



Research Performance and Economic Impact Report 2016-17

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Introduction

Social science research needs to be at the heart of the many challenges facing our society. Our investments are in areas of national priority, and are mobilising social science evidence to address significant economic and social challenges. The research we fund informs policy and practice, and the impacts arising from our research are highly diverse and significant – some support innovation in business practice (case studies 4 and 5) or delivery of public services (case studies 19 and 24), while many others seek to protect and support individuals and families (case studies 16, 17, 20 and 26). Our research tackles major issues and also makes a real difference to people's lives, both in the UK and globally (case studies 6-8, 15-23).

Increasing growth and productivity

ESRC-funded researchers' insights on the regional and global economy have helped attract inward business investment (case study 2), and others such as the UK Competitiveness Index have been used by policymakers to boost economic performance. Our researchers have delivered business solutions for industry partners: For example, a UK business opened a new market in jewellery retail (case study 4), and another helped a car retailers implement 'lean' techniques for their aftersales service – increasing annual sales turnover (case study 5).

1

Network boosts ethnic minority business

The Enterprise and Diversity Alliance has improved ethnic minority entrepreneurs' access to finance, markets and business support, providing a unique support network.

Ethnic minority businesses contribute an estimated £25-32 billion to the UK economy annually but face challenges in accessing finance, markets and business support. Insights from Professor Monder Ram's research, at the University of Birmingham on supporting minority network, informed the development of the Enterprise and Diversity Alliance (EDA). EDA is a unique network of corporations, banks, professional associations and academics providing practical support. Partnerships between EDA and banks including Barclays and NatWest have led hundreds of ethnic minority-owned businesses to receive bespoke financial advice and mentoring.

“ Professor Ram's work on ethnic minority entrepreneurship and finance, backed by the ESRC, has influenced the banking industry in the UK and the way in which leading banks interact with their customers and key stakeholders.

Stephen Pegge, Group Competitive Markets and Business Policy Director, Lloyds Banking Group and former chair of British Bankers' Association Small Firms Panel.



Professor Monder Ram.

2

Strategy brings record-breaking investment to Birmingham

Professor Nigel Driffield's contribution to developing Greater Birmingham's inward investment strategy helped the area become one of the most successful in Europe for attracting business investment.

Working with the Local Enterprise Partnership and Marketing Birmingham, Professor Driffield helped develop an investment strategy for drawing in business investment – attracting £150 million over the past two years. In the *World's Most Competitive Cities Report 2015* Birmingham was ranked as the highest performing city in Western Europe for its competitiveness in attracting inward investment. Professor Driffield's work with UK Trade & Investment to identify foreign firms with a high probability of expanding internationally helped attract new businesses to the UK, between them employing almost 10,000 people to date.

“ Professor Driffield has been instrumental in helping to shape the Greater Birmingham project.

Steve Hollis, Deputy Chairman, Greater Birmingham & Solihull Local Enterprise Partnership.

3 Competitiveness Index boosting economic performance

The Competitiveness Index model has been used by policymakers across the world, and cited by 80 authorities in the UK alone.

Professor Robert Huggins from Cardiff University developed the UK Competitiveness Index (UKCI) to measure how attractive different regions of the UK are to businesses and firms, the economic welfare of individuals and the value of business success for citizens. The York Economic Partnership drew on the UKCI when they developed their 2011 economic strategy for York – with a goal of 1,000 new jobs and 75 new business start-ups each year by late 2015. The UK Commission for Employment and Skills used UKCI findings to inform its 2010 report *Ambition 2020*, leading to a £100 million Growth and Innovation Fund to boost investment in skills and training.

5 Lean car service boosts profits

A Knowledge Transfer Partnership helped car retailer Benfield Motor Group to implement 'lean' techniques for its aftersales service, increasing annual sales turnover by £720,000 with a projected company sales increase of £4.3 million after three years.

KTP Associate Melissa Whipp used 'lean management' techniques to restructure aftersales repair work at Benfield Motor Group. She divided their workflow into a 'green stream' for fully predictable work (such as routine servicing), 'amber stream' for semi-predictable work (such as repairs for cars older than three years) and 'red stream' for unpredictable work (for instance following accidents). Greater operational efficiency meant more work could be carried out with existing resources, reducing customer waiting time. Booking lead-time for repair or service went down from up to five days to one day. Company owners Lookers plc were so impressed by the KTP improvements that they decided to progressively roll it out across the entire Lookers Group, with a projected increase in company sales of £4.3 million after three years.



4 Fairtrade rings boosting jewellery sales

Research into ethically produced jewellery has opened a new market in jewellery retail, led to a £200,000 increase in annual turnover for a regional SME, and improved working conditions and the environmental impact of gold mining.

Working on an ESRC-funded Knowledge Transfer Partnership (KTP) between Birmingham City University and Hockley Mint, KTP Associate Rose Dunne identified an untapped market in ethically produced products, particularly for wedding and engagement rings. The Hockley Mint team developed new jewellery product lines using Fairtrade gold and ethically sourced diamonds. By sourcing gold from Fairtrade mines the project has helped to increase the number of miners who are working in safe conditions, and to reduce the numbers of under-18 year olds being employed to work underground. As a direct outcome of the KTP, Hockley Mint saw a £200,000 increase in annual turnover and they expect this to rise to £5 million within three years. The research resulted in the launch of the Fairtrade Ambassador Scheme for retailers stocking Fairtrade gold wedding and engagement rings, and more than 30 independent jewellery retailers have already signed up.

“Working with Rose Dunne and Birmingham City University has enabled the company to explore avenues that were typically not available to us. Our Fairtrade Ambassador Scheme is truly unique, offering support and direction to the many retailers enlisted to the programme.”

Gary Wroe, MD, Hockley Mint.

Leading international impact

We support research that addresses international development challenges, with the Department for International Development (DFID) being a key partner. We also support international research collaborations through the Newton Fund and Global Challenges Research Fund (GCRF). ESRC-funded research translates into impacts that include preventing disease, improved water security, and smarter urban design and planning. Concepts developed by ESRC-funded researchers have become an integral part of United Nations' planning and response to the HIV epidemic (case study 6), preventing HIV risk in southern Africa and supporting vulnerable teenage girls.

Innovations such as the Smart Water Pump (case study 7) serve to provide a reliable water supply and the means to predict groundwater levels in rural Kenya – while the Spatial Design Network Analysis (sDNA) software was used to evaluate spatial design and planning in China (case study 8).

International grants

162 awards - £49million - collaborated with 31 countries



149
proposals
£44m



Department
for International
Development

6
proposals
£4m



7
proposals
£1.7m

6

Preventing HIV risk in Southern Africa

Research on HIV prevention led to a Cash plus Care programme that has helped over two million girls in 10 African countries avoid contracting HIV/AIDS since 2014.

Every year 170,000 adolescents in southern and eastern Africa become infected with HIV – in most cases girls from poor families who have unprotected sex with older men to provide for the family. A research team led by Professor Lucie Cluver from the University of Oxford showed that social welfare grants combined with parenting support and free schooling were effective in removing the need for a 'sugar daddy'. This evidence led to the rollout of 'Cash plus Care' support packages, cutting HIV risks among teenage girls by 60%. The United Nations has taken up Cash plus Care as a key HIV prevention policy. The scheme has been introduced in several countries, including Kenya, Lesotho, Malawi, Mozambique, South Africa, Swaziland, Tanzania, Uganda, Zambia and Zimbabwe.



“The term Cash plus Care was first coined by Professor Cluver in an interagency task team for social protection, care and support, here at UNAIDS in Geneva in 2013. Since then, the concept has become an integral part of UN planning and response to the HIV epidemic.”

Mariângela Simão, UNAIDS, Joint United Nations Programme on HIV/AIDS.

7 Smart water pumps predict groundwater levels

Rural African communities' efforts to secure water supplies have benefited from 'smart' hand pumps with mobile sensors that automatically report faults, and have the potential to monitor groundwater reserves.

Community hand pumps provide 200 million rural Africans with their drinking water supply but growing demand for groundwater is putting the resource increasingly under pressure. A research team led by Professor Rob Hope at the University of Oxford has developed a 'smart hand pump' with mobile sensors that can automatically report faults through SMS text messages – but recent findings show that the pumps can also alert villagers to ebbing groundwater levels. The water from deep aquifers produces different vibrations in the pump compared to more shallow sources, making it possible to predict reduced water flow and take measures before it becomes a problem.

The ESRC-DFID funded research has been cited by Kenya's Water Services Regulatory Board as a groundbreaking approach for application across Kenya. UNICEF is field-testing smart hand pumps as part of a larger monitoring project across the region.



8 Software analysing street networks improves city planning

The Spatial Design Network Analysis (sDNA) software helps architects worldwide design cities that are better for people's health, have lower crime rates and encourage sustainable transport.

The software, developed by researchers at Cardiff University, analyses a city's street network to reveal complex information about the way people interact, predicting the flows of pedestrians, cyclists, vehicles and public transport users around a city. In China sDNA was used to evaluate the spatial design of a major growth corridor in the city of Huainan, safely allowing the accommodation of another 1.2 million people in the city. In the UK sDNA has been used to prepare a spatial strategy plan for Wiltshire County Council, and cycling charity Sustrans used it to model cycling in Cardiff, feeding into the consultation for Cardiff's Integrated Network Map and the implementation of the Wales Active Travel Act.



“ sDNA is a great evaluation method for the analysis and decision-making on different plans in China.

Guoyan Zhou, director of Renew A+P Consulting, Shanghai.

Celebrating Impact prize

We recognise and reward ESRC-funded researchers who achieve outstanding economic or societal impacts. The Celebrating Impact Prize, now in its sixth year, celebrates outstanding ESRC research and success in collaborative working, partnerships, engagement and knowledge exchange activities that have led to significant impact. The examples below were recognised at the 2017 Celebrating Impact prize event.

Professor Anand Menon who leads the ESRC-funded UK in a Changing Europe initiative was recognised as the Impact Champion for his team's achievements. Since the referendum on EU membership in June 2016, the initiative he leads has focused on the interpretation and implementation of the UK's planned exit from the EU. The initiative's website has attracted over half a million users.



Impact Prize 2017.

9

UK in a Changing Europe Initiative: Busting myths on UK-EU relations

In 18 months, the UK in a Changing Europe initiative has become the go-to place for authoritative and impartial information and analysis on the UK's relationship with the EU.

The initiative was commissioned before the referendum was announced and Professor Anand Menon's aim was to make the UK in a Changing Europe (UKICE) a vital reference point for those wanting trustworthy information in the run-up to 23 June. A range of activities was carried out to engage with a wider audience, including more than 40 town hall events, a series of school talks, and Question and Answer events in pubs and even a prison. The UKICE team provided briefings to MPs across parties, and millions of viewers of ITV News at Ten heard Professor Menon and other team members examine Brexit myths based on their published research.



Professor Anand Menon (right).

“Anand has been the discovery of the referendum! He is a supreme communicator, a rarity in academic circles. He gets how important it is to explain complex issues clearly for the audience. Add to that his impartiality and authority and you have a perfect contributor.

Julie Hulme, Head of Newsgathering, ITV News.

10

Improving polling for elections

British Election Study (BES) research on the unexpected result of the 2015 General Election led to more accurate polling methods for the UK's £3 billion polling industry.

In the 2015 General Election most polling predictions differed greatly from exit polls and, crucially, the actual election results. BES research underpinned the findings of the independent inquiry into the 2015 British general election opinion polls. They showed that the population samples used were not representative, leading to less accurate polls. The BES team set up procedures to correct such bias and get more responses from hard-to-reach voter groups. A major 'vote validation' exercise, in partnership with the Electoral Commission, provided a benchmark of the voting population for the polling industry. BES recommendations to improve polling accuracy led leading polling experts to change their methodology, including major polling organisations ICM and TNS.

11

Effective strategies against organised crime

Professor Mike Levi's research into fraud, money-laundering and organised crime has made counter strategies more effective both in the UK and abroad, reducing the multi-billion pound cost to society.

The research devised new ways of measuring fraud, illicit money flows and organised crime, between them estimated to cost the UK at least £24 billion a year. Developed at Cardiff University, Professor Mike Levi's estimate of fraud alone costing the UK economy a minimum of almost £13 billion has been used as a baseline for annual fraud indicators. His research has informed the UK Home Office's organised crime strategy, influenced the Serious Organised Crime Control Strategy, and approaches to tackling serious organised crime.

“Levi's work has definitively shaped much of the underpinning strategy and thinking within law enforcement and the government, particularly the Home Office.

Bill Hughes, Director General of the Serious Organised Crime Agency.

12

The fuel poverty index that changes EU policy

Research has provided the EU with a new fuel poverty measurement tool and focused attention on the 54 million European households struggling to heat and power their homes.

After working at an energy services company upgrading fuel-poor households Harriet Thomson started an ESRC-funded PhD studentship in which she devised a simple, visual, colour-coded country-ranking system of fuel poverty in households.

The easy-to-understand tool highlighted substantial gaps in knowledge of Europe-wide figures on fuel poverty and has helped change how fuel poverty is addressed in the EU. Since 2014 the EU has invested more than €1 million in defining and measuring the problem. The European Commission's 2016 Clean Energy for All Europeans proposals called for EU member states to define and measure energy poverty, and direct energy efficiency resources at energy-poor households. Dr Thomson established the EU Fuel Poverty Network, now a leading online platform for information about fuel poverty.

“Both Harriet's Masters research and the associated PhD research to address the analytical gaps in policy and statistical understanding of fuel poverty have changed how energy poverty is considered at European level.

Theresa Griffin, MEP, North West of England.



Dr Harriet Thomson (right).

Common indicators

ESRC has used the researchfish® system for outcomes collection since 2014. The schematic below illustrates select common indicators detailed in the Metric Data section of this report.

Human capital



3,267

Principal Investigators and Co-Investigators¹



29

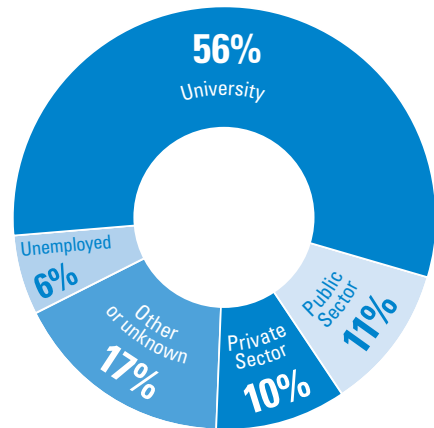
Research Fellowships



803

New doctoral students

Destination of leavers from higher education²



Researchfish outcomes data



3,425

Journal articles



606

New collaborations



185

Books



470

Book chapters



198

New secondments



126

Policy influence³



125

Artistic and creative outputs



111

Research databases and models



51

Software and technical products



42

Research tools and methods

1. On research grants on 1 April 2017.

2. 2015-16, drawn from the HESA Destination of Leavers from Higher Education dataset.

3. For awards started in 2012 – reporting at least one instance of policy influence.

Impact Acceleration Accounts

Impact Acceleration Accounts (IAAs) are block awards made to 24 research organisations to accelerate the impact of research. IAA funding has enabled researchers to engage with parliament, government departments, businesses and the third sector.

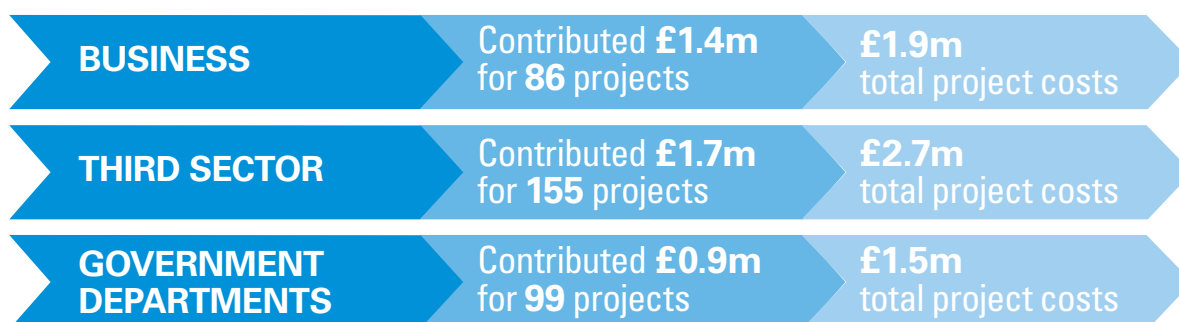
Partnerships, collaborations supported



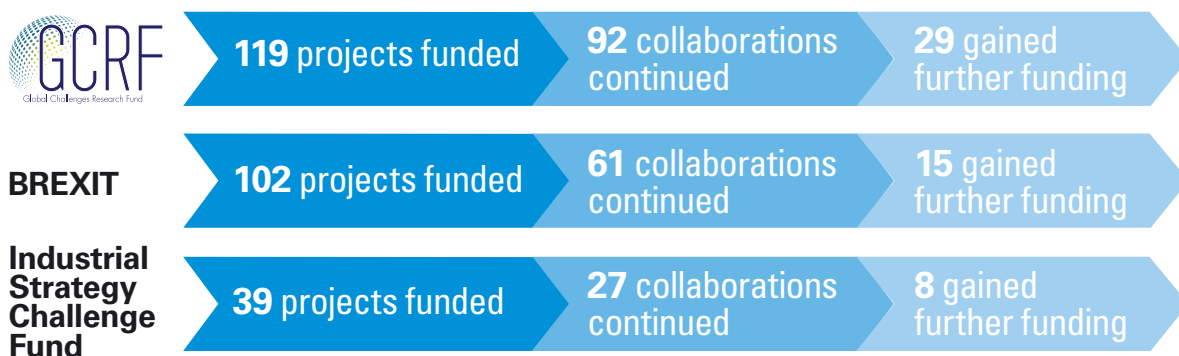
IAAs reported*



IAA projects leveraged support from



IAA projects are building social science capacity in areas of



Promoting **innovation**

The innovative ideas of social science researchers have helped identify solutions to a range of societal challenges, for example improving city planning by use of data analysis (case study 8), changing urban speed limits (case study 13), provision of a reliable water supply (case study 7) and developing an educational app (case study 15). In addition to this, the work with the Innovation Caucus is a unique, creative partnership between Innovate UK and ESRC that continues to provide research-based insights from the social sciences that support innovation-led growth.

13



Vision research preventing road accidents

Research on the limitations of human vision has been influential in lowering speed limits to 20mph in residential areas, saving an estimated 38 lives and preventing over 450 serious injuries each year.

Professor John Wann's research has been used extensively in support of a successful UK campaign to reduce urban speed limits. New 20mph speed limits were introduced in residential streets in 40 local authorities, covering nearly 10 million residents, with commitments to 20mph speed limits from a further 12 local authorities. It is estimated that 38 pedestrian lives are saved and over 450 serious injuries prevented each year due to the reduced speed limit. The research has also influenced the development of automobile road safety systems, such as a forward collision warning and lane departure software systems.

“ Professor Wann's research was influential in providing evidence that children below secondary age cannot be relied upon to have the necessary visual acuity to manage their own safety in situations where vehicles are travelling above 20mph.

Rod King MBE, founder and Campaign Director of 20's Plenty for Us.



14 Presenting the facts on migration

The Migration Observatory has improved understanding of contentious migration issues by providing the first UK source of independent high-quality evidence and analysis aimed at public audiences.

Evidence and analysis from the Migration Observatory is frequently used by policymakers in parliamentary debates, reports and briefing notes, and Observatory researchers regularly meet policymakers. It has become the first port of call for media outlets seeking impartial analysis of migration issues, with the *Sunday Telegraph* describing it as 'the most respected body on UK migration'. Migration Observatory experts have featured in 1,000 high-profile media stories, reaching diverse radio, TV and press audiences, and prompting better-informed media coverage on polarised issues.

15 Tackling the education app

Spin-off company launched successful number app Numbuko based on educational research

Dr Andrew Manches, previously an ESRC Future Research Leader, has led research centred on the use of hands-on learning in early science, technology, engineering education, and the implications for early learning technologies. During his ESRC Future Research Leader grant he designed and launched the number app Numbuko, which is a free app communicating the research, and set up a spin-out company to create a physical version of Numbuko (numbuko.com). The company created a prototype and is seeking investment to take it to market.



Impact on **society**

As well as enabling governments, charities, businesses and societies to understand the factors that contribute to growth and prosperity and how we can exploit these effectively, our research also helps us understand factors that shape inequalities and how we can combat them – for example, Dr Harriet Thomson’s tool for fuel poverty, which has helped change how fuel poverty is addressed in the EU (case study 12). Other impacts showcased here have changed our perceptions of victims of crime, street children, and also informed policy and practice (case studies 16-19).

16

Ending the silence on older victims of rape

Research prompted the first national study of rape and sexual assault of people over 60, highlighting this hidden, unrecorded offence and increasing support for victims.

The issue was largely unrecognised before Dr Hannah Bows gathered data from 45 police forces, finding around 150 cases of rape and serious assault. This subsequently spurred the Office for National Statistics’ Crime Survey for England and Wales to trial the collection of statistics on sexual violence for the over-60s. Dr Bows’ guidance for practitioners is being distributed to all rape crisis and age-related organisations in the UK. A survivor information guide has been sent to these organisations as well as all social services, Safeguarding Adults Boards and care homes in the UK.

“As a consequence of sharing Dr Bows’ research our service received a referral from Age UK for a female survivor of sexual violence who is 89 years of age.

Alison Boydell, Support After Rape & Sexual Violence Leeds.



17

Protecting vulnerable witnesses

ESRC-funded research has changed the way police interview witnesses, the conduct of video parades and the treatment of vulnerable witnesses in court.

Professor Amina Memon’s research into eyewitness memory changed police interview practice from an accusation-based approach to a more investigatory way of gathering witness evidence. Her work laid the foundation for key police interviewing protocols and training. She led the evaluation and adaptation of a tool known as the Cognitive Interview with child witnesses, which now forms part of the national training for all police officers and is advocated in 20 countries worldwide. Professor Memon has also been involved in developing a range of resources, such as guidance on interviewing child witnesses, code of practice during court proceedings, and training family court judges in Scotland.

“Without Professor Memon’s research and steadfast commitment the world of the vulnerable witness would be a bleaker place.

Ian G Hynes, Trustee of the National Working Group for Child Sexual Exploitation.

18

Involving street children as field researchers

A groundbreaking training pack developed by researchers at Universities of Dundee and Manchester was used to involve more than 200 street children as researchers, supporting their contribution into a UN consultation and participation in the 2016 Street Child Games.

Since 2012 the Growing up on the Streets study has worked with more than 500 street children and young people aged 14-20 years old, in the cities of Accra (Ghana), Harare (Zimbabwe) and Bukavu (DR Congo), gathering data on the changing conditions and decisions of street children and young people as they grow up. The researchers developed training and tools for street children which enabled them to act as researchers and gather data on the daily experiences of their urban life. It was used to provide testimonies for the Africa Consultation Report submitted to the UN Committee on the Rights of the Child. The report informed the influential UN General Comment on Children in Street Situations, addressing the rights of street children, published in June 2017.

“ I was born on the streets and have grown up on the streets to this age. I have survived... People came up to me and said that they have changed the way they thought about street children in a positive way, so I think they will do something.

Jonathan, Accra.

19

Participation research kick-starts Newcastle mini-park

Researchers used workshops and street trials to increase Newcastle residents' engagement in redesigning their neighbourhood, leading to the launch of a mini-sized 'pocket park'.

Daniel Mallo, Armelle Tardiveau and colleagues at Newcastle University arranged a series of design workshops and street trials to help people imagine how they could improve Fenham Hall Drive, a street in the Newcastle ward of Fenham. Participants in the project sought funding for a permanent public play and relaxation space. Local people and the Fenham Association of Residents were awarded £15,000 from the Department for Communities and Local Government to build a mini-sized 'pocket park' for public access which opened in May 2016. Feedback from users confirms that the park is regularly being used by residents, and planting of fruit trees has increased the environmental value of the area. Several other Newcastle wards have contacted Fenham to share process and practice in developing the park.



“ To have so many prominent professional and academic representatives all pulling their specialist skills together is forging invaluable working relationships that could prosper in years to come.

Councillor Marion Talbot, City Council ward member for Fenham.

Influencing **policy and practice**

Our research plays a major role in informing government policy, from welfare and benefits to health and education. It is social science that increases understanding of people's behaviours and identifies potential interventions for behavioural change, influencing the development of policies that gain the trust of governments, business and the public. We are working with policymakers and parliamentarians across the UK and the devolved nations to ensure research and researchers are accessible. Professor Mike Brewer's research on child poverty has shaped policy work on tax credits and poverty (case study 20). In addition, ESRC's Impact Acceleration Accounts have supported secondments of researchers who have prompted change in Parliament (case study 21), and led a change to the National Operating Guidance for the fire services (case study 22).

20 Shaping the UK's tax credit system

Rigorous quantitative research into tax, benefits, poverty and living standards has changed debate and shaped policy.

Professor Mike Brewer is based at the University of Essex and his assessment of how the UK's tax and welfare system affected incentives to work (in the Mirrlees Review) supported a shift in policy towards a simpler and more integrated welfare system. His conclusions in the 2015 Resolution Foundation report *Making the Most of Universal Credit* were endorsed by the Social Security Advisory Committee. Professor Brewer's research

on child poverty has shaped policy work on tax credits and poverty undertaken by third sector organisations including the Child Poverty Action Group and the Joseph Rowntree Foundation.

“It is hard to think of another academic in the UK today who more effectively combines a commitment to understanding poverty issues through robust research in order to influence policy with a similarly high commitment to methodological rigour.

Chris Goulden, Deputy Director of Policy and Research, Joseph Rowntree Foundation.

21 Making Parliament more representative

Professor Sarah Childs' secondment to the House of Commons was funded by University of Bristol's ESRC Impact Acceleration Account (IAA).

Professor Childs wrote *The Good Parliament Report* which highlighted outdated working practices in

Parliament and set out a comprehensive reform agenda. The report's 43 recommendations aim to significantly enhance MPs' effectiveness, improve the quality of parliamentary outcomes, and ultimately raise the public's regard for the House of Commons.

The report has had a number of outcomes, including a new cross-party Group of MPs set up to lead the reform agenda – The Commons' Reference Group on Representation and Inclusion.

“This report makes a really important contribution to the debate about how we make parliament more representative of those it serves, and how we might work towards better gender balance in our democratic institutions. It deserves to be widely read.

Dr Eilidh Whiteford MP, Shadow Group Leader on Social Justice.



22

Psychological research makes firefighting more effective

Research improved the decision-making of fire officers, changing the National Operating Guidance for the Fire Services and the training of Incident Commanders.

Sabrina Cohen-Hatton, currently a Deputy Assistant Commissioner at London Fire Brigade, was funded by an ESRC Impact Acceleration Account and the Chief Fire Officers Association to carry out a secondment at Cardiff University. During the secondment she built on initial psychology research that examined how decisions were made by firefighters in the field, and the benefits of a rapid mental checklist. Findings showed that a short period of goal-oriented training had a marked impact on decision-making.

She also explored how fire services could use the decision tools she developed, leading to the development of a training protocol that has improved the decision-making of incident commanders and changed the National Operating Guidance for the Fire Services and their training of Incident Commanders. The decision controls have been included in the Joint Emergency Services Interoperability Principles which govern all first responders and are increasingly being used by other emergency response agencies such as local councils and the military.



23

Reviewing the evidence on grammar schools

Evidence briefing on selective education provided key input to parliamentarians and Education Committee members.

Supervised by Dr Abbi Hobbs of the ESRC-funded Social Science Section in the Parliamentary Office of Science and Technology (POST), PhD student Charlotte Kitchen prepared a 'POSTbrief' to review evidence on selective education. When the House of Commons Education Committee launched an 'evidence check' inquiry into selective education, Charlotte produced written briefings and participated in private meetings with Committee staff and members.

The POST briefing *Academic Evidence on Selective Secondary Education* has been cited in other parliamentary papers, such as the Commons Library papers on *Grammar School Statistics* and *Recent policy developments: Grammar schools in England* and statistics quoted in the POST briefing have been used by Committee Members in debates including Prime Minister's Question Time.⁴



“Charlotte was up to speed with a controversial policy area in no time at all. We benefited from her rapid review of the evidence base, her contribution to the private meeting preceding the oral evidence session, and her assistance in preparing the Committee's report. It was an excellent example of how committee teams and experts from POST can work well together.

Richard Ward, Clerk of the Education Committee.

⁴ <http://parliamentlive.tv/event/index/449d3e9a-1610-423f-8501-a72e4e9bc214?in=12:39:01&out=12:39:26>

Impact through data

The UK remains world-leading in the use of social science data resources. Through our continued support of the UK data infrastructure we enable better understanding and exploitation of existing data, creating new forms of data, new methodologies and new approaches to analyse complex systems. The impacts arising from the use of our data resources have enabled local to global insights, helping with city planning and investment in infrastructure (case studies 8 and 24), through to reducing food waste (case study 25) and supporting families (case study 26).



The Propensity to Cycle Tool

Robin Lovelace led the development of the nation-wide Propensity to Cycle Tool (PCT) – an online interactive planning support system that guides city planners in decisions about where to invest in cycling infrastructure.

By providing a range of cycling scenarios for different locations, down to the level of individual roads, the PCT is informing planning policies that are increasingly shifting towards sustainable transport. Transport for Greater Manchester has used the PCT to inform the development of a multi-million-pound cycling strategy, and the Department for Transport has endorsed the tool as a way for local authorities

to design cycle network plans as part of funding bids. Many local authorities, including Bath and North East Somerset, Manchester and Exeter, are already using the tool to guide infrastructure investments, and industry is also adopting the tool to great effect. The European Cycling Federation recently endorsed the tool, and local governments as far away as Brazil are looking to learn more about this innovation.

“ The PCT shows the country's great potential to get on their bikes, highlights the areas of highest possible growth and will be a useful innovation for local authorities to get the greatest bang for their buck from cycling investments and realise cycling potential.

Andrew Jones, Parliamentary Under Secretary of State for Transport.

25

Tackling food waste

Research insight shaped Asda consumer campaign, tracking behaviour and reducing food waste.

In the UK, food waste derived from households accounts for 7.3 million tonnes of total food and drink wasted annually, with UK households throwing away approximately a third of the food they purchase. In a bid to tackle this problem, Consumer Data Research Centre (CDRC) Co-investigator Professor William Young and his team at the University of Leeds joined with Asda to implement a wide-ranging campaign aimed at changing customer attitudes and behaviour.

The research team used Asda's in-store magazine, Facebook site, e-newsletter, product stickers and in-store demonstrations to promote food waste reduction during two 4-6 week campaign periods – one in 2014 and the other in 2015 – followed by surveys to track the impact. These interventions led to demonstrable behaviour change: 81% of customers said they planned to follow the provided advice and two million customers are making changes in their homes as a result of the campaign.



“The team has been able to take our insight and really explore tackling food waste, meaning that we now have a greater understanding of customer attitudes and behaviour, helping shape the way we communicate with our customers and ultimately how we do business.

Asda's Chief Customer Officer, Andy Murray.

26

Shaping government support for workless families

Research findings on unemployment and school performance shaped the Troubled Families programme.

The Department for Work and Pensions used longitudinal data gathered in the ESRC-funded Understanding Society study to investigate the impact that unemployment has on families beyond the immediate economic consequences.

The findings showed that three quarters of children from workless families failed to reach the expected level at GCSE, and children in around 300,000 workless families are potentially affected by parental relationship issues, with school performance suffering.

These analyses fed into political debate, leading to a number of actions and investments, including the next phase of the Troubled Families Programme – the announcement of a £30 million programme to reduce relationship distress between parents, and enhancements to the role of Jobcentre Plus in working with local partners.



Metric data

Notes on the Common indicators

Introduction

The research councils have agreed a revised set of Common indicators on performance with the Department of Business, Energy & Industrial Strategy (BEIS). These indicators draw on information from grants databases and the researchfish® system.

researchfish® is an online system supported by Researchfish Ltd. It is used by Research Councils to collect information on the outputs, outcomes and impacts of RC-funded research. Outcomes can be entered into researchfish® at any time, but once a year there is a formal submission period when researchers are required to confirm that their outcomes information is accurate and up-to-date.

Notes on Common indicators data

The outcomes data included in the Common indicators are not static. Researchers can enter data retrospectively, which may result in changes to individual indicators in subsequent Impact Reports.

ESRC has used the researchfish® system for outcomes collection since 2014. As such, data for earlier years may not be complete.

A particular output, for example a publication or a collaboration, might have arisen from more than one award. In this report, a particular output is always reported against each individual award where the unit of analysis is at the award level (for example the proportion of awards reporting a particular output). Duplicate outputs are removed, where possible, in analyses at the level of the type of output generated. Duplicate outputs are removed using system-generated codes to indicate when a researcher has attributed an output to more than one award. This cannot identify duplicate outputs where researchers have entered similar information independently of one another.

Percentages in this report are rounded up or down to the nearest whole number and so some may appear as zero if this represents less than half of one per cent.

Additional information on individual indicators is provided below. The Common Question Set used

by researchfish® is available from the Researchfish website (www.researchfish.com).

Notes on individual Common indicators

Total funds available

Total additional funds leveraged by projects: This indicator reports the cash and in-kind contributions from partner organisations that were listed on the original research proposal. It does not include any further leverage funding that may have arisen during the course of the award. It does not include additional funding leveraged by Research Council Centres, Institutes, and other intramural investments.

Total expenditure

Total Expenditure: Research expenditure: This indicator reports all research expenditure. Prior to the 2016 Impact Reports, this indicator was referred to as 'responsive mode expenditure'.

Human capital

Number of PIs: This indicator reports the number of PIs supported on research grants on 1 April of each reporting year. It excludes PIs supported through intramural investments, unless they are in receipt of a research grant.

Number of Research Fellows: This indicator reports the number of Research Fellows supported on 1 April of each reporting year.

Number of PIs and Co-Investigators on research grants: This indicator reports the number of PIs and Co-is supported on research grants on 1 April of each reporting year. It excludes PIs and Co-Is supported through intramural investments, unless they are in receipt of a research grant. This indicator also includes the number of Research Organisations (including Independent Research Organisations) where these PIs and Co-Is are located.

Postgraduate Destinations: The destination of leavers data is drawn from the HESA Destination of Leavers from Higher Education (DLHE) dataset.

Collaborations, partnerships and secondments

Instances of collaborations: This indicator relates to collaborations reported within the research proposal at the point of application. It includes the proportion of awards (expressed as a percentage)

reporting at least one partner organisation at the point of application.

Instances of new collaborations: This indicator relates to new collaborations as reported within researchfish®. Collaborations are only included in the indicator for the first year that they were reported, but may continue for several years after this date. Researchers may also report collaborations that were in place at the point of application.

Instances of secondments: This indicator relates to secondments as reported within researchfish®. Secondments are only included in the indicator for the first year that they were reported, but may continue for several years after this date.

Knowledge generation

Instances of publications: A publication may have arisen from more than one award. Duplicate publication outputs are removed, where possible, using system-generated codes to indicate when an individual researcher has attributed an output to more than one award. This cannot identify duplicate outputs where different researchers have entered similar information independently of one another. It is not feasible to calculate the precise number of unique publications as some publications /publication types do not have unique identifiers (eg, a Digital Object Identifier, a PubMed ID). The indicator is intended to provide information on the trends over time, rather than a precise measure of total publication output.

Instances of artistic and creative outputs: Some of the data within researchfish® do not have an associated time stamp. For ESRC, there are two instances of artistic and creative outputs which do not include a time stamp and which are therefore excluded from the common indicators. This represents 1.6% of the council's artistic and creative outputs data within researchfish®.

Instances of research databases and models: Some of the data within researchfish® do not have an associated time stamp. For ESRC, there are 434 instances of research databases and models which do not include a time stamp and which are therefore excluded from the common indicators. This represents 80% of the council's research databases and models data within researchfish®.

Instances of research tools and methods: Some of the data within researchfish® do not have an associated time stamp. For ESRC, there are 107 instances of research tools and methods which do not include a time stamp and which are therefore excluded from the common indicators. This represents 72% of the council's research tools and methods data within researchfish®.

Intellectual property

Instances of intellectual property: This indicator includes patents, copyrights and trademarks. Some of the data within researchfish® do not have an associated time stamp. For ESRC, there are two instances of intellectual property which do not include a time stamp and which are therefore excluded from the common indicators. This represents 67% of the intellectual property data within researchfish®.

Spin-outs

Instances of spin-outs/start-ups: Within researchfish®, researchers are asked to provide details of links between their research and the establishment, development or growth of new private sector organisations, including for profit and not-for-profit organisations. Supplemental information was used to identify duplicate spin-out companies where available (eg, Companies House IDs for UK companies).

Further funding

Number/proportion of awards with further funding: This indicator includes further funding to continue or develop the research, or to support the translation of outcomes into practical application.

Engagement activities

Number/proportion of awards with engagement activities: Researchers engage with a wide variety of audiences and stakeholders to communicate research outcomes, disseminate knowledge, stimulate public awareness, and encourage public engagement and dialogue. The engagement activities indicator helps demonstrate the extent to which researchers are engaging with audiences outside academia.

Influence on policy and practice

Number/proportion of awards with policy influence: Research may be used to inform policy and practice, which may subsequently lead to wider societal and economic benefit. The influence on policy and practice indicator helps demonstrate the extent to which researchers are informing decision making within government departments and elsewhere.

Metrics

FUNDING	2012/13		2013/14		2014/15		2015/16		2016/17	
	£m		£m		£m		£m		£m	
1.1 Total Funds Available (£m)	176		200		200		190		192	
1.2 Leverage (£m)	23.0		18.0		19.0		24.0		29.0	
	£m	%	£m	%	£m	%	£m	%	£m	%
1.2.1 of which Private	2	9	1	56	1	5	1	4		0
1.2.2 of which from other Research Councils	12	52	4	44	4	20	4	16	4	14
1.2.3 of which from other source	9	39	15	50	15	75	20	80	25	86

	2012/13		2013/14		2014/15		2015/16		2016/17	
	£m		£m		£m		£m		£m	
1.3 Additional funding leveraged by research projects	6.3		7.4		12.6		6.6		4.7	
	£m	%	£m	%	£m	%	£m	%	£m	%
1.3.1 of which Private	0.8	13.3	3.2	43.7	1.5	12.2	1.6	24.1	0.9	18.5
1.3.2 of which Public	2.3	36.9	1.5	20.2	2.3	17.9	0.3	4.7	0.4	9.2
1.3.3 of which Non-profit	1.6	25.8	2.2	29.8	2.0	15.5	2.1	32.1	0.46	9.7
1.3.4 of which Academic sector	1.5	24.0	0.5	6.3	6.9	54.4	2.6	39.1	2.9	62.6

RESEARCH EXPENDITURE	2012/13		2013/14		2014/15		2015/16		2016/17	
	£m	%	£m	%	£m	%	£m	%	£m	%
2.1 Research expenditure	139	63	159	72	156	71	159	72	169	76
2.2 Training expenditure	54	24	53	24	47	21	45	20	46	21
2.3 Other	6	3	6	3	5	2	6	3	6	3

HUMAN CAPITAL	2012/13		2013/14		2014/15		2015/16		2016/17	
	#		#		#		#		#	
3.1 Principal Investigators	689		769		858		864		836	
3.2 Research Fellowships	121		73		52		29		29	
3.3 Number of PIs and Co-Is on research grants (on 1st April)/ the number of Research Organisations (including Independent Research Organisations)	1640	258	1957	316	2285	368	2423	429	3267	342

HUMAN CAPITAL – Postgraduates	2012/13		2013/14		2014/15		2015/16		2016/17	
	#		#		#		#		#	
4.1 Number of new doctoral students within that financial year	753		770		793		814		803	
	2011/12		2012/13		2013/14		2014/15		2015/16	
	%		%		%		%		%	
4.2 Doctoral submission rate	73		74		76		77			

DESTINATIONS OF LEAVERS	2011/12		2012/13		2013/14		2014/15		2015/16	
	#	%	#	%	#	%	#	%	#	%
4.3 Destinations of leavers	335		358		415		422		405	
4.3.1 Of which University	60		58		63		63		56	
4.3.2 Of which Public Sector	6		8		7		7		11	
4.3.3 Of which Private Sector	10		9		10		10		10	
4.3.4 Of which Other or Unknown	18		19		15		15		17	
4.3.5 Of which Unemployed	6		6		6		6		6	

COLLABORATIONS, PARTNERSHIPS AND SECONDMENTS	Year the collaborations, partnerships or secondments were first reported									
	2012/13		2013/14		2014/15		2015/16		2016/17	
	#	%	#	%	#	%	#	%	#	%
5.1.1 Instances of collaborations and partnerships reported at point of application and % of awards reporting at least one partner organisation	274	32	254	25	311	33	187	25	289	26

COLLABORATIONS, PARTNERSHIPS AND SECONDMENTS	Year the collaborations, partnerships or secondments were first reported				
	2012	2013	2014	2015	2016
	#	#	#	#	#
5.1.2 Instances of new collaborations reported in researchfish®	304	513	512	612	606
5.2 Instances of secondments reported in researchfish®	71	100	155	153	198

PUBLICATIONS	Year outcome realised				
	2012	2013	2014	2015	2016
	#	#	#	#	#
6.1.1. Instances of journal articles	3154	3604	3202	3388	3425
6.1.2. Instances of books	279	301	238	239	185
6.1.3. Instances of books chapters	510	510	527	610	470

PUBLICATIONS: Number/proportion of awards	Year the award started									
	2008		2009		2010		2011		2012	
	#	%	#	%	#	%	#	%	#	%
6.1.4 Number / proportion of awards that gave rise to at least one example of a publication within five years of award start date	506	72	465	78	424	84	383	87	387	84

OTHER OUTPUTS	Year outcome realised				
	2012	2013	2014	2015	2016
	#	#	#	#	#
6.2.1 Instances of artistic and creative outputs	68	99	118	131	125
6.2.2 Instances of research databases and models reported	62	56	82	81	111
6.2.3 Instances of software and technical products reported	20	21	34	66	51
6.2.4 Instances of research tools and methods reported	16	29	39	38	42
6.2.5 Instances of medical products, interventions and clinical trials	1	9	14	2	2
6.3 Instances of IP reported	2	1	1	4	4
6.4 Instances of spin-outs/start-ups	3	1	7	4	2

FURTHER FUNDING Number / proportion of awards	Year the award started									
	2008		2009		2010		2011		2012	
	#	%	#	%	#	%	#	%	#	%
7.1.1 Number / proportion of with at least one instance of further funding within five years of the start date	46	7	89	15	75	15	101	23	154	33

ENGAGEMENT ACTIVITIES Number / proportion of awards	Year the award started									
	2008		2009		2010		2011		2012	
	#	%	#	%	#	%	#	%	#	%
8.1.1 Number / proportion of with at least one instance of engagement within five years of the start date	223	32	243	41	263	52	255	58	328	71

INFLUENCE ON POLICY AND PRACTICE Number / proportion of awards	Year the award started									
	2008		2009		2010		2011		2012	
	#	%	#	%	#	%	#	%	#	%
9.1.1 Number / proportion of with at least one instance of policy influence within five years of the start date	33	5	34	6	56	11	74	17	126	27

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