

In-house Research

Supplementary review of research relevant to assessing the impact of the Workplace Pension Reforms on household savings

by Long-term Impact and Evaluation team

Department for Work and Pensions

In-House Research No 10

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Any enquiries regarding this document/publication should be sent to us at:

Department for Work and Pensions, Central Analysis Division, Upper Ground Floor, Steel City House, West Street, Sheffield S1 2GQ

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SUMMARY

Millions of people in the UK are not saving enough for their retirement. The legislative changes set out in the Pensions Act 2008 and 2011, and subsequent regulations aim to address some of the key challenges and increase private pension saving in the UK. They form part of a wider pension reforms package designed to ensure the UK has a pension system that enables individuals to save towards achieving the lifestyle they aspire to in retirement, whilst keeping the burden on employers and industry to a minimum.

The supplementary review aims to update the 2006 DWP research report '*Review of research relevant to assessing the impact of the proposed National Pension Savings Scheme on household savings*' by PricewaterhouseCoopers (PwC)¹ using the latest research to provide a clearer picture of additional saving as a result of the reforms.

Additionality or additional saving is the new saving in pension schemes. People may reduce other forms of household saving to pay pension contributions, offsetting their overall saving increase. Additionality is important because it bears upon the aim of the reforms which is to increase people's saving for retirement. The lower the 'offset' or reduction in other forms of saving intended for retirement, the greater will be the amount being saved in pension schemes that is genuinely new retirement saving, and the greater the success of the reforms.

Overall the supplementary review supports the 2006 PwC finding that increasing membership in pension schemes, particularly those in which employers make contributions, can generate new saving. We also found that

¹ Hawksworth, J. (2006) *Review of Research Relevant to Assessing the Impact of the Proposed National Pension Savings Scheme on Household Savings*, DWP Research Report No 373. At: http://statistics.dwp.gov.uk/asd/asd5/report_abstracts/rr_abstracts/rra_373.asp.

estimates of the likely offset in savings vary greatly between different studies and countries owing to limitations in the robustness and comparability of available information.

Based on our assessment of relevant research since 2006, including early evidence from the KiwiSaver evaluation, and taking onboard the continuing uncertainty concerning offset rates in the literature, we recommend extending the range estimate to around 30 to 70 per cent with a principal estimate of 50 per cent. In other words, an 'offset' rate of 50 per cent would indicate that half of all the additional saving into workplace pension schemes would be new saving and the other half would represent a reduction or 'offset' in other forms of existing saving.

This finding extends the range estimate from the 2006 report which indicated the most plausible offset range being perhaps around 30 to 50 per cent with a principal estimate of 40 per cent (i.e. meaning 60 per cent of additional saving would be new saving and 40 per cent reduced or offset from other savings).

The offset estimates from the review will feed into the evaluation reports based on the '*Workplace Pension Reforms Evaluation Strategy*' (DWP, 2011)².

² DWP (2011), *Workplace Pension Reforms Evaluation Strategy*, DWP research report no. 764. At: <http://research.dwp.gov.uk/asd/asd5/rports2011-2012/rrep764.pdf>

1. INTRODUCTION

1.1 Workplace Pension Reforms

Millions of people in the UK are not saving enough for their retirement. The legislative changes set out in the Pensions Act 2008 and 2011, and subsequent regulations aim to address some of the key challenges and increase private pension saving in the UK. They form part of a wider pension reforms package designed to ensure the UK has a pension system that enables individuals to save towards achieving the lifestyle they aspire to in retirement, whilst keeping the burden on employers and industry to a minimum.

The Workplace Pension Reforms consist of four key elements:

- employers will be required to automatically enrol their eligible employees into a qualifying workplace pension;
- minimum contributions of eight per cent on a band of earnings, of which at least three per cent must come from the employer;
- a compliance regime to ensure employers meet their obligations; and
- a low-cost pension scheme with a public service obligation to provide a suitable savings vehicle for those moderate-to-low earners for whom the existing private pensions industry does not offer a suitable product.

The reforms are expected to increase the number of people newly saving or saving more in a workplace pension by between five and eight million³ by the end of staging⁴, and increase annual pension contributions by £9 billion a year once contributions are fully phased in.

1.2 Aim and Scope of this Review

The supplementary review aims to update the DWP report *Review of research relevant to assessing the impact of the proposed National Pension Savings Scheme on household savings (2006)* by PricewaterhouseCoopers (PwC). The review assesses relevant research not included in the PwC Review and the latest research results since 2006, which provide us with an up to date picture of likely levels of additional saving as a result of the Workplace Pension Reforms shortly before implementation.

Additionality or additional saving is the new saving in pension schemes. People may reduce other forms of household saving to pay pensions contributions, therefore offsetting their overall saving increase. Additionality matters because it bears upon the overarching aim of the reforms which is to increase people's saving for retirement. The lower the offset rate is, the more additional saving there is in pension schemes that is genuinely new saving, and the greater the success of the Workplace Pension Reforms. At the other extreme, if the offset rate is 100 per cent, it would mean all of the additional saving in workplace pension schemes will have been moved from other forms of saving, and the reforms will have had little or no impact on overall levels of saving. However it should also be noted that not all savings will be earmarked or used for retirement, therefore switching to pensions saving from other forms of saving, for example an ISA, may still increase retirement income.

³ DWP (2012), *Workplace Pension Reform Impact Assessment*. At: <http://dwp.gov.uk/docs/wpr-rev-implementation-ia.pdf>.

⁴ The duty to automatically enrol eligible employees in a qualifying workplace pension scheme in the UK will be gradually staged in from October 2012 starting with larger employers. Employers with a duty date of October or November 2012 have the option to bring their duty forward to July 2012.

The offset estimate in this supplementary review will be used in analysis for the evaluation reports, based on the Workplace Pension Reforms Evaluation Strategy⁵, specifically Evaluation Question 5 which will assess the extent to which the reforms increase saving in workplace pensions and total household savings:

EQ5: To what extent do the Workplace Pension Reforms increase the amount being saved in workplace pensions?

This will evaluate whether the reforms achieve the intermediate policy objective of getting people to save more for their retirement, and the longer term objective to reduce pensioner poverty and improve living standards for pensioners. It will explore the amount being saved, whether employers have reduced contributions for existing members and also try to understand how much more individuals are contributing towards their total household savings.

⁵ DWP (2011), *Workplace Pension Reforms Evaluation Strategy*, DWP research report no. 764. At: <http://research.dwp.gov.uk/asd/asd5/rports2011-2012/rrep764.pdf>

2. PREVIOUS LITERATURE REVIEW AND FINDINGS

The 2006 PwC research reviews evidence from the United States (US), United Kingdom (UK), Australia, Netherlands, Hong Kong, Germany, Estonia, Sri Lanka, Singapore, Israel and New Zealand. In relation to mandatory schemes which are most comparable to the current UK reform which introduces automatic enrolment in a workplace pension, the evidence is mixed, with a 40 per cent offset effect being the principal estimate of the most up-to-date and rigorous study from Australia (Connolly and Kohler, 2004). The offset is the proportion of new saving in pensions that is taken or reduced from other forms of existing saving. So an offset rate of 40 per cent would mean that only 60 per cent of additional saving in pensions is actually new saving.

Other estimates of the offset range from 25 to 75 per cent with perhaps the most plausible range being around 30 to 50 per cent. In other words the proportion of new workplace pension saving that is additional or new saving (i.e. not reduced from other forms of saving) is estimated to be between 50 and 70 per cent.

3. SUPPLEMENTARY LITERATURE REVIEW

This supplementary review aims to assess the impact of the reforms on saving, and determine the offset effect drawing on any literature that has not been included in the 2006 PwC Review and research published since 2006.

Automatic enrolment is one of the most effective joining techniques to overcome people's tendency not to act when faced with difficult financial decisions. It overcomes inertia that can exist whereby many individuals do not make the decision to start saving even when they are aware of the need to do so⁶. Automatic enrolment creates a default to save and therefore make it easier for workers to do so, while retaining the opportunity for them to opt out. Whilst it deals directly with the problem of insufficient pension saving, it may have the effect of encouraging individuals to borrow more or reduce other forms of saving.

As much of the review covers international research, studies have been grouped by relevant global regions or countries; specifically the Organisation for Economic Co-operation and Development (OECD) countries, the UK, Latin America and Asia. Most of the studies centre on OECD countries due to their fully-fledged social security systems and initiated pension reforms which more closely reflect the UK context, in particular experience from the USA, Australia and New Zealand. However it is important to note variation in pensions systems and wider context between different countries, even within the OECD. For example differences in compulsion (i.e. to what extent people can opt out of schemes) or incentives (i.e. to what extent contributions are matched) will all have an effect on additionality. As noted in the 2006 report, this variation is a key reason for the uncertainty in estimating savings offset effects, and consequently our ability to generalise the results to the UK reforms.

⁶ Clery, E. Humphrey, A. and Bourne, T. (2009) *Attitudes to pensions: The 2009 survey*, DWP Research Report no 701, Department for Work and Pensions, HM Government. At: <http://research.dwp.gov.uk/asd/asd5/rports2009-2010/rrep701.pdf>

3.1 Organisation for Economic Co-operation and Development (OECD) Countries

Most of the studies centre on OECD countries due to their fully-fledged social security systems and initiated pension reforms.

Disney (2007) examined the impact of the design of public pension programmes on household saving rates using a short panel of OECD countries. His research results show that the closer the public pension programme is to an 'actuarial-based' programme (i.e. where benefits to individuals are closely linked to their individual contributions), the greater its substitutability for private retirement saving, and hence the higher the offset effects. A public pension programme that is more like a tax-and-transfer programme, for example the British State Pension, with less link between individual benefits and contributions, has little offsetting effect on other forms of saving.

Connolly (2007) analysed national 2002 to 2003 survey data for Australia, which indicates that the introduction of compulsory superannuation saving (introduced in Australia in 1992 as the 'Superannuation Guarantee') increased household wealth. An extra Australian dollar in compulsory pension accounts adds between 70 and 90 cents to household wealth, which means the offset effect is 10 to 30 per cent. Voluntary saving for retirement also appeared to have a slight increase. The author speculates that this may be due to the Superannuation Guarantee which made households more aware of the need to save for retirement, or possibly the convenience of being able to make contributions directly into accounts set up by their employer.

More recent research, commissioned by the Association of Superannuation Funds of Australia, used macro-economic growth modelling to provide an overwhelmingly positive picture of the impact of compulsory superannuation with low offset effect. In particular, it found that the Superannuation Guarantee lifted the household saving rate in Australia between 1.5 to 2 per cent of Gross Domestic Product. It also reported that superannuation drives

investment through increased shareholding in Australian companies, infrastructure and venture capital, and increasingly supports consumption expenditure by retiree households (Allen Consulting Group, 2009).

Florentsen in Kohl and O'Brien (1998) studied the lump-sum pension accounts of Denmark (known as 'KP') in 1997. He found that the use of KPs was highly correlated with age, income and liquidity, and that the 1987 reforms (which widened eligibility) created substantial awareness effects. He calculated that 60 per cent of KP savings were financed by the implicit income tax saving and of the remainder only a small proportion were new saving, the rest being lost in tax arbitrage. Overall he estimated a high offset effect of 87 per cent.

Private pension wealth has a larger offset effect on saving than public pensions, perhaps as much as 50 per cent in the United States and Canada. However, Kohl and O'Brien (1998) believed that both time series and cross-section results were sensitive to the sample period chosen. The more robust results, from cross-section studies, were often based on samples limited to certain types of households and age groups likely to have higher savings and offset effects.

Cross-section studies inherently omit macroeconomic feedback mechanisms, for example the longer term effects of increased private pensions saving on other financial indicators such as interest rates and investment levels, and typically exclude retirees. Furthermore, results based on differences across individuals at a given time may change when an entire life cycle is included, and so do not necessarily apply to changes in the wealth of the overall system across time. On the other hand, many of the time series results that Kohl and O'Brien examined were in their view methodologically flawed, casting doubt on the results from this type of study.

These caveats notwithstanding, the most recent and methodologically sophisticated studies, using cross-section or time series, found similar results. The marginal effects on the flow of saving appear generally quite small

(although there may be different views on what “small” and “large” mean in this context), with a 100 unit increase in pension wealth decreasing saving by less than 5 units, or less than 5 per cent offset. On average, the marginal effect of 100 units of wealth in public pension schemes is somewhat larger; it appears to result in a reduction of 10 to 30 units in the stock of savings, or 10 to 30 per cent offset, depending on whether the sample period covered large changes in pensions and on the presence of institutional and demographic factors associated with larger offset effects.

Offset estimates from the time-series equations were slightly higher. Moreover, in either case, when the total impact of these marginal effects are multiplied by the total stock of pension wealth the implied effects are substantial, though such a conversion is very problematic. Most of the trends across the OECD over the past two decades and likely to continue in the near term suggest that these historical examples will provide a lower boundary for offset effects. However, population ageing, capital market liberalisation and decreases in the number of children per family will increase offset effects in the future.

Korczyk (1992) examined the evidence on the contribution of employer-sponsored pension plans to US savings. The conventional wisdom suggests that pension plan participants reduce their savings in response to employer coverage, making pensions a poor tool for increasing savings. While there are still important gaps in economists’ understanding of saving behaviour, a critical evaluation of research on the relationship between pensions and saving suggests that pensions add significantly to savings. Empirical analyses of the effect of pensions on saving have yielded a wide range of offset estimates. The highest offsets are found among older men, but this group represents a small share of pension participants. Studies involving a broad cross section of workers have found very low offsets, suggesting that employer pensions bring about high proportion of new savings for most covered workers.

The New Zealand KiwiSaver which started in 2007 is probably the closest comparable scheme to the UK reforms as it features automatic enrolment, opt out and matched contributions. However there are some key distinctions such as cash incentives for joiners. Early survey data from New Zealand initially indicated that around 9 to 19 per cent of KiwiSaver balances are 'new' saving, or 81 to 91 per cent offset. Gibson and Le argue that this confirms US findings that tax incentives encourage people to shift their existing savings to tax-preferred vehicles such as KiwiSaver, which results in little change in overall saving but large costs to the taxpayer (Gibson and Le, 2008). While substitution versus new saving is certainly regarded as a key issue in New Zealand, recent evaluations of KiwiSaver consider that it is too early to come to firm conclusions on this point (Ministry for Economic Development, 2008, Inland Revenue 2009). More recently analysis in 2010 found that KiwiSaver members transferred 64 per cent of contributions from other forms of saving or debt reduction, with the remaining 36 per cent being spent. Interestingly the analysis showed that the offset rate was higher for those who own their own home (70 per cent) compared with non-home owners (55 per cent).

Zwiener (2009) studied the options for German pension reform. An ageing society requires increased expenditures in pensions, nursing and health care, in absolute as well as in relative numbers. But from a macroeconomic perspective, these growing demands are not financed more easily in a funded system, based on individual capital funds, than in the traditional German pay-as-you-go system. In fact, the additional saving efforts, both mandatory and voluntary, curb economic growth, at least in the transition period during which private households have to support the current pensioner generation as well as finance their individual capital funds, implying the private savings will be offset.

Bosworth and Burtless (2004) examined saving responses in the US private sector to fluctuations in private insurance and pension fund accumulation. This was noted as one of the key OECD studies in the 2006 PwC report. They found substantial evidence that pension saving substitutes for other forms of private saving. While the experience with voluntary private pension programs

is not identical to the situation that would arise under a system of mandatory pension accounts, it does indicate that the potential for asset substitution is a significant problem that would limit the impact of pension funding on aggregate private saving.

Rochelle investigated the effects of social security spending on savings rates across countries with varying levels of savings. Feldstein (1974, 1977) argued that there are two effects that create a negative relationship between social security and savings – the saving replacement and induced retirement effects. Contrary to Feldstein's (1974, 1977) results, the author suggests that social security spending only depresses saving in countries with high savings rates. The difference between this study and Feldstein's (1974, 1977) was that he accounted for different behaviours of households across countries.

In conclusion, it was important to take into account the different patterns of saving rates in high and low saving countries. It was shown that social security does not necessarily decrease savings in all countries. In low saving countries a mandatory saving plan will ensure that people will save for retirement. Since growth depends on savings, social security programs may actually help economies with low savings rates, such as the United States. However, in countries with high household savings rates social security may not be necessary. These households are already saving without the help of social security. Any increase in social security spending will only lead to a decrease in household and national savings rates.

3.2 UK

Attanasio and Rohwedder (2001) used three major UK pension reforms to investigate the relationship between pension saving and discretionary private savings. Unlike most differences-in-differences approaches which rely on average differences between the control and the treatment group, they used economic theory to model the response of each individual household. The model permitted them to use both time-series and cross-sectional variation in a consistent way to identify the behavioural response. The study is based on data from the Family Expenditure Survey.

A measure of pension wealth was not observed, but they estimated it by applying the rules of the pension system to observed individual characteristics. The changes in pension wealth as a result of the reforms are substantial. The empirical analysis suggests that the earnings-related tier of the pension scheme has a negative impact on private wealth with 100 per cent offset effect. However they estimate little, if any, substitutability between the Basic State Pension (BSP) and private wealth. The impact of the flat-rate tier of the scheme is found not to be significantly different from zero.

One possible explanation is that the variation they used to identify the coefficient of interest is exclusively induced by changes in the indexation rules. This could have been as a result of people not fully understanding the implications at the time the reform was implemented, even though the effects proved quite substantial. Another possible explanation offered by the authors for the difference between the effect of changes in State Earnings-Related Pension Scheme (SERPS) and BSP is that the poorer part of the population is less likely to have SERPS, either because of unemployment or low wage employment meaning they were below the bottom threshold for earning benefits. In contrast the BSP protects certain groups, for example those claiming benefits, with National Insurance credits.

Seen as one of the key UK related studies in the 2006 PwC review, Granville and Mallick (2004) investigated the empirical validity of the effect of pension reforms on UK domestic savings using an Auto-regressive Distributed Lag (ARDL) model capable of testing for the existence of a long-run. An ARDL model uses regression analysis on time series data to predict long term future values, specifically taking into account the lagged effects of changes in the independent variable, in this case the time taken for a change in pensions saving to affect total saving. The modelling showed that the total savings response to change in pension savings is positive and significant, but an increase in occupational pension saving appears offset by a decrease in other forms of saving. They concluded that there is no firm evidence that aggregate savings increase considerably because of privately funded pension schemes.

The impact of pension reforms on domestic savings may not be uniform across countries. Even though their study found that increased privately funded pensions in the UK increased aggregate savings marginally, but investment in financial assets other than pensions may influence other savings in the capital market. Pension reforms indeed affect the market capitalisation by channelling domestic long-term savings into the capital market, but along with encouraging the build-up of private pension assets, liberalisation of financial services also facilitates households' access to credit, reducing their net savings. Even so, the increased liquidity and capitalisation that private pension funds bring to the stock market could ultimately raise the level of national savings by promoting economic growth through more efficient resource allocation.

The most recent UK based review of evidence about the effectiveness of different sorts of interventions on household savings by the Institute of Fiscal Studies (Crossley, Emmerson & Leicester, 2012) looked at UK workplace pension reforms in the context of 'choice architecture', in other words intervention to change the default to opt out, for example by introducing automatic enrolment. This study is timely owing to its proximity to the implementation stage of the UK reforms. While it finds good evidence to support changing the default leads to increased participation rates in pensions saving, it notes there is much less evidence about whether this leads to new saving. At best the evidence is 'ambiguous'. There is an acknowledgement from previous studies that for those on lower incomes the amount of pensions saving shifted from other forms of savings is likely to be low but it also notes this group may be better off by using additional income to reduce current high-interest debt. Overall the report highlights the 'paucity' of evidence to evaluate policy interventions leading to persistent changes in savings behaviour, particularly evidence based on a counterfactual.

3.3 Latin America

With the surge of pension reforms in Latin America, there are some studies comparing pre-reform with post reform savings.

Aguila (2005) found that Mexican pension increased consumption and crowded out savings of low income workers, who are the majority of population affected by the reform. These findings are consistent with the Life Cycle model predictions as the theoretical analysis shows that the pension reform caused a pension wealth effect particularly for low income employees, indicating low offset effect for the low income group.

Ramírez (2008) estimated the effect of the Peruvian social security privatisation on well-being of the elderly and their dependents during the transition period. Using life cycle model structure on the data, he found the offset is between 70 per cent and 100 per cent. This outcome implies the substitutability between pension and non pension wealth.

3.4 Asia

Datta (1980) studied five Asian countries, namely Singapore, Malaysia, India, Sri Lanka and Philippines over a period of approximately fifteen years between 1960 and 1974. On an a priori basis, the relation between compulsory savings and non-compulsory savings could be either positive or negative. It was found through econometric estimation that there was no significant relation between the two variables. The results were supported by two studies, one based on individual time series estimates for the five countries, and the other based on pooled data for four countries leaving out India.

Lavado (2006) provided some empirical evidence on the effects of social security on savings mobilisation of households in Philippines. Following Feldstein's model, he used a household survey data to estimate consumption and savings function. The Social Security System and the Government Service Insurance System are viewed by current contributors as future wealth and thus, they tend to consume more now and save less than they would have if there were no pension. It was found that there is a negative effect of pension on household savings.

During the period from 1995 to 1999, there was a substantial pension reform for enterprise employees in China. Jin Feng et al (2009) used the variation in pension wealth before and after the pension reform to estimate the impact on household savings. They used two sets of cross-section data, one in 1995 (before reform) and the other in 1999 (after reform). They obtained an offset effect of 18 per cent.

Their estimations show that the pension reform made the household savings rate increase by about 6 percentage points for cohort aged 25 to 29 in 1999 and about 3 percentage points for cohort aged 50 to 59. Almost 50 per cent of enterprise employees are covered by the pension scheme, and it is possible that the pension reform that reduced the replacement rate contributed to the observed increase in aggregate household saving rates. However, compared to other countries, the effect of pension wealth is smaller in China.

4. CONCLUSION

The latest literature review updates the 2006 PwC Review by pulling together evidence from OECD countries (OECD as a whole, the USA, Australia, New Zealand, Germany and Denmark), the UK (including an evidence review on raising household saving), Latin American countries (Mexico and Peru) and Asian countries (Singapore, Malaysia, India, Sri Lanka, Philippines and China).

Overall, the supplementary review supports the PwC Review finding that mandatory pension schemes, particularly those with a matching contribution element, can generate new saving. In terms of additionality (the amount of this additional saving that is new as opposed to having been displaced from other forms of saving), while most of the studies support the likelihood that pension schemes do generate some additional or new saving, there remains considerable uncertainty about the rate of offset from other forms of saving. There is some evidence to suggest that the offset may vary between different income groups, for example suggesting that low to middle earners may have a lower offset rate, thereby increasing the amount of new saving. On the other hand there are also a few studies indicating that pension schemes stimulate people to spend more because they think they will have a more guaranteed income after retirement, or they have to borrow money or reduce other forms of savings to pay contributions.

The reason for the diversity in offset estimates is that there is still very limited information available on the impact of pension schemes on income and living standards in retirement. Offset effects therefore have to be calculated through varied models with different sample data in a specific period. Many factors in each of the countries reviewed can affect the offset effect, such as demographic structures, saving rates, designs of pension schemes and communication strategies. Difference in any of them may yield a different result.

In terms of quantifying the offset effect, the literature contains estimates ranging from 0 to 100 per cent. Therefore, it is difficult to estimate what the exact offset effect will be for the Workplace Pension Reforms in the UK, particularly given that pension reforms will differ in any given country. The 2006 PwC report indicated the most plausible range for the offset being perhaps around 30 to 50 per cent with a principal estimate of 40 per cent. Based on the relevant research since then, particularly early evidence from the New Zealand's KiwiSaver which is probably the closest to the new UK model, and given the wide variations in offset estimates, we recommend extending the estimated offset range to 30 to 70 per cent, with a principal estimate of 50 per cent. In other words, around half of all additional pensions saving would actually be new saving.

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This report presents the findings of a review of literature relevant to assessing the impact of the Workplace Pension Reforms on household savings in the UK. It updates and supplements a previous review carried out in 2006 by PricewaterhouseCoopers (DWP research report 373).

The amount of additional saving that will occur is important because it bears upon one of the key aims of the Workplace Pension Reforms which is to increase people's saving for retirement. However people may reduce other forms of household saving to pay new workplace pension contributions, offsetting the overall saving increase. The review looks at the extent to which this has happened in other countries.

The review was carried out in-house by DWP analysts from the Workplace Pension Reform evaluation team. It covers the UK and relevant international research from the OECD (principally the USA, Australia, New Zealand, Germany and Denmark), Latin America and Asia.

If you would like to know more about DWP research, please contact:

Carol Beattie, Central Analysis Division, Upper Ground Floor, Steel City House, West Street, Sheffield S1 2GQ.

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