues explore a closely related issue: the impact on the number of children a couple choose to have. The number of births has been rising steadily since 2001, and they find clear evidence that birth decisions are influenced by how generously children are supported in the tax/welfare system. With an ageing population, this is good news, but the drawback is that poor families respond more (as the extra money means more to them) and this tends to add to children in low-income households.

The extent of a society's support for children is not just about money but also about childcare. Declan Gaffney reports on an experiment in London that looks at how systems of support for part-time childcare places and part-time working are essential for many mothers to work. Tax credit support for childcare affects the cost to parents but does not influence how support is delivered. Elsewhere the government is trying to influence quality, but for providers, full-time places are much more efficient to deliver and in high-cost London, this leads to a dearth of flexible childcare places for working part-time.

Rebecca Shwalb and Michael Wiseman explore how welfare reform, here and in the US, have had contrasting effects on child poverty. In the US, welfare reform has primarily been to increase employment rather than incomes, whereas in the UK, addressing child poverty has been a central goal. The comparison is not easily made because the US has a very different and less demanding poverty measure than the UK. They show how in the UK, living standards of the poorest have risen quite rapidly over the last decade while in the US they have been flat.

Finally, Dan Finn reports on a recent welfare reform in the Netherlands called IROs. These innovative contracts were modelled on individual social care budgets and entitled participants to negotiate their own service packages with providers. Regular evaluation reports suggest strong satisfaction from claimants, greater customisation of support packages and increased job entry. This approach has had a strong influence on the new proposals laid out in my report to the DWP published in late 2008.

**** Realising potential: A vision for personalised conditionality and support***
(http://www.dwp.gov.uk/welfarereform/realisingpotential.asp)

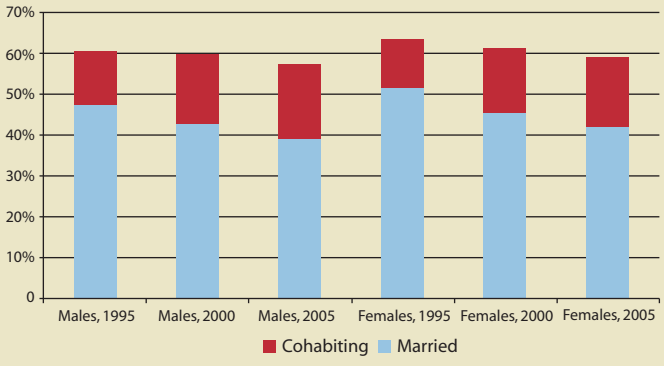
Welfare reform: the impact on partnership formation

How significant is the UK system of benefits and family tax credits in providing financial incentives or disincentives for people to form partnerships? *Dan Anderberg* and colleagues assess the impact of recent policy reforms.

Fewer young adults in the UK live with partners than ever before. Using data from the Family Resources Survey, Figure 1 shows that between 1995 and 2005, the partnership rates for adults aged 18 to 40 declined by around four percentage points. There was also a compositional change with fewer adults being married and cohabitation becoming increasingly popular.

The potential role played by taxes and benefits in these changes is an issue that has received substantial attention in recent UK policy debates. It has been noted that welfare benefits in particular often impose an implicit 'tax' on partnerships. Commentators have also invoked well-known statistical associations: that children who live in two-parent families have better life chances; and that marriage provides a more secure background for children than cohabitation.

Figure 1: Partnership rates of adults aged 18 to 40 in selected years



Data source: Family Resources Survey

But what systematic evidence do we have about the financial incentives for partnership formation generated by the welfare system? And equally importantly, is there evidence to suggest that individuals' partnership decisions respond substantially to such financial incentives? The answer to both questions is 'very little'.

To take a step back, let's consider how welfare benefits generate financial incentives for and against partnerships in the first place. An important policy that was in place between 1995 and 2005 is Income Support (IS), a benefit paid to people with low incomes but not available to those in full-time work (16 hours per week or more).

A key IS claimant group are lone parents. Indeed, IS is the welfare policy that most unambiguously discourages partnership formation. Consider a mother who is not working: if she is single, she may be eligible for IS; but if she is living with a working partner, the entitlement is lost. There have also been changes to the IS system. For example, between 1998 and 2001, there was a series of increases in the premia for children.

Individuals' partnership decisions do respond to the financial incentives provided by the welfare benefit system

A second important set of means-tested benefits is the working tax credits. This policy has been reformed on a number of occasions. It was known as Family Credit (FC) from 1988 to 1999, when it was relaunched as the Working Families' Tax Credit (WFTC). In April 2003, the policy was restructured again (along with IS) and relaunched with two separate components: the Working Tax Credit (WTC) and the Child Tax Credit (CTC).

Unlike IS, tax credits can either subsidise or penalise partnerships. This is most easily seen under the FC/WFTC regime. A household's entitlement to tax credits required two things: at least one child in the household; and an adult in full-time work.

Consider then a mother who is not working: without a partner, she is not eligible for any tax credits; but with a working partner, she and her partner can claim the benefit. Contrast this with a mother who is working: without a partner, she can claim tax credits; but with a working partner, the main effect is to increase total household income and hence reduce the benefits received.

IS and tax credits are not the only benefits to have these kinds of effects. Programmes such as Housing Benefit and Council Tax Benefit tend to have effects similar to IS.

The first thing we want to know is (i) how common these financial effects are, (ii) how large they are, (iii) how they have changed over time, and (iv) which groups in society are most affected. To answer these questions, we start with a descriptive analysis (Anderberg et al, 2008).

The partnership penalties and subsidies generated by the welfare system are frequent and often quite substantial

The methodology for this involves taking a large representative data set of existing couples and then simulating for each couple a 'separation' by making assumptions about the division of assets, etc. This allows us to compare the couple's benefit entitlement when living together with that when living separately. If the couple can obtain more benefits when living together than when living separately, we say that they are 'subsidised'. If the opposite applies, we say that they are 'penalised'.

Table 1 presents the results based on data from the Family Resources Survey for adults aged 20 to 60. The benefits included in the calculations are IS, tax credits, Housing Benefit and Council Tax Benefit. Hence, for example, in 1995, 87% of existing couples were penalised by the welfare benefit system while only 8% were subsidised.

Table 1 highlights how the fraction of couples affected has increased over time. We show that these trends are mainly due to policy reforms, notably the WFTC reform and the WTC/CTC reform, and to a lesser extent to changes in the composition of the population.

Table 1: Fraction of existing couples affected by partnership penalties or subsidies; and the average penalty and subsidy among affected couples

	1995	2001	2004
Fraction penalised	87%	86%	93%
Fraction subsidised	8%	10%	5%
Average penalty	£38.10/week	£38.10/week	£46.60/week
Average subsidy	£7.80/week	£16.90/week	£13.90/week

The last two rows in Table 1 show the average partnership penalty among those penalised, and the average partnership subsidy among those subsidised. The table reveals that the WFTC reform didn't increase the average partnership penalty, but did increase the average partnership subsidy. The 2003 WTC reform, in contrast, significantly increased the average partnership penalty, but did not increase the average partnership subsidy.

There are not only differences across time, but also variation across subgroups of the population. Consider first the number of children, a factor that will clearly play a key role since benefit entitlement depends directly on it. For example, under the WFTC regime, a childless couple could never be subsidised, while about 15% of couples with children were subsidised. The average size of both partnership subsidies and penalties also grew with the number of children.

Partnership penalties and subsidies also vary across age groups. This variation generally comes about as a consequence of the association between age and number of children. Hence, for example, most partnership subsidies occur in the age group 30 to 50 since these are the adults most likely to have children present in the household. The same age group is, by the same logic, also the group that faces the largest average partnership penalties and subsidies.

Finally, comparing across education groups, while the frequency of partnership penalties and subsidies are fairly constant, the average size of partnership penalties and subsidies decrease with the partners' level of education. This is as expected since higher education is associated with higher income and hence less access to means-tested benefits.

From our descriptive analysis, we thus conclude that partnership penalties and subsidies (i) are frequent, (ii) are often quite substantial, (iii) have varied across time largely due to policy

reforms, and (iv) vary in predictable ways across subgroups of the population.

The next big question is whether there is any evidence to suggest that individuals' partnership decisions actually respond to the financial incentives provided by the welfare benefit system. To tackle this question, we proceed with a statistical analysis relating welfare benefits to partnership status (Anderberg, 2008).

The methodology adopted here involves obtaining a predicted partnership penalty/subsidy for each woman observed in the data, and then relating this to her observed partnership status. Two aspects are central to the feasibility of this approach. First, women's partners tend to vary substantially with their own characteristics. For example, it is well-known that there is 'assortative mating' so that partners' educational attainments are strongly positively correlated.

Second, policy reforms have meant that similar women observed at different dates will have faced different benefit consequences of having a partner. Indeed, crucially, the policy reforms strengthened the incentives to have partners among some subgroups of women and eroded them for others. The statistical analysis will then tell us that there was a response if the partnership frequency increased (in relative terms) among women whose financial incentives for having partners improved.

The results of our analysis suggest that a partnership penalty of £100/week decreases the probability of a woman living with a partner by up to seven percentage points. The response rate also appears to vary in predictable ways among subgroups of the population. For example, women with higher education and with children respond less.

But the role of welfare benefits in understanding the long-run structural changes in society is rather small

What is the significance of these results? From a research point of view, they are clearly significant. They show that there does appear to be a response that is consistent with theory: when provided with financial incentives to have partners, people do have more partners.

But to be of practical relevance when thinking about policy design, the effects would also need to be economically large. Are they?

Figure 1 shows that over the decade from 1995 to 2005, partnership rates declined by around four percentage points, that is, by more than a third of a percentage point per year. Combining the results from the descriptive analysis with the estimated response suggests that the contribution of welfare benefits to the aggregate partnership trend is likely to have been small: little over 9% of the decline in the aggregate partnership rate observed over the period can be explained by welfare benefits.

In other words, a decade of benefit reforms has had the same impact on the aggregate partnership rate as other exogenous trends have had annually. Hence, the role of welfare benefits in understanding the long-run structural changes in society is clearly rather small.

Dan Anderberg is professor of economics at Royal Holloway University of London.

Further reading

Dan Anderberg (2008) 'Tax Credits, Income Support, and Partnership Decisions', *International Tax and Public Finance* 15: 499-526

Dan Anderberg, Florence Kondylis and Ian Walker (2008) 'Partnership Penalties and Bonuses Created by UK Welfare Programs', *CESifo Economic Studies* 54: 1-21

Welfare reform: the impact on fertility

Have recent changes in government support for families led to an increase in the UK's birth rate? *Sarah Smith* and colleagues investigate.

The UK birth rate has increased steadily since 2001 and now stands at an average of 1.9 births per woman, the highest level since 1974 (see Figure 1). Some of this increase is attributable to the growing proportion of births to women born outside the UK, who typically have higher birth rates. But there has also been an increase in the birth rate among women born in the UK: from 1.68 in 2004 to 1.79 in 2007.

Another likely cause is that women born in the 1970s who delayed having children in their twenties are now having children in their thirties. There has been a particularly sharp increase in the birth rate among 30-year-olds, but the rise is not restricted to this age group: birth rates among women in their twenties have also risen (Jefferies, 2008).

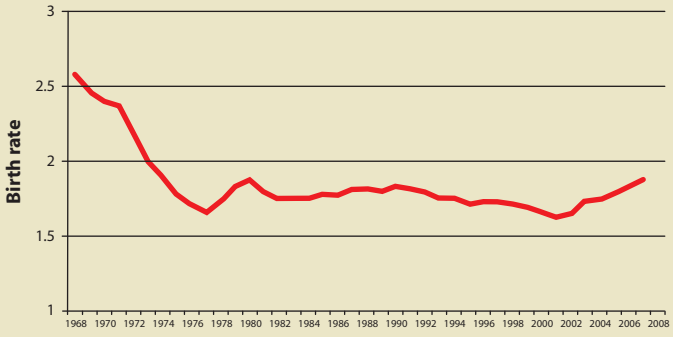
A final possible factor is recent changes to government support for families, which have made it, economically, much more attractive to have children.

In 1999, the government implemented a set of reforms to help low-income families with children. The Working Families' Tax Credit (WFTC) gave financial support to households with children where at least one parent worked a minimum of 16 hours a week, while the generosity of means-tested Income Support (IS) payments to workless households with children also increased.

Increased government support for families has coincided with a rise in births among couples who left school at 16 relative to those who stayed in education after 18

Between 1999 and 2003, government spending per child on these benefits rose by more than 50% in real terms, a change that was unprecedented over a 30-year period (Adam and Brewer, 2004). Most of the additional spending was targeted at low-income households.

Figure 1: The UK birth rate, 1968-2008



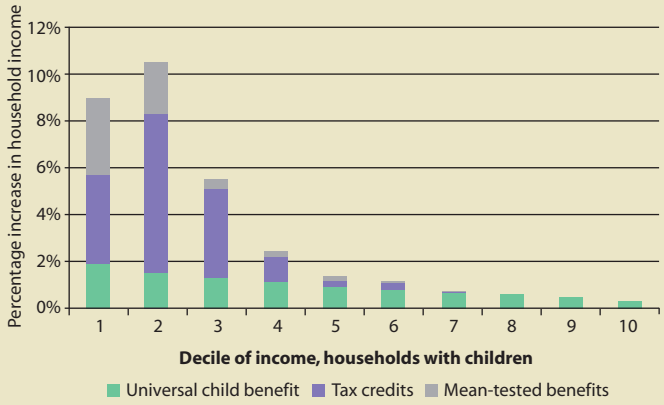
Note: the annual birth rate is the total number of children that a (hypothetical) woman would have if she experienced the age-specific fertility rates for each year of her childbearing life

For the poorest fifth of couples with children, the changes increased cash benefits received for the first child by an amount equivalent to a 10% increase in net household income (see Figure 2). Take-up of the WFTC was widespread. By November 2002, it was received by a third of all households with children.

Is it possible that these changes to government support for families had an effect on childbearing? A simple economic model of fertility (following Becker, 1991) would predict an effect. Following the reforms, eligible families were better off and children were relatively 'cheaper', both of which would tend to increase births.

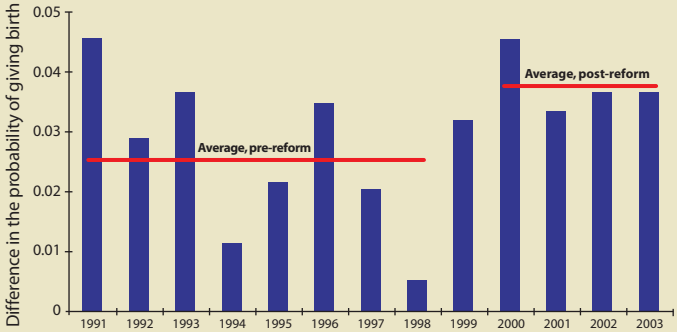
There may also be a positive fertility effect working through changes in net wages, which affect the opportunity cost of having a child if it involves time out of employment. The WFTC is tapered away with earnings, reducing net wages for those whose earnings place them on the taper and reducing the opportunity cost to having children for this group. But the WFTC also creates strong incentives for at least one household

Figure 2: Increase in child-contingent benefits, 1998-2002 (couple, one child)



Note: estimated entitlements calculated using TAXBEN, the tax and benefit calculator of the Institute for Fiscal Studies

Figure 3: Differences in birth rates between low-education group and high-education group (before and after the 1999 reform)



member to move into employment, potentially increasing the opportunity cost to having another child for those affected, particularly for lone mothers.

To examine whether there was an effect, our research compares births before and after the reforms. We exploit the fact that the reforms were targeted at low-income households to define a 'treatment group' who were affected by the reform and a 'control group' who were unaffected. The aim with the control group is to take account of any other changes in births that might have occurred over the period.

Since household incomes will be affected by the impact of the reforms on both employment and fertility, we use education as a time-invariant proxy for income to define treatment and control groups. We compare the change in births among households where both partners left school at the compulsory school leaving age (the treatment group) with the change in births among households where both partners left full-time education after the age of 18 (the control group).

This commonly used approach is referred to as 'differences in differences'. Potentially, it can yield clear and powerful evidence of the impact of policy changes, although in this case it cannot disentangle individual policy effects (for example, the effect of the WFTC compared with the effect of the increase in IS).

But identifying the impact using this methodology relies crucially on successfully controlling for everything else that might affect births among the treatment group after the reform. Using regression analysis, we therefore control for changing demographics, including age, education, numbers and ages of children in the household, region, housing tenure and ethnicity.

The presence of the control group picks up any common macro effects. We also explicitly allow for differential (non-linear) trends in births among both groups, and include a number of macro variables that may affect fertility, including male and female wages, house prices and regional unemployment, allowing the effects of these factors to vary by education.

Our analysis pools data from successive waves of the Family Expenditure Survey (FES) from financial year 1990/2001 until 2003/04 and the Family Resources Survey (FRS) from 1995/96 until 2003/04. Both are large repeated cross-sectional data sets collecting a wide range of socioeconomic and demographic information on, respectively, over 7,000 and 20,000 households each year.

The probability of having a birth increased by 1.3 percentage points among the low-education group, which equates to nearly 45,000 additional births

The combined sample yields over 800 births each year, with interview dates spread roughly evenly across the year. The FES and FRS do not explicitly collect information on births or women's fertility histories, but we can derive the probability that a woman had a birth in the previous 12 months from the child's date of birth and the date of the interview.

We find consistent evidence that the increase in government support coincided with a rise in births among the low-education group relative to the high-education group, and we attribute this to the effect of the reforms. This is illustrated in Figure 3, which plots the differential in birth rates between the low- and high-education groups by year, after controlling for demographics.

The low-education group consistently has a higher birth rate than the high-education group, but the average size of this differential is greater in the post-reform period. The scale of the estimated response is sizeable: the probability of having a birth increased by 1.3 percentage points among the low education group, equivalent to a 15% increase. This equates to nearly 45,000 additional births (compared with annual births of 670,000).

In line with studies in other countries (Milligan, 2005, and Laroque and Salanie, 2008), we find that the fertility response varies by birth order and is strongest for first births. The decision whether to have children (or at least when to begin having them) appears to be more susceptible to financial incentives than the decision over how many to have, once childbearing has begun. We find evidence that the age at first birth falls among younger women, suggesting that these women are bringing forward their childbearing.

The decision whether to have children (or when to begin having them) seems more susceptible to financial incentives than the decision over how many to have

As a final test of whether the reforms had an effect on births, we look for additional supporting evidence in changes in contraceptive use among the group affected by the reform. Levine (2002) describes births as the outcome of a series of related decisions that make up the 'fertility decision tree' and argues that 'consistent findings [from different stages of this decision tree] provide stronger evidence of a causal link [from policy to fertility] than focusing on just one stage.' We provide such a finding.

Using data from the 1998 and 2002 waves of the UK General Household Surveys, which contain modules on the use of contraception, we show that there was an increase in the proportion of women in the low-education group reporting that they were not using contraception because they were trying to get – or already were – pregnant. Further analysis shows that, as with actual births, the increases were greatest for women who had previously had no and two births.

This article summarises 'Does Welfare Reform Affect Fertility? Evidence from the UK' by Mike Brewer, Anita Ratcliffe and Sarah Smith, IFS Working Paper, W08/09

For the full paper, see:
http://www.ifs.org.uk/wps/wp0809.pdf

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

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Child poverty, childcare provision and parental employment: lessons from London

The government has made efforts to encourage lower-income parents into work by providing financial support for childcare. But as *Declan Gaffney* explains, these measures can be more effective when combined with incentives for childcare providers to offer more flexible arrangements that allow parents to take on part-time work.

Government support for childcare costs for lower-income families is primarily delivered through the demand side via the childcare element of the Working Tax Credit (WTC). This gives parents choice over provision, but does not automatically guarantee the range of provision needed for choice to be meaningful given the diversity of parents' circumstances.

How important are these potential limitations to the demand-side route? And does supply-side funding offer a way of addressing them?

Evidence from the 'London childcare affordability programme' indicates that the London childcare market often fails to deliver sufficient flexibility to allow many parents to access part-time employment. When childcare providers are given incentives to offer greater flexibility, significant latent demand is revealed, particularly in areas with high rates of child poverty.

Given the additional cost to providers of offering flexible care, supply-side subsidies may therefore play a useful role in influencing provider behaviour in markets where there is strong demand for full-time care, as in London.

Parental employment and child poverty in London

London has long been recognised as posing particular challenges to the government's poverty reduction programme. Not only are child poverty rates (41% after housing costs) by far the highest of any region, London also departs strikingly from the upward trends in parental employment in other parts of the UK (including other major conurbations) since 2000 (Greater London Authority, 2007).

Indeed, both the employment gap and the child poverty gap between London and the rest of the UK are entirely accounted for by low rates of parental employment.

Population characteristics go some way to explaining the relatively low employment rates, especially for parents in couples, but lone parent employment is significantly lower than in other cities even taking account of observable characteristics (London Child Poverty Commission, 2007; HM Treasury, 2006; and Meadows, 2006).

Moreover, the shortfall in mothers' employment is entirely accounted for by part-time employment rates (full-time rates are slightly higher than at national level). A significant part of London's child poverty problem seems to originate in the capital's labour market.

The London childcare market often fails to deliver sufficient flexibility to allow many parents to access part-time employment

The obvious suspect here is the capital's distinctive industrial and occupational structure, but this turns out to account for very little of the part-time employment gap. A number of other features of London and its labour market have been posited as explanations of the part-time employment gap for lone parents.

In-work costs – including time costs, which are in any case higher for those with caring responsibilities – will tend to be higher again in London given the centralisation of employment opportunities within the regional labour market, reducing the gain from work for mothers in some sectors.

The permanent presence of a large pool of younger, mobile workers may reduce incentives for employers to create opportunities for flexible working, as well as keeping wages low within some part-time service sector jobs. This argument is supported by the fact that the lowest paid 20% of part-time jobs in London pay no London premium over other parts of the UK, in striking contrast to all other parts of the earnings distribution.

What about the childcare market? High rates of population mobility and migration mean that the availability of informal childcare from relatives is lower for mothers in London, making formal provision more important for employment outcomes.

Mothers who do work in London are much more likely to work full-time than elsewhere in the UK. Childcare providers may therefore have weaker incentives to offer flexible provision suitable for part-timers. After all, flexibility is costly in terms of fluctuating staff-child ratios and administration costs.

Thus there is the possibility that the child market could reinforce the downward pressure on part-time employment from other sources, and that intervention in the childcare market might open up employment opportunities that would otherwise be inaccessible to some parents.

Creating incentives for flexibility in childcare provision

This perception influenced the design of the London childcare affordability programme (CAP), which was set up by the Mayor of London, the Department for Education and Skills (now the Department for Children, Schools and Families) and the London Development Agency (LDA) in 2004 to explore new ways of using supply-side funding to address problems of childcare availability and affordability.

As one strand of the CAP, providers across London were invited to bid for subsidy to convert existing full day-care places to flexible use. Bids were ranked using a weighted scorecard measuring first, the flexibility of the offer on various dimensions (length of minimum slot that could be booked within a day; minimum number of days per week; atypical hours provision, etc.); and second, the amount of subsidy bid for (up to a maximum of £68 a week per full day-care place converted to flexible use: this could involve more than one flexible place, depending on the provider offer).

The more flexibility offered and the lower the subsidy bid for, the higher the ranking. The lowest ranking providers were eliminated from the process.

The offer of subsidy was neutral between public, not-for-profit and private sector providers, and the eventual distribution of subsidy over sectors was in line with market shares. Subsidy was paid only when places were filled. Subsidised places were available only to working parents on relatively low, but not necessarily poverty incomes (in receipt of the child element of Child Tax Credit).

The bidding process was coordinated at local level by local authorities, but scoring and subsidy allocation were carried out at a regional level by the LDA. To reduce the risk of subsidising unsustainable providers, subsidy was limited to a maximum of 50% of existing places, although in practice, few providers came anywhere near this limit.

Initial results were confusing, showing wide variation between boroughs in the occupancy rates for subsidised flexible places between areas and providers. In one borough, 600 places were offered and filled within the first six months of the programme, indicating that there had been high levels of unmet demand for flexible care. In some, no places had been filled at all after nine months.

When childcare providers are given incentives to offer greater flexibility, significant latent demand is revealed, particularly in areas with high rates of child poverty

It looked as if some providers had greatly overestimated latent demand for flexible care, yet there was no association between occupancy levels and any identifiable demand-side factors, suggesting that coordination and information problems on the supply side (the LDA, boroughs and providers) might be at work.

To test this hypothesis, the LDA arranged for a team of coordinators to work with individual boroughs and providers in marketing the scheme, and occupancy rates quickly began to rise and converge. As of June 2008, a total of 3,754 flexible places were offered, and 2,691 were in use. (The resulting occupancy rate of 72% is in line with the childcare industry average.)

Apart from the final stage of ranking bids and eliminating the poorest bids, the CAP process was decentralised and based solely on the information contained in provider bids. No attempt was made to tilt funding in the direction of local authorities areas with low levels of parental employment. (Local deprivation data were used only to break ties in the ranking.)

Nonetheless, the eventual distribution of occupied subsidised places across London did show a rough fit with patterns of child poverty. Thus, the boroughs with by far the highest number of places (more than 300) were Newham, Hackney, Croydon, Brent and Lambeth, all among the boroughs with the severest child poverty. (Tower Hamlets, with a very low number of places, is something of an anomaly.)

These five boroughs accounted for half of all places offered and 57% of all places occupied. For those familiar with the geography of deprivation in London, it is striking how closely the flows of subsidy through this decentralised process fit with what might have been expected on a needs basis. This is not to suggest that the distribution of funding was optimal – far from it – but it at least raises the question whether a needs-based approach would have yielded a very different distribution.

The results from this strand of the CAP offer strong evidence that flexibility in childcare poses a significant problem in London, and more of a problem in more deprived areas of London. Bearing in mind that all the flexible places on offer through the programme were additional to existing flexible provision, and were only accessible to lower-income working parents, it can only be concluded that making flexible supply available revealed existing unmet demand in these areas.

Indeed, in the early stages of the programme, the majority of parents availing themselves of the new flexible places were switching from full day-care provision with the same providers: they had been paying for more hours of childcare than they needed, a significant burden given their income levels.

Lessons

Controversy over the relative merits of demand- and supply-side funding of childcare is a recurrent issue. But the two should not be seen simply as alternatives. Supply-side funding can work with the grain of tax credits to address specific issues and change providers' incentives, while leaving the bulk of purchasing power with parents.

In particular, supply-side funding can be used to make sure that relatively generous tax credit funding for childcare translates into meaningful choices in cases where the market offer may be restricted.

Employment effects from the CAP flexibility programme will only be clear after the evaluation has been completed. Nonetheless, the results to date support the view that the childcare market is playing some role in reinforcing the part-time employment problem for parents in London.

Supply-side subsidies may play a useful role in influencing provider behaviour in markets where there is strong demand for full-time care

The potential to increase flexibility through subsidy has also been shown. Whether the avowedly experimental programme offers a model for future interventions is a different matter. Nonetheless, the scale of London's child poverty problem and the importance of part-time work in improving parental incomes suggest that this is an area that merits continued policy focus.

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Poverty in the US and the UK: relative measurement and relative achievement

***Rebecca Shwalb* and *Michael Wiseman* compare US and UK measures of poverty, and the two countries' progress in reducing poverty, especially among children.**

Given the controversies about UK poverty policy and the improbability that the government's 2010 goal for halving child poverty will be met, those concerned with poverty might be forgiven for being a bit glum. Sometimes it helps to know that things could be worse. Looking at the US can be useful in achieving this reassurance.

Counting the poor, UK style

We begin by detailing how poverty is assessed in the UK. In the 'headline' version, people are poor if they live in a household where weekly income net of taxes but not housing costs falls short of 60% of median income as calculated from data in the Family Resources Survey (FRS) conducted by the Department of Work and Pensions (DWP).

In 2006/07, for a family of four with two children age 5 and 14, this poverty threshold was £346 per week or £18,000 per year. The fact that poverty is defined by comparison with the median income among all UK residents makes this a 'relative' measure.

A second measure is based not on the current median income but on the median income in 1998/99 adjusted for inflation. In 2006/07, for the family of four, the poverty threshold on this baseline was £298 per week or £15,500 per year. Defining poverty by comparison with a fixed standard makes this baseline an 'absolute' measure.

1998/99 is the baseline for measuring progress against the government's goal of halving child poverty (the proportion of children living in families deemed poor by the current standard) by 2009/10. So this absolute measure does not shift as general living standards change over time.

Table 1 reports the prevalence of poverty in the UK for three fiscal years, measured 'before housing costs': 1998/99 (the baseline), 2004/05 and 2006/07 (the most recent data available). We report 2004/05 because it is in this year that the decline in UK poverty appears to have halted.

Looking first at the assessment based on current standards, we see the basis for policy-maker angst. After a modest overall decline in the poverty rate over the first six years of the period, poverty measured by contemporary incomes has increased, even among children, the target of Prime Minister Tony Blair's original goal-setting.

Table 1: The UK poverty achievement, 1998-2007
Percentage of persons in age group living in households with 'equilivised income' less than 60% of median income

	Using contemporary median			Using baseline (1998/99*) median		
Age group	1998/99	2004/05	2006/07	1998/99	2004/05	2006/07
All	19%	17%	18%	19%	11%	12%
Children	26%	21%	22%	26%	13%	13%
Working-age	15%	14%	15%	15%	10%	10%
Pensioners	27%	21%	23%	27%	13%	15%

* Denotes UK fiscal year, 1 April 1998 to 31 March 1999.
Source: Department for Work and Pensions

From a baseline perspective, the story is somewhat different: the aggregate poverty rate fell by eight percentage points over the six years after 1998/99, and the child poverty rate was halved. But since 2004, even on the absolute standard the prevalence of poverty overall has increased, and there has been no further progress with reducing child poverty.

Counting the poor, US style

The US poverty measure is a relic of President Johnson's 'war on poverty' of the early 1960s. It was constructed by the Social Security Administration based on food budgets specified by the Department of Agriculture for 'temporary or emergency use when funds are low', and a survey estimate that in the 1950s, households spent on average one-third of their incomes on food.

Not only is the relative poverty rate higher in the US than in the UK, but those who are poor in the US are typically in deeper poverty

A family was defined as poor if its income was less than three times the relevant food budget. Income was defined by the Current Population Survey (CPS, the only national data source for annual family income then available): it was pre-tax and post-

cash transfers. The 'relevant budget' was one appropriate to a family's composition, varying by number of children and total family size, with adjustments made for single and older people.

The results of the first application of the standard were published in 1965. With only minor changes, this standard has been used ever since, with values adjusted only for changes in prices. Like the UK's 1998/99 baseline, the US has an 'absolute' poverty standard, but it is far more antiquated. In 2006, the poverty threshold for a family of four was $20,444. The overall prevalence of official poverty in the US is low (13% in 2007). As Figure 1 illustrates, it is virtually unchanged over the past decade.

Cross-national comparisons of living standards are difficult. Translating $20,444 into pounds can't be done with exchange rates since they are influenced by many factors not directly associated with the cost of living.

A good fallback is the OECD's 'purchasing power parity', which measures the ratio of the prices in national currencies of the same goods or services in different countries. Using the OECD's sterling/dollar measure for 2006, the US poverty threshold amounts to £13,300 per year – well below both the £18,000 current and £15,500 baseline UK standards for 2006/07.

The shortcomings of the US standard are legion. Its empirical basis was lost long ago. While the fixed poverty standard has stayed constant in real terms since 1963, median family income has increased by 66%. Surely any meaningful poverty standard should reflect this changing social context.

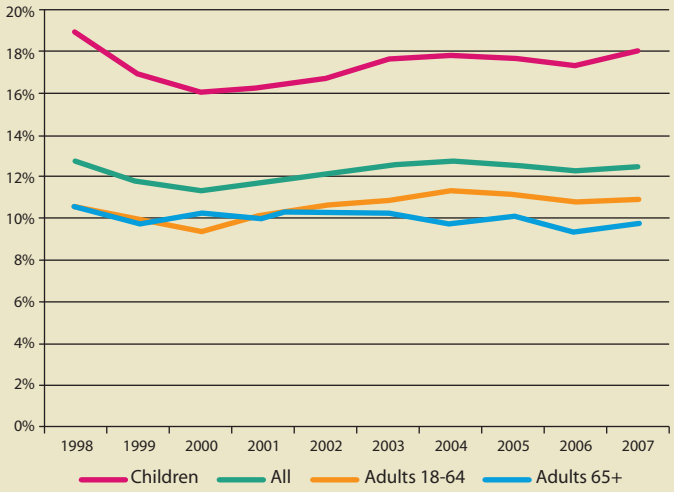
Moreover, while the income measure may have been appropriate for the early 1960s, it excludes major sources of poverty-targeted benefits today, either because they come through the tax system (and hence are not 'pre-tax') or are earmarked for food, shelter or other merit goods (and hence are not strictly cash income).

The most important examples of these excluded resources are food stamps (delivered through ATM-like bank cards usable only in food stores), the 'earned income tax credit' (EITC, the inspiration for the UK's Working Tax Credit), housing subsidies and Medicaid, the national health insurance system for low-income individuals and families.

The amounts involved are not trivial. In the fiscal year ending in 2006, total food stamp benefits amounted to $30 billion, EITC payments $39 billion, housing subsidies $33 billion and Medicaid a whopping $304 billion. In contrast, total federal and state payments under the major cash transfer programme for families with children ('temporary assistance for needy families') amounted to just $26 billion.

We are not the first to point out these issues, and our list of faults is far from exhaustive. So far the poverty standard survives

Figure 1: US poverty rates (official standard), 1998-2007



principally because virtually any alteration would raise the poverty count.

This is not to say attempts have not been made. In 1995, the National Academy of Science proposed a new poverty standard combining consumption and relative income standards. While the recommendations have yet to be adopted, the agency responsible for poverty assessment, the Bureau of the Census, has published 'experimental' measures of poverty based on the recommendations. Thanks to the Bureau's efforts, we can come close to replicating the UK poverty measure using US data.

US poverty, UK style

How do we apply UK methodology to the US? In short, we change the income measure and we change the standard. There is one big difference in the approaches that we can't yet overcome, but the results are interesting nonetheless. Let's backtrack a bit and review what we have to match.

The source for UK poverty estimates is the DWP's 'households below average income' report. This definition of income is sweeping, including: 'net earnings; profit or loss from self-employment after income tax and National Insurance; all social security benefits and tax credits, including Social Fund grants; occupational and private pension income; investment income; maintenance payments; top-up loans and parental contributions for students, educational grants and payments; the cash value of certain forms of income in kind such as free school meals, free welfare milk and free school milk and free TV licences for the over 75s'.

'Income tax payments; National Insurance contributions; contributions to occupational, stakeholder and personal pension schemes; insurance premia payments made in case of sudden loss of earnings; council tax; maintenance and child support payments made; and parental contributions to students living away from home' are all subtracted.

Therefore, instead of pre-tax, post-transfer cash income, we are working with post-tax, post-transfer income. Post-transfer income includes benefits provided in kind or earmarked for specific expenditure, such as free welfare milk and winter fuel payments.

The most significant unaccounted benefit is probably the subsidy implicit in the below-market rents charged for units managed by local housing authorities or not-for-profit housing associations – 'social housing.' Similarly, the UK income measure does not include an estimate of the value of rent saved by the substantial majority of households resident in their own homes. Inclusion in official publications of measures of poverty 'after housing costs' is one way of trying to avoid these problems.

The new US administration should confront the need for reformulating the poverty measure

We can more or less do the same with US data. We take all the cash income now counted in the poverty measure, add the value of educational benefits, food stamp benefits, subsidised school lunches, low-income energy assistance, maintenance and child support payments and other income received, and subtract net income taxes (thereby adding the EITC), mandatory payroll deductions and property taxes on owner-occupied housing.

There are lots of little differences left that don't account for much, including the fact that we don't have information on maintenance and child support payments paid, and we've doubts about the appropriateness of the way DWP accountants treat certain types of mandatory payments. But we're close in concept, especially when considering income before housing costs.

What we're not close in is time frame. The problem is that the US poverty measure is based on responses to the Annual Social and Economic Supplement to the CPS, a face-to-face interview with an adult respondent in approximately 60,000 households, conducted largely in March, with some interviewing in February and April.

Interviews are obtained in about 90% of eligible households. The survey is timed to coincide with the mid-April deadline for filing federal and state income tax returns for the previous calendar year. Unlike in the UK, the vast majority of individuals and families in the US file annual tax returns, and this means that at the time of the survey, most have a reasonably good sense of what their income was in the previous year.

Like the US poverty rate, the UK poverty measure is based on a household survey, the FRS, which has a participation rate of about 65%. The realised sample size is approximately 28,000 households, with 24,000 'fully cooperating'. Thus, the FRS is smaller than the CPS (reducing precision) and response rates are lower (raising more serious concerns about bias).

On the other hand, the FRS attempts to interview all adults residing at sampled addresses (rather than generally relying on a single respondent), so the quality of incomes data may be higher. Unlike the CPS, the FRS is a continuous sample, with interviewers in the field each month. The survey cycle is the fiscal year, from April to March.

Income questions posed in the FRS focus on the current time period, so if a respondent is paid fortnightly, he or she must report that fact and fortnightly earnings. Based on the amount and payment interval, these data are converted into a weekly income measure. The end result, accumulated over the entire fiscal year cycle, is a sample-based distribution of weekly income, and this is the basis of the poverty estimates.

We can't match the weekly UK perspective with CPS data – and we're not sure we would want to if we could. There is considerable fluctuation in income over the course of a year for people in many professions and especially among the self-employed. Much of this fluctuation is no surprise, and people save or borrow to smooth out consumption over the ups and downs of the year.

Thus, in assessing real poverty, a longer perspective makes sense. But just what specifically that sensible interval should be is unclear. Whatever interval might be best, we can't duplicate the intervals used in UK data in the US. In addition, we must compare data collected for the calendar year in the US with data for the fiscal year in the UK. Therefore we will be comparing, for example, calendar year 2006 data for the US to 2006/07 data for the UK, recognising that only nine of the 12 months of 2006 are in FRS survey data for 2006/07.

Perhaps more important than this slight temporal mismatch is the likelihood that the higher-frequency FRS data will show much variability that would be averaged out were annual data to be used. This means estimated poverty rates will be higher using short-period data (as in the UK) than would be calculated using annual totals (as in the US). Our current poverty comparison will therefore be biased against the UK.

That leaves us with a choice of standard and a small demographic comparability problem. We use the same OECD equivalence scale as the DWP employs, and we adopt as the poverty standard 60% of median income. We identify children as anyone under age 18 and we treat everyone aged 65 or older as the equivalent of UK 'pensioners' even though in the UK women are deemed pensioners at 60.

The latest available UK data are for 2006/07, so we make our US calculations for 2006. The results appear in Table 2. For the family of four, 60% of median income is $34,000, 66% higher than the

Table 2: Contemporary poverty rates, 2006 (US) and 2006/07 (UK)
Percent of 'equilivised income' before housing costs

	Below 60%		Below 50%		Ratio, 50/60	
Age group*	US	UK	US	UK	US	UK
All	23%	18%	17%	11%	0.72	0.61
Children	29%	22%	20%	12%	0.71	0.55
Working-age	20%	15%	14%	9%	0.72	0.60
Pensioners	31%	23%	22%	13%	0.72	0.57

*For US data, children are persons age under 18, 'working age' persons are adults 18-64, 'pensioners' are persons age 65+. For UK data, children are persons under 16 or 16-19 and living with parents while in 'full-time non-advanced education or in unwaged government training.' Pensioners include women 60+, men 65+.
Source: Department for Work and Pensions, and authors' calculations

official US standard. Using the OECD measure of purchasing power parity, this is equivalent to £22,150, significantly above the current UK standard of £18,000.

We do two calculations, the first using 60% of median, the second using 50% of median. Consider first the comparison with the 60%-of-median standard. The difference between the two countries' results is dramatic across the board, but it is children who are of greatest concern.

In the UK, consideration might be given to shifting analysis of poverty from income to consumption

For children, US poverty rates are 32% higher than in the UK, 29% of the child population compared with 22%, using the relative income standard. This 29% finding is also 11 percentage points higher than the official US rate (see Figure 1).

The differences are larger using the 50% standard and so the ratios of the 50% figure to the 60% figure in the third set of comparisons are significantly larger for the US than the UK. The implication is that not only is the relative poverty rate higher in the US than in the UK, but those who are poor in the US are typically in deeper poverty. 72% of people considered poor on the 60% standard in the US have incomes below half the median; this is true for 61% of people similarly poor in the UK.

Recall that given generally higher incomes, the US 60%-of-median threshold, recalculated in pounds, is significantly higher than the UK equivalent: £22,150 (US) versus £18,000 for the family of four. What would happen were we to apply the UK current standard to US data?

It turns out we can come close using the data in Table 2. The UK 60% threshold is approximately equal in dollar terms to the US 50% threshold. Thus, as a first approximation, we can compare the numbers for the UK in the 'below 60%' column with the numbers for the US in the adjacent 'below 50%' column.

For each age group, the two numbers are similar. If anything, judged on this particular UK standard, the prevalence of child poverty is lower in the US. Nevertheless, the poor in the US are much worse off in comparison with the general living standard.

Were the comparison to be pushed further, it is likely the outcome would depend on matters not accounted for in Table 2 – the effect of much broader availability of subsidised social housing in the UK, differences in the proportion extremely poor, differences in the quality of available schooling and health care, and contrast in matters addressed in the UK's measures of material deprivation.

Conclusions and opportunities

Of course, we don't really believe that knowing the US does so much worse on poverty should reassure those concerned with achieving UK poverty goals. Nevertheless, the difference is striking.

There are messages for both sides of the discussion. On the US side, we hope that the new administration confronts the need for reformulating the poverty measure in a way that reflects both current living standards and current policy emphasis on support provided through programmes like the EITC, food stamps and housing subsidies.

On the UK side, the time span for income assessment seems an important matter for study, and some consideration might be given to shifting analysis of poverty from current income to consumption, which is generally a better indicator of family resources. Finding ways to achieve higher rates of cooperation with the FRS would also seem essential given the survey's importance in assessing the government's progress.

Both sides need to review the way in which housing subsidies and the benefits from owner-occupied housing are incorporated in poverty assessment.

But nothing should distract from the most important question: however we measure it, how do we reduce poverty, especially among children?

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Contracting out welfare-to-work: lessons from the Netherlands

The latest phase of UK welfare reform includes the creation of a managed 'welfare market'. The government (and opposition parties) suggest that delivery of employment programmes through supply chains managed by 'top-tier' for-profit and third sector organisations will lead to service innovation, better job outcomes and more personalised customer service.

Critics suggest that the new model is designed to reduce costs, and that when prime contractors rationalise existing provision, there will be less diversity, reduced innovation and more standardised services.

The commissioning strategy of the Department for Work and Pensions (DWP) stresses the importance of 'excellent customer experience', but its approach to service user involvement is limited. There is potential for a more radical option, which could deliver a better, more personalised public service. The elements of such an approach have been tested in 'individual reintegration agreements' (IROs) introduced in the Netherlands in 2004.

The Dutch welfare market

The Dutch welfare system has distinct markets for 'reintegration services'. These reflect different systems of income support for working age people. The Institute for Employee Benefit Schemes (UWV), the largest sole purchaser of reintegration services in the Netherlands, is responsible for the social insurance system, which covers most people in regular employment. Local authorities (municipalities) separately purchase services for those on 'safety net' social assistance payments.

Unemployed people in the Netherlands register with the public employment service, where the emphasis is on rapid labour market attachment. The UWV and the municipality are responsible for paying benefits but normally restrict reintegration services until at least six months of unemployment.

UWV or municipal case managers undertake assessments and assign users to more or less intensive services on the basis of their relative distance from the labour market. When the UWV or a municipality purchases a full 'reintegration trajectory', this includes contracting out the case management service. Alternatively, case managers may purchase individual service components as required. Case managers monitor participants' progress and may apply escalating benefit sanctions until compliance is secured. The UWV is reported to use sanctions sparingly.

'Individual reintegration agreements' offer the potential for a more personalised employment assistance service

In the 1990s, there was much criticism of the efficiency and effectiveness of employment service delivery, and in 2002, the 'SUWI' (Implementation Structure for Work and Income) legislation required the UWV to contract out its reintegration services to private providers. Municipalities also had to contract out up to 70% of their reintegration services, although this requirement has since been dropped.

Legislators sought to protect the interests of users. Services should be tailored to users' needs and participants should have 'freedom of choice', subject to the objective of moving into employment. There was provision that users should be actively engaged in analysis of the barriers they face in re-entering the labour market, and their opinion sought on such issues as the selection of a reintegration provider.

From tenders to IROs

Before 2004, the UWV contracted out reintegration services only through invitations to tender. Providers were invited to submit bids to deliver trajectories targeted at particular client groups, sectors and regions. They were selected on the basis of quality and price.

The aim of UWV contracts was to reward providers for placing participants in sustained employment, with outcome payments paid after placement in a job for two months, with a minimum six-month contract. There were various combinations of 'no cure, less pay' and 'no cure, no pay' contracts determined according to the characteristics of the group concerned. Once the contract commenced, the provider could recruit a participant for up to a year and claim an outcome should they be placed in employment within two years.

The UK government is committed to contracting out delivery of welfare-to-work programmes and paying providers for getting participants into sustained employment. *Dan Finn* examines lessons from similar reform in the Netherlands.

The UWV emphasis on price competition ensured reduced costs and by 2007, the price per trajectory had fallen to an average of €3,500 per unemployed participant and €4,000 for those on disability benefits. The market was dominated by a small number of providers, which enjoyed scale efficiencies and were able to absorb the transaction costs involved. By 2006, only 47 organisations had contracts with the UWV, with ten providers responsible for delivering 75% of the market.

Providers and others argued that the fall in prices and focus on swiftly securing outcome payments had a negative impact on innovation and quality, with the particular loss of longer-term skills training. Official reports criticised the lack of user involvement in choosing services, inflexible and standardised contracted provision, 'group reintegration' and poor quality of support provided by UWV staff.

In response, in 2004, the UWV introduced the option of IROs and under parliamentary pressure, the government financed a separately funded skills training budget. In 2005, the UWV introduced front-line 'reintegration coaches', empowered to design and provide more tailored support and to purchase group or individual service elements outside regular contracts.

The IROs

IROs were modelled on individual social care budgets and piloted between 1998 and 2001. An evaluation found greater customisation and a higher job entry rate than for those using regular services. The IRO was initially restricted to those on disability benefits but in the nation-wide extension was made available for those receiving unemployment benefit.

IROs entitle participants to negotiate their own service packages directly with providers. An IRO trajectory can last for up to two years and the usual maximum price is €5,000. For users with more significant barriers, the price may be up to €7,500 and, in exceptional circumstances, the UWV may increase this limit.

The contract offers a 'no cure, less pay' funding formula and the provider is paid 20% at the start of an agreed plan, 30% after six months participation with 50% of the agreed fee payable for sustained employment. This formula may be varied with higher service fees for those most difficult to place. Although the total amounts are maximum prices, the average reported price per IRO trajectory in 2007 was €4,500. Only half this cost is incurred should the participant fail to get employment.

The individual budget was more popular than expected and within two years, more users were opting for IROs than were participating in tendered trajectories. This led to an influx of smaller providers, and the number of companies with which UWV contracted increased rapidly to over 2,000. About 1,900 of these delivered IROs only and 1,600 were 'micro-providers', which could be servicing as few as five to ten participants. Provider registration requirements were minimal.

Evaluation of the IROs

Regular evaluation reports have been submitted to the ministry and parliament. The most recent was published in 2007 alongside a report from the 'Inspectorate for Work and Income' (IWI). Both studies found widespread approval for the IRO approach from service users, reintegration coaches and providers.

In a survey, 80% of participants reported greater satisfaction with their capacity to shape their trajectory, compared with half of those who participated in tendered trajectories. This involvement and the ability to choose their services and provider increased motivation and engagement.

IROs were found to have greater variety in the activities undertaken and access to more individualised barrier reduction services. The IWI study found greater 'customisation, flexibility and innovation'. Most service users had been made aware of their ability to negotiate an IRO through the UWV and the public employment service. About a third reported they had not been able to discriminate between providers and had relied on the advice given.

Reintegration coaches considered that IROs were most appropriate for those who needed individualised services not offered through regular contracts. The IRO gave coaches greater flexibility in designing a trajectory and made for more

interesting work. The challenge was to respect the 'wishes and interests' of the service user while agreeing an IRO that offered the shortest way into sustainable work.

They could reject an IRO application if it was not appropriate or too expensive relative to other services on offer. Only 2% of applications had been formally refused by 2007, although other applications may have been rejected informally or an offer of other services made.

'Individual reintegration agreements' entitle participants to negotiate their own service packages directly with providers

Providers reported that they faced fewer barriers in entering the IRO market and were not dependent on winning large tenders. Those surveyed were also positive about the greater flexibility of IROs and their capacity to negotiate a service package with the client and case manager. They were more likely to view the service user rather than the UWV as their customer.

The evaluation gives some overall data on IRO costs and job placements (see Table 1). In terms of crude cost per placement, IROs were more cost-effective for those claiming disability benefits and slightly more expensive for those claiming unemployment benefits. Durations on IROs tended to be a few months longer than for regular trajectories. A more detailed assessment of the effectiveness of the IROs, which will consider selection bias, is to be published at the end of 2008.

The major issue highlighted in both reports involved the diminished transparency and manageability of the market. These concerns led to an overhaul of the UWV contracting system in 2008. A 'purchase framework' was introduced for purchasing modular reintegration services and IRO trajectories.

Price competition and the tender system have been abandoned. The UWV now determines prices and providers have to meet specified process and performance requirements to be placed on a UWV 'approved list'.

Within the new system, the UWV reintegration coach has been given more control over the options available for service users. Many of the less disadvantaged unemployed will not have access to an IRO but the coach is likely to continue to negotiate such trajectories with those on disability benefits or those with more complex barriers.

Table 1: Characteristics of UWV service users, job outcomes and costs by IRO and by tender (2004-07)

		IRO	Tender
Service users	Number	66,455	131,323
	Disabled	38%	47%
	Unemployed	62%	53%
Price per 'trajectory'	Disabled	€4,730	€4,320
	Unemployed	€4,431	€3,430
Job placement	Disabled	40%	29%
	Unemployed	47%	35%
Total cost per placement	Disabled	€7,025	€9,980
	Unemployed	€6,870	€6,540

Conclusion

The relative success of the IRO lies in its flexibility and the greater control given to service users, coaches and providers. It creates enhanced personalised support and user engagement within a managed and more individualised delivery of intensive employment assistance.

This suggests scope for a more user-driven alternative to the constrained choice anticipated in future UK provision. Experiments with such an approach might be tested first in specialist DWP disability provision and, if successful, extended to the 'flexible New Deal'. It may be feasible also for top-tier contractors themselves to experiment with such an approach.

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This article draws on interviews with Dutch agencies and a review of English language literature in *The British 'Welfare Market': Lessons from Contracting out Welfare to Work Programmes in Australia and the Netherlands*, Joseph Rowntree Foundation, 2008 (http://www.jrf.org.uk/knowledge/findings/socialpolicy/2307.asp).

Left-handedness and cognitive development

Historically, left-handedness has been associated with being clumsy, defective, even evil. Between the 1960s and the 1980s, studies in medicine and psychology found left-handedness to be associated with a range of disorders, including auto-immune problems, depression, delayed physical maturation, learning disabilities and delinquency.

Yet in popular discussion, left-handedness is often associated with creativity, and two recent studies, one in the United States and one in Britain, have found that left-handed men earn more than right-handed men.

Given this intriguing finding, Professor Carol Propper and CMPO colleagues set out to investigate whether left-handedness for contemporary children – for whom handedness is no longer a source of stigma – is associated with differential cognitive development, a well-known predictor of later earnings.

The research uses clinical measures of handedness on over 10,000 children in the *Children of the 90s* study. These are matched to data on each child's performance at school on national tests – the key stage 1, 2 and 3 tests, taken at the ages of seven, 11 and 14 respectively, and an IQ test.

There is some cognitive development penalty to being left-handed, particularly for girls – but the main penalty is to children who do not have a dominant hand early in life

The analysis shows that left-handed children perform slightly less well in terms of the IQ test and the key stage 2 and key stage 3 tests. In addition, there is no evidence that the gap in cognitive tests diminishes as children get older. But the size of the effect is modest. A typical left-handed child has test scores 1% below those of their right-handed contemporary.

While there is some penalty to being left-handed, particularly for girls, the main penalty is to children who do not have a dominant hand early in life. Children with 'mixed-handedness' have lower development, which first appears in the early years but remains present at age 14, particularly for girls. The size of the penalty is not large, but on average it is about half the size of the penalty in early development associated with being male.

The researchers comment: 'Our results suggest that schools could use mixed-handedness as a marker for children who are likely to need greater intervention. As tests for mixed-handedness are simple to administer, they would be a cheap way of identifying children who otherwise might slip behind their peers.'

The richness of the data means that the researchers can rule out other factors that might have caused a gap in cognitive development between left- and right-handed children – for example, being from a poorer home background, family size, parents' handedness and child's birth weight.

So while left-handedness is perhaps no longer seen as deviant as it once was, operating in a right-handed world still leaves left-handers behind in the literacy and numeracy tests, and these gaps do not diminish as children get older. This leaves the question of why male adult left-handers earn more than their right-handed contemporaries.

This article summarises 'Handedness and Child Development' by Paul Gregg, Katharina Janke and Carol Propper, CMPO Working Paper No. 08/198

For the full paper, see: http://www.bristol.ac.uk/cmpo/publications/papers/2008/wp198.pdf

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

Explaining the glass ceiling

Why are there so few women in the top jobs in business? *Silvia Sonderegger* and colleagues explain the phenomenon of the 'glass ceiling' in terms of the disadvantage that career-oriented women face in signalling to employers their commitment to pursuing promotion to high-rank positions.

The glass ceiling is one of the most controversial and emotive aspects of employment in organisations. The term appears to have originated only in the mid-1980s but it became so rapidly sealed in the lexicon that by 1991, the United States had created a federal Glass Ceiling Commission with the Secretary of Labor as its chair.

When setting up the commission, the US Department of Labor defined the concept as 'those artificial barriers based on attitudinal or organisational bias that prevent qualified individuals from advancing upward in their organisations into management-level positions'; these barriers reflect 'discrimination… a deep line of demarcation between those who prosper and those who are left behind'.

One only has to look at the casual empirical evidence to see why the issue remains topical and heated. Women form a disproportionately small group in senior management positions: one in six positions on all corporate governing bodies in the 100 largest US corporations are held by women; and just one in 13 in the 100 largest European companies.

Among this latter group in 2006, there were no female chief financial officers in any company in Germany or France, and only one in the UK. This does not appear to be due to lack of qualifications. Women account for more than half of all university graduates in the European Union, and around 30% of MBAs and chartered accountants.

Although some of the disparity could be determined by occupational choice, women feel that they have to work harder to get promoted and that lower value is attached to their effort because of their gender. Again, there is much anecdotal evidence. For example, in a recent survey of current business owners, 44% of women reported that the statement 'your contributions were not being recognised or valued' fitted their personal experience either well or very well, compared with 17% of men.

Not only do women form a minority of employees at senior levels, they also receive lower remuneration than men. For example, although 15% of all corporate officers of US Fortune 500 companies are female, only 2.7% of their top earners are women.

A key question in this debate is whether the glass ceiling reflects an underlying process of discrimination, or whether it may be an equilibrium phenomenon even in the absence of discrimination. Within economics, much of the existing theoretical work on the subject argues that unequal treatment of men and women relies on differences in their non-market alternatives (for example, Lazear and Rosen, 1990).

According to the theory, women are more likely than men to take career breaks, for example, to attend to family commitments. Career breaks are costly to employers, especially for higher-rank positions, since these carry extra costs in terms of set-up and internal training requirements.

Promoted women – who are typically more career-oriented than other women – may have to put in more effort to reach their position

As a result, employers are more reluctant to promote women than men. The criteria – in terms of ability and competence – that women must satisfy to be promoted from lower- to higher-rank positions are tougher than those for men.

One implication of these theories is that different treatment of men and women may be somewhat 'justified' on economic grounds. When it comes to leaving their job to attend to family commitments, male employees come with little or no risk for employers. By contrast, female employees are quite risky. The promotion criteria for women are harsher than those for men to compensate for this higher risk.

These theories treat women as a homogeneous group, which is clearly unrealistic. Although on average women may indeed be more prone to career breaks than men, there is clearly much heterogeneity among women in their career commitments. At one end of the spectrum, some women may clearly prioritise their family life. At the other end of the spectrum, some women may be entirely committed to their careers.

But a woman's commitment to her career is not readily identifiable by employers. To avoid being pooled with more family-oriented types, career-oriented women may therefore have to find ways to signal their commitment. This puts career-oriented women at a disadvantage with respect to their male counterparts. Although career-oriented women prioritise their careers and therefore carry as little risk of taking career breaks as men, the burden is on them to prove that this is the case.

These ideas are explored in recent theoretical work by Paul Grout, In-Uck Park and myself. Our analysis shows that promoted

women – who are typically more career-oriented than those who are not promoted – may receive a lower wage than men, and may have to exert higher effort to reach their position.

This happens even in the extreme case where women in high-rank jobs are 'riskless', in that employers are certain that they will never leave. Hence, we show that differential treatment may persist, even when it isn't 'justified'.

If we take the term 'discrimination' to refer to differential treatment of men and women that is unjustified on productivity grounds, then our results suggest that there may be an element of discrimination at play. Women in high-rank positions would get a worse deal than men even if they were identical to men, and if employers knew this to be the case.

But in contrast with standard models of discrimination (such as Becker, 1957, and Arrow, 1973), this differential treatment does not stem from discriminatory preferences by employers or from negative stereotypes. It simply emerges as an equilibrium outcome.

The key idea is that, when applying for promotion to high-rank jobs, career-oriented women have lower-valued alternatives, and are therefore willing to accept less favourable terms. These lower alternatives arise because in low-rank jobs, career-oriented women are pooled with family-oriented types.

Since from the employer's viewpoint, family-oriented women are risky, they are paid less than men. Hence, the compensation that career women would obtain if they were to stay in low-rank positions would be inferior to that of men. When laying out the terms of promotions, employers take advantage of this, and offer women worse deals than men even in high-rank jobs.

When applying for promotion to high-rank jobs, career-oriented women have lower-valued alternatives and are therefore willing to accept less favourable terms

One important element that emerges from the analysis is that this type of discrimination may be quite resilient, even in the presence of competition among employers.

Intuitively, in their early career, women represent a 'gamble', since, although some of them will eventually turn out to be career-oriented, others will turn out to be more family-oriented. This ensures that competition for female employees in their early career is never too strenuous, since employers find it prudent to fill a sufficiently large fraction of their entry-level posts with men.

Competitive forces are therefore unable to eradicate the differential treatment between genders. In their early careers, women are offered career tracks with worse opportunities for promotion, even in the presence of competition among employers. Those women who turn out to be career-oriented will have to live with the generally harsher terms that are expected of them to earn their way up the career ladder.

In terms of policy implications, we show that, to be effective, any measure aimed at weakening the disadvantage suffered by career-oriented women would have to be a permanent feature of the labour market. This is in contrast with models of negative stereotypes ('statistical discrimination'), where temporary policies of affirmative action may have permanent effects, by eradicating any negative views that employers may hold of a particular group of employees (for example, Coate and Loury, 1993).

Policies that constrain all contracts to be gender-neutral are bound to have little effect, unless the requirements for promotion are also equalised across genders. But this would require firms to relinquish any discretion in their promotion decisions, something that is clearly unrealistic in many markets – for example, because ability and productivity are hard to quantify.

Policies that specify quota requirements – for example, by prescribing that a certain fraction of women employed by a firm must gain access to high-rank positions – may be more effective in promoting the welfare of career-oriented women. A recent bill unveiled by the UK government that allows under-representation to be a criterion when selecting among equally qualified candidates may be a step in this direction (see http://www.equalities.gov.uk.).

But the end result may be very sensitive to the precise details of the policy. If caution is not exerted, a reverse glass-ceiling phenomenon may emerge, where men have to work harder to get promoted and yet they receive lower compensation than their female counterparts.

This article summarises 'An Economic Theory of the Glass Ceiling' by Paul Grout, In-Uck Park and Silvia Sonderegger, CMPO Working Paper No. 07/183

For the full paper, see: www.bris.ac.uk/cmpo/publications/papers/2007/wp183.pdf

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Girl power

When the proportion of girls in a classroom increases, what is the impact on boys' and girls' educational outcomes? *Steven Proud* looks at the results in English, maths and science for all mixed-sex state primary and secondary schools in England.

Researchers on education have long sought to quantify the amount that children's educational outcomes are affected by the characteristics of their peers. More than 40 years ago, the Coleman report raised the issue: 'Attributes of other students account for far more variation in the achievement of minority children than do any attributes of school facilities and slightly more than do attributes of staff' (Coleman et al, 1966).

But measuring the effects on a child of their peers' characteristics is difficult. Because of 'sorting' within neighbourhoods and subsequently schools, peers' characteristics are likely to be exhibited by the child too and they will therefore produce biased estimates of peer group effects.

Since the gender of a child is essentially random, it is unlikely that pupils self-select into schools based on their gender (other than for single sex schools, which I exclude from my analysis). So it should be possible to examine the effects of a more female peer group without the results being distorted by selection issues.

Building on work by Caroline Hoxby (Hoxby, 2000), my research uses data from every English state primary and secondary school to estimate the effect of a greater proportion of pupils being female on both boys' and girls' outcomes. I also extend the model by examining primary schools that have pupils taught in just one class, so examining the direct effect of the peer group.

Previous research has found a positive effect of a more female peer group in English and mathematics (Hoxby, 2000), and a positive effect in English, maths and Hebrew (Lavy and Schlosser, 2007). The latter study also suggests a possible mechanism for the results: boys are more disruptive in class and their influence is reduced with a more female peer group, leading to positive outcomes for both boys and girls.

Does the gender make-up of a school matter in England?

To examine the effect of the gender make-up of schools in England on pupils' outcomes, I use data from the Pupil Level Annual School Census and the National Pupil Database, which covers demographics and results for all pupils in state schools in England.

The results suggest that pupils are affected differently in English and maths. I find a significant negative effect of a more female peer group on boys' outcomes in English exams at all key stages, and a positive effect of a more female peer group on both boys and girls in primary schools in maths and science.

Figure 1a illustrates the effect of a more female peer group on boys' outcomes in English exams. The graph shows an 'adjusted variable plot', considering the effect of the more female peer group on outcomes, keeping everything else constant. The horizontal axis shows 50 quantiles of the proportions of pupils that are female, and the vertical axis shows the outcomes achieved. Figure 1b shows the effect of a more female peer group on boys' outcomes in maths.

Figure 1a shows the negative effect of a more female peer group on boys' outcomes in all schools, while Figure 1b shows the positive effect of a more female peer group on boys' outcomes in maths.

Effects in small primary schools

In 2002, class sizes in infant schools in England were limited by parliament to a maximum size of 30. This has made it possible to identify schools that have apparently only one class per academic year as those that in all observations have only 30 or fewer pupils.

While there was no legislation prior to 2002, or in junior schools, the distribution of school sizes in both these groups mimics that of the pre-2002 infant schools, so allowing me to use this size-proxy to analyse schools up to the age of 11. Thus, for schools with 30 or fewer pupils per academic year, it is possible to observe the actual peer group with which the children interact.

For small primary schools, I again find evidence of a negative effect of a more female peer group on boys' outcomes in English – and the effect is of a magnitude three times larger than that seen within primary schools with more than 30 pupils in all cohorts.

In maths in small schools, the only significant effect is that girls benefit from a more female peer group. In large primary schools, boys also benefit from having a more female peer group.

Lessons for single sex schooling

My research does not explicitly observe single sex schooling, but it may be possible to make inferences based on the trends observed here. In English, the results tend to imply that boys would benefit from being taught in a single sex environment while girls may not be affected by a change in the make-up of the classroom.

Figure 1a: The effect of a more female peer group on boys' outcomes in English

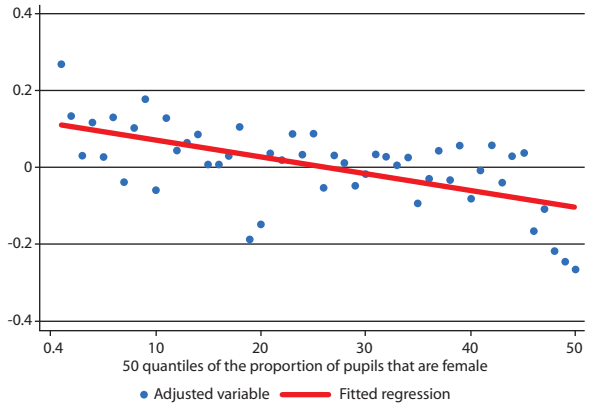
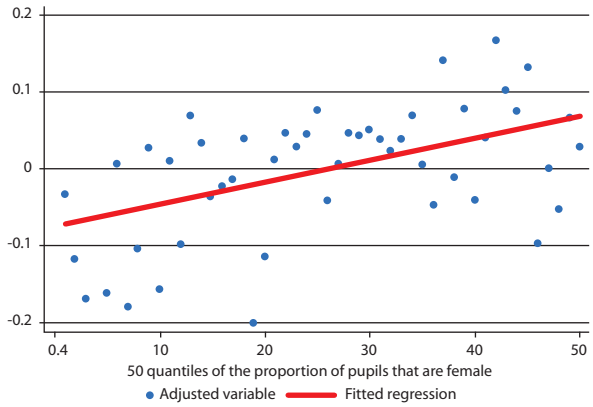


Figure 1b: The effect of a more female peer group on boys' outcomes in maths



In maths and science, the story is more complicated. Girls perform better in primary schools with a more female peer group, implying they would benefit from single sex teaching. But looking at primary schools as a whole, boys also benefit from a more female peer group, implying they would benefit by being taught in mixed sex schools.

But the sub-sample of schools with 30 or fewer pupils finds no significant effect of a more female peer group on male pupils' outcomes. This may imply that direct interaction with a large number of girls in classrooms has no effect on the boys, and the effect observed is simply in giving schools more leeway with setting policies within the school.

Possible mechanisms

While my analysis cannot directly identify the mechanisms causing the female peer group effects, it is possible to speculate based on prior research. The majority of that work has concentrated on the effect of a more able peer group on pupils' outcomes.

While girls outperform boys significantly in English at all ages, the effects cannot be explained by a knowledge 'spillover' from the more able girls. Previous research (for example, Lefgren, 2004) finds significant positive effects of a more able peer group, while here, a more female peer group (which on average will perform better than the males) leads to boys performing worse.

Similarly, in maths and science, boys perform marginally better at early ages than girls, and again, increasing the proportion of pupils who are female would lower the average attainment, but again would lead to a negative effect of a more able peer group.

Other research has suggested that a more female peer group leads to a less disturbed atmosphere for teaching (for example, Lavy and Schlosser, 2007). But while this would help to explain performances in maths and science, it cannot explain performance in English.

There may be differences in the way that boys and girls learn due to the structure of their brains. So it may be necessary for teachers to differentiate teaching and learning methods for boys and girls in the class. A possible explanation for the negative effect of a more female peer group on boys could be due to teachers concentrating on teaching methods that benefit the girls more than boys.

There is also a possibility in English that as girls possess a large advantage over their male peers, boys may simply hide in the background and allow their female peers to do all the work in class. This is easier when there are larger numbers of girls.

This article summarises 'Girl Power: An Analysis of Peer Effects Using Exogenous Changes in the Gender Make-up of the Peer Group' by Steven Proud, CMPO Working Paper No. 08/186

For the full paper, see: www.bris.ac.uk/cmpo/publications/papers/2008/wp186.pdf

To listen to a podcast interview with Steven Proud, visit: http://www.bris.ac.uk/cmpo/audio/proud.html

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