



**CENTRE FOR THE  
MICROECONOMIC ANALYSIS  
OF FISCAL POLICY**

***ANNUAL REPORT***  
***1999–2000***

E·S·R·C Centre for the  
Microeconomic Analysis of Fiscal Policy  
at the Institute for Fiscal Studies

**IFS**

**E·S·R·C CENTRE FOR THE  
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In 1991, the ESRC and IFS created a new centre of academic excellence in microeconomic research – the Centre for the Microeconomic Analysis of Fiscal Policy.

Research at the Centre falls into several main areas: tax policy and work incentives; the distribution of income and the structure of tax and social security; consumer demand and saving behaviour; human capital investment; company taxes; investment and research and development; European tax co-ordination; and local government finance.

Alongside its research, the Centre promotes academic dialogue in its subject areas, serves as a training centre and conveys findings to policymakers with enough clarity to influence decisions. By organising conferences, providing a base for foreign visitors, sponsoring young scholars and providing media briefings, and through its network of Research Associates and Fellows, the Centre strives to be a national and international resource.

This report reviews the Centre's work for the period October 1999 to September 2000 and presents an account of ongoing research activity including future developments.

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**E·S·R·C Centre for the Microeconomic Analysis of Fiscal Policy**

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**E·S·R·C CENTRE FOR THE  
MICROECONOMIC ANALYSIS OF FISCAL POLICY**

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**ANNUAL REPORT  
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MICROECONOMIC ANALYSIS OF FISCAL POLICY**

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*1999–2000*

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***1999–2000***

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HM Treasury

## 1. Directors' Review

The last year has been a productive and exciting year for the Centre. Having received most encouraging feedback on the report of the Centre's research activities for the first eight years of our operation, we embarked on the process of defining our research agenda for the five years following the completion of the first 10-year term. Our research ideas were developed in a succession of plenary meetings and working groups involving all staff, Research Associates and Research Fellows. The culmination of this was a two-day brainstorming meeting at a specially booked venue. This vigorous process led to our submission to the ESRC of the research proposal for the next five years. Following the usual peer review process, the ESRC decided to renew Centre funding. Reflecting an expanded area of interests, the new Centre will be called the Centre for the Microeconomic Analysis of Public Policy. We are now looking forward to another five-year term, following the end of the current funding in one year's time. As a result of this new award and other funding sources, a number of new and exciting research topics will be initiated and the existing successful research agenda will be developed further.

Evaluation of public policy has become an increasingly important activity of the Centre and has attracted co-funding from a number of other sources. Centre staff are now involved in major evaluation projects looking at a range of policies, including the working families' tax credit (WFTC), the Education Maintenance Allowance (EMA) currently being piloted in a small number of local education authorities (funded by the DfEE), the New Deal for Young People (funded by the Leverhulme Trust) and the Excellence in Cities initiative (funded by the DfEE). Complementing the evaluation of these major policy initiatives, we have also raised funding for a new centre for the development of evaluation methodology and other econometric and statistical methods. This centre, which builds on the strengths developed at the Centre, will be funded by the Leverhulme Trust. This new initiative will further strengthen our commitment to evidence-based policy and to the development of suitable research methods in parallel with our empirical analysis.

Maintaining high profiles in the media and in top academic journals has continued to be an important dual objective of the Centre over this past year. There have been a large number of radio and television appearances, 50 refereed publications and more than 40 books and book chapters. Our pre-Budget analysis, published in association with Goldman Sachs, continues to set the standard for analysis of public policy issues based on data and careful research. This highly valued service, provided by IFS and the Centre, receives extensive coverage in the press. This year, we also provided pre-Budget seminars for the major political parties and expanded our successful series of on-line Briefing Notes on current policy issues. Our research publications have also been highly successful, with Centre researchers being awarded the prestigious Ragnar Frisch Medal for 2000 for the best empirical paper published in *Econometrica* over the last five years. Over this past year, research papers from the Centre have appeared or are forthcoming in such influential journals as *Econometrica*, *Review of Economic Studies*, *Economic Journal*, *Scandinavian Journal of Economics* and *Review of Economics and Statistics*. Researchers at the Centre continue to play an important role on the editorial boards of many journals. As an indication, *Econometrica*, the *Review of Economic Studies* and the *Economic Journal* are currently co-edited by members of the Centre staff.

Our international collaborative efforts have continued to be important, with a number of initiatives that generate collaborative research. This has partly developed from the close ties built up in research networks on savings and on innovation and productivity supported by European Union funding. A major collaborative effort with the NBER and the CEP, on evaluating the success of British economic policy over the last two decades, resulted in a two-day international workshop in May. This will form the basis for an IFS/NBER/CEP

edited volume to be published by the University of Chicago Press next year. New collaborative research on retirement behaviour has been initiated with colleagues at the University of Chicago, which also partly funds this collaboration. The European networks augment the extensive research exchange we have in our areas of interest with researchers in North America. A number of Centre staff have visited for significant periods at universities in the US and continental Europe, and our collaboration with the NBER continues in a number of fields such as pensions, savings and consumption.

The success of the Centre relies on the availability and quality of data. We place great emphasis on these and we commit resources to making sure that this most important research infrastructure is maintained and developed. We keep the most recent waves of the major UK micro datasets, such as the Family Expenditure Survey, the Family Resources Survey and the British Household Panel Survey, which we use extensively in our research programme. We also make use of major administrative datasets, such as the Census of Production (ARD) for our work on location and productivity, and the JUVOS in our evaluation of welfare-to-work programmes. Increasingly, we also use foreign micro-data in our comparative research – examples include the US Consumer Expenditure Survey and data on participants in Swedish labour market programmes.

One important new development at the Centre is our involvement in the collection of a new dataset, the English Longitudinal Survey of Ageing (ELSA), designed for the analysis of economic status and health as households age. Centre staff, in collaboration with the International Centre for Health and Society at UCL, the National Centre for Social Research and medical researchers at Cambridge University, have been involved in raising substantial funding from the US National Institute of Ageing and a number of government departments with which to design and collect a new panel dataset, linked with the Health Survey for England. These data will be comparable to the US Health and Retirement Survey and will become the basis for major interdisciplinary analysis of issues relating to retirement behaviour, pensions and the health of the elderly. In the course of the next year, we will be designing the questionnaire for the first wave in collaboration with our partners, and we will be exploring possibilities for funding a major research programme to use this new resource.

Simulating policy reforms is, of course, a central part of our activities. In many cases, evaluation of public policy takes place before such policy is ever implemented and is based on our models of individual behaviour. A good example is the evaluation of the working families' tax credit. Evaluation is based on a labour supply model estimated using pre-reform data and exploiting earlier variation in the structure of the benefit and tax system. Simulation as well as estimation has as a crucial ingredient our model of the UK tax and benefit system. We continue to work on this important but unsung linchpin of our research infrastructure, updating it, adapting it to new reforms as they occur and extending its ability to simulate past policy reforms as far back as the 1970s.

The exceptional research environment created at IFS by our research staff, Research Fellows, Research Associates and visitors plays a central role in the success of the Centre. We aim to keep the Centre open to new ideas and new people who can help develop our research. Renewed ESRC funding will allow us to push this forward vigorously in the future. We hope that this report reflects the research developments and generation of new ideas over the last year, and provides an indication of the level and extent of research activities being pursued at the ESRC Centre.

*Richard Blundell and Costas Meghir*

## 2. Communication and Collaboration

### INFORMING AND INFLUENCING PUBLIC DEBATE

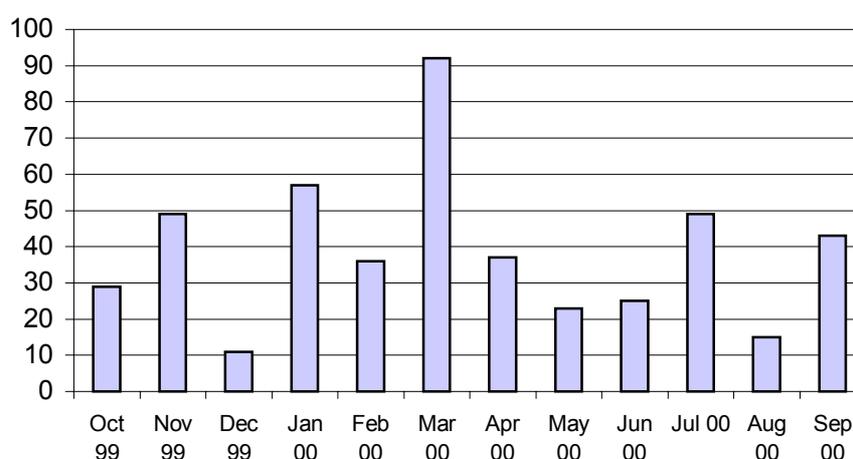
‘The IFS now provides the evidence for the rest of us to have a more civilised debate’

Graham Searjeant, *The Times*, 21 September 2000

An important part of our remit is to contribute to public debate through the dissemination of our research. We aim to provide clear and unbiased facts and figures to inform all parties in any discussion of public policy. During the recent controversy over fuel prices, for example, our staff were in demand by journalists on all sides of the argument to answer questions about the comparative tax burden for UK motorists and how spending levels would be affected by a cut in road fuel duty. Our series of on-line Briefing Notes has helped, over the past year, to supply journalists with timely basic information, so that they can often find the answers to preliminary questions before speaking to our researchers.

Media coverage of the Institute tends to peak at times of major policy announcements, in particular the Budget, but also the Pre-Budget Report and the Summer Spending Review. The graph below shows the number of instances of press coverage in both written and broadcast media. There is a build-up of coverage around all of these events, especially in March for the Budget. Coverage in January was high because of media attention devoted to our ‘Green Budget’. Further details of media appearances are listed in Section 7.

**Press coverage, October 1999 to September 2000**



As well as responding to direct enquiries from the public and the media, IFS organises a range of events at which policymakers, members of the business community and journalists are able to meet researchers from across the Centre’s activities. These include regular informal lunch gatherings, conferences to launch policy-related research reports, and Director’s Lunches for corporate supporters of IFS work. Each of these presents the Centre with an opportunity to introduce its work generally and to put civil servants, journalists and members of the business community in touch with researchers working in areas of particular interest to them. In addition, our biannual IFS newsletter continues to include an outline of current Centre news and work in progress. Integral to the success of these activities are individual IFS members, who receive all our publications and regular bulletins about ongoing research. This year, we have run a campaign to increase membership amongst academics and practitioners. The number of members and others receiving email notification of events and publications has increased to over 900 since the inception of this service in 1999.

Researchers from IFS are involved in encouraging an appreciation of the importance of economics for public policy issues amongst students. Over the last year, we have continued our lecture series on public policy at Oxford and Cambridge Universities, with seminars on such topics as income distribution, pension provision, taxation of alcohol and tobacco, and government policies to promote investment, innovation and productivity. Centre researchers regularly contribute to a 'Fiscal Policy' section of *Economic Review* magazine, widely read by sixth-formers. Our Virtual Economy website is also specifically aimed at sixth-form and undergraduate students, allowing them to simulate microeconomic and macroeconomic effects of changes to tax and benefit policy. A new, more interactive version is under construction.

## **INFORMING AND INFLUENCING ACADEMIC DEBATE**

The Centre attaches high priority to developing links with other academics working in similar areas – both in the UK and internationally. Through discussion of ideas, dissemination of Centre research output to an academic audience and joint research projects in areas of common interest, the Centre strives to remain at the heart of the academic debate. An important part of this is the Centre's own network of Research Associates at academic institutions in the UK and abroad. Research Associates play a vital role in fostering academic debate at the Centre. As well as working directly with researchers at the Centre, they contribute greatly to the flow of ideas by presenting work they have done and discussing research projects undertaken at IFS.

International academic links have been strengthened by the participation of IFS researchers in Europe-wide research networks. The European Commission currently funds the Training and Mobility of Researchers (TMR) programme into household and individual financial decision-making. Co-ordinated by CentER in Tilburg, the project brings together researchers from IFS, PROMETEIA (Italy), EXEC, HUB (Germany), DELTA-INRA (France) and the universities of Venice, Mannheim and Salerno. The main research topics include analysis of motives for saving, portfolio choice, diversification and taxes, and experimental work on time preference and attitudes towards risk.

The Centre organises academic conferences and encourages participation by Centre researchers in conferences held elsewhere. In the last year, we have run conferences on welfare-to-work programmes, household savings, pensions, and European corporate tax harmonisation. Centre staff presented invited papers at the Econometric Society World Congress in Seattle in August 2000, as well as at the NBER Summer Institute in Boston and the Brookings Panel on Economic Activity in Washington. Distinguished visitors to the Centre during the last year have included James Poterba (MIT), who presented the IFS Annual Lecture on annuity markets, Joshua Angrist (MIT), David Card (Berkeley), Michael Keen (IMF), Tor Jakob Klette (Oslo), Jean-Marc Robin (CREST), Robert Willis (Michigan) and 2000 Nobel Laureate Daniel McFadden (Berkeley).

Our published research has also been influential. As one illustration of this, Richard Blundell, Alan Duncan and Costas Meghir were this year awarded the prestigious Ragnar Frisch Medal by the Econometric Society. This honour is awarded every two years for the best empirical paper published in *Econometrica* over the past five years, and was awarded for their paper on 'Estimating labour supply responses using tax reforms'. As a second example, Centre researchers have been invited to contribute survey papers on both aggregation and factor demand to the forthcoming volume 5 of North Holland's influential *Handbook of Econometrics* series, edited by James Heckman (Chicago) and Ed Leamer (UCLA).

Centre researchers continue to organise the ESRC Econometric Study Group, which runs seminars at IFS and a three-day annual conference at the University of Bristol. Invited speakers at this year's conference included Martin Browning (Copenhagen), Bruce Hansen (Wisconsin), Paul Ruud (Berkeley) and Jeff Wooldridge (Michigan State). The Centre also runs a seminar series in health economics, which focuses on microeconomic and econometric modelling of health-related issues and which attracts a wide audience from universities, independent research institutes, government departments and industry.

The Public Economics Working Group, a joint Centre/University of Warwick initiative now in its sixth year, has aimed to stimulate greater research collaboration among UK academics by bringing together a group of leading researchers in public economics for regular workshops including seminar presentations and informal discussion of current research. These are attended by a core group of around 40 academics. In addition, increasing efforts have been made to involve younger researchers and to draw in researchers from institutes where there may be few others in the field. In February, a two-day conference was held at the University of Warwick which attracted a large number of overseas participants. Invited speakers included Raquel Fernandez (New York), Austin Goolsbee (Chicago) and Hans-Werner Sinn (Munich).

The Centre continues to employ a number of Research Fellows from academic and research institutes around the country who are directly involved in initiating and directing research at the Centre. Recent appointments are Andrew Chesher (UCL), Hamish Low (Cambridge) and Robert Walker (Nottingham). Research Fellow Orazio Attanasio co-organises a consumption workshop at the NBER Summer Institute. Such activities strengthen our already close ties with researchers at the NBER and further enhance our links with academics in North America.

## **THE IFS WEBSITE**

In line with an increasing reliance on the internet amongst our users, particularly in academia, we are continuing to increase our output via the website. The internet has also become the predominant form of dissemination for our academic work, especially IFS Working Papers, to the extent that we plan to stop producing printed copies of these altogether in 2001. Visitors to the site can browse Working Papers by subject or chronologically, and we are starting to add relevant links where papers have subsequently been published. Staff and Research Fellows and Associates are represented on the site with their own pages, which provide an opportunity for them to make available their own papers relating to work in progress as well as published articles.

*Fiscal Studies* has been hosted on-line for almost a year now by the academic journals site, Ingenta. Free access is restricted to subscribing individuals and institutions, although other visitors to the site can buy electronic copies of articles on a pay-per-view basis. The number of articles sold in this way each month is currently small, in common with other journals available on the site, but it is steadily increasing. *Virtual Economy*, our interactive model of the economy, which is an educational site aimed primarily at schools and universities, has now been run over 133,000 times since its launch in March 1999.

On the policy side, our on-line series of Briefing Notes has increased to 14 since its inception in October 1999. These notes are usually about current issues and have needed to be made public at short notice. A recent example was the debate on road fuel taxation, when we were

able to produce three Briefing Notes – on petrol taxes, vehicle excise duty and congestion charging in London – and publish them on-line while the debate was still in progress. Journalists and policymakers, as well as special-interest groups, seem to be the main users. A new section on the site, ‘Fiscal Facts’, gives details of all the main UK taxes and benefits since the 1940s. The user can download spreadsheets containing all the figures used to build these tables and two papers, *A Guide to the UK Tax System* and *A Guide to the UK Benefit System*, detailing government receipts and expenditure over the years as well as information about individual taxes and benefits and numbers paying or claiming them.

Following major policy announcements, such as the Budget, Pre-Budget Report and Summer Spending Review, IFS holds a briefing for journalists and other invited guests. Because of constraints on space and often a short notice period, we are unable to invite as many people as would like to come on these occasions, but we are now able to publish the presentations on-line with comments shortly after they have finished.

The Centre already has a dedicated section within IFS’s website, which we are in the process of expanding. Using the content of this report, we shall be able to provide a set of pages for the Centre covering an all-inclusive list of Centre-specific outputs and research programmes.

Over the next year, we plan to review the technical structure of the site, probably switching to a database-driven model. At the moment, the site is made up of a large number of ‘static’ pages, all of which need to be individually maintained, whereas pages on a database-driven site are generated each time a user calls them up, by executing a query on the database stored on the web server – these are known as ‘active server pages’. Such a system would let us manipulate a much larger body of information with greater flexibility as to how it is displayed, giving a similar freedom to users. At present, structured searches are not possible, but a database-driven site would allow people to search using, for example, a combination of author name, paper title, funding body and type of publication. We are also considering selling electronic publications directly over the internet in future.

### **3. Research Infrastructure: Data, Simulation Models and Training**

#### **DATA**

An important use of the Centre's core funding is to maintain and develop a wide range of microeconomic datasets, building on the wealth of experience in this area at IFS. The work in setting up datasets greatly facilitates ongoing research at the Centre itself, as well as acting as a resource for other users. We review below some of our most important datasets and developments over the last year.

#### ***Family Expenditure Survey (FES)***

The Family Expenditure Survey remains the primary source of UK household data on expenditures whilst also containing information on incomes. Though its sample size can no longer compete with that of some newer surveys, the FES provides a consistent annual cross-section of UK households from 1961 to 1999–2000. This makes it an unrivalled source of information on demographic, social and economic changes that have occurred over the last 40 years. At IFS, we devote considerable resources to making the FES data consistent and accessible across different years of data. FES data are used regularly in the analysis of the effects of changes in tax policy; most recently, the data were used to produce detailed distributional analysis of the effects of fuel duty increases in the 1990s. The expenditure data available in the FES have also been used in a number of other research projects, including comparisons of expenditure and inequality using stochastic dominance criteria. In addition, IFS's tax and benefit microsimulation model, TAXBEN, now runs on FES data from the present day as far back as 1978.

*Contact: Zoë Smith*

#### ***Family Resources Survey (FRS)***

Data from 1994–95 to 1998–99 from the Family Resources Survey, a large-scale household survey conducted by the Department of Social Security, are now available at IFS. The income data collected by the FRS are more detailed than those in the FES, and information is collected on a much larger number of households – around 25,000 compared with about 7,000 households in a typical year of FES data. FRS data have been used at the Centre for work on the income distribution. With additional complementary funding by government departments, the FRS has been used to verify and refine the government's income distribution statistics. In addition, data from the FRS have been pivotal in providing evidence on recent trends in income inequality and in analysing the labour market impact of the new working families' tax credit. The entire FRS data can be used as raw material for microsimulation using IFS's TAXBEN model.

*Contact: Tom Clark*

#### ***Labour Force Survey (LFS)***

Since 1992, the Labour Force Survey has operated as a rolling panel where individuals are interviewed for five consecutive quarters, collecting a wide range of information on wages, employment and other aspects of the labour market for individuals both in and out of work. IFS now has LFS data from Spring 1992 to Spring 1999 set up, as well as the annual LFS from 1991 back to 1975. We are setting up this large dataset in an innovative database format in which it is hoped to play a major role in our research on wages, job search, training and other labour market issues in the 21<sup>st</sup> century. For example, a major new project on labour market dynamics and the benefit system, co-funded by HM Treasury and the ESRC Centre, will be relying heavily on the panel element of the LFS data.

Contact: Michal Myck

***British Household Panel Survey (BHPS)***

The British Household Panel Survey continues to form the main source of annual panel data in the UK. Data from the first eight waves, covering 1991 to 1998, are currently available to researchers at the Centre. The main interest in the BHPS to date has revolved around the information on labour market histories. This has been used for a lot of recent Centre work on labour market dynamics, and with this in mind we are currently working on adapting the TAXBEN microsimulation model to run on BHPS data.

Contact: Gillian Paull

***National Child Development Survey (NCDS) and 1970 British Cohort Study (BCS70)***

The National Child Development Survey continues to provide an invaluable source of information on a panel of all individuals born in the UK during one week in 1958. IFS researchers have made use of the survey in a wide range of research topics, including inter-generational mobility, education and training, and the links between income and health. A very similar study of individuals born 12 years later – the 1970 British Cohort Study – has also been set up. Both of these cohorts were re-interviewed in 1999, and in the next year Centre researchers will be setting up the recently received new data from both surveys. This will enable us to extend the empirical work we have carried out in fields such as the returns to education and the degree of mobility in the income distribution across generations.

Contact: Alissa Goodman

***Youth Cohort Study (YCS)***

The Youth Cohort Study is a series of longitudinal surveys of young people just over school-leaving age in England and Wales. Starting in 1985, seven cohorts of individuals have been surveyed, each containing between 8,000 and 25,000 people. The survey takes place in the spring after individuals leave compulsory education and in the two years that follow. Due to its unique structure, the YCS data allow us to monitor closely the choices made by young people aged 16–19 about their education, training and employment year by year, while also providing detailed information about their qualifications, background and past experiences. Current work using the YCS will enable us to gain a better understanding of what determines how these choices are made and, in particular, to look at the potential impact of government policies on participation in both further and higher education.

Contact: Christine Frayne

***Consumer Expenditure Survey (CEX)***

The Consumer Expenditure Survey is a dataset from the US which is similar in many ways to the UK FES. The main difference is that, in the CEX, households are interviewed over the course of four quarters, thus introducing a panel aspect to the data. This is extremely useful when looking at economic behaviour concerning, for example, the purchase of durable goods, for which timing is a central concern.

Contact: Orazio Attanasio

***Financial Research Survey (NOP-FRS)***

The Financial Research Survey is an ongoing survey carried out by NOP Research Group which collects information on individuals' wealth. Nearly 5,000 individuals are interviewed each month and asked detailed questions about which financial assets they have and how

much wealth (in bands) they have in each asset. The survey also collects demographic information and some data on incomes as well as summary information on other financial products, such as pensions, mortgages and insurance. Recent research at IFS has used NOP-FRS data from January 1997 to June 1998 to carry out a detailed analysis of wealth holding in the UK. Analysis of the 1999 data is clearly a priority for further research in the light of the replacement of TESSAs and PEPs with ISAs, since they are the first available detailed information on this episode.

*Contact: James Banks*

### ***Retirement Survey (RS)***

The Retirement Survey is the first large-scale panel dataset in the UK to focus on individuals around the time of retirement. Two waves of data were collected on a sample of individuals born between 1919 and 1933. The first wave of the survey was conducted between November 1988 and January 1989 and comprised 3,543 ‘key respondents’ (aged 55–69). About two-thirds of the original sample were re-interviewed in 1994. In this interval, 11 per cent of respondents died; the residual attrition is a combination of non-response and (perhaps) unreported mortality. The survey contains a rich set of demographic, economic and health variables on individuals and their spouses in both waves as well as employment history information and private pension history information.

*Contact: Carl Emmerson*

### ***Local government datasets***

We have an extensive panel dataset that combines information on local authority tax and spending decisions with a wide range of locally varying and time-varying information. This includes information on local political and electoral developments, demographic and socio-economic indicators and some indicators of the quality of local service provision. This dataset has already been used to examine local spending decisions under different regimes of direct central control over council spending levels. These data will be used further in future work looking at other political economy issues.

*Contact: Carl Emmerson*

### ***Other household data***

We have also carried out work using a range of additional datasets, such as the New Deal Evaluation Database (NDED) and the Programme of Research into Low-Income Families (PRILIF) dataset. We continue to make extensive use of other datasets already available at IFS, such as the General Household Survey (GHS), the British Social Attitudes Survey (BSAS) and the Family and Working Lives Survey (FWLS). The Centre plans to continue to develop and enhance these existing datasets, and to investigate the use of new and additional data sources where this will assist the development of new avenues of empirical research.

*Contacts: Lorraine Dearden and Gillian Paull*

### ***Annual Census of Production (ACOP) Respondents Database (ARD)***

Since 1998, the data underlying the Annual Census of Production have been available to academic economists in the UK. These data provide information on production activity in the UK at the plant level. The Centre has been one of the first users of these data. We have worked with the ONS, HM Treasury, the DTI and other academics developing these data as a public resource and validating their reliability. In the last year, we have been particularly concerned with estimating values of each establishment’s capital stock and assessing the sensitivity of empirical results to alternative capital stock estimates.

*Contacts: Rachel Griffith and Helen Simpson*

### ***Other corporate data***

We maintain access to company accounts data from Datastream International covering both UK and overseas companies. We also have industry-level data for developed countries from a range of OECD sources, and data on corporate tax systems that have been collated at the Centre for many European and OECD countries. Specialised data relating to share ownership structures, patenting behaviour and analysts' earnings forecasts have been developed for specific projects.

*Contacts: Nick Bloom, Steve Bond and Rachel Griffith*

## **SOFTWARE AND POLICY SIMULATION MODELS**

Microsimulation models play an important role in much of our research on consumer behaviour, labour supply behaviour and company investment behaviour. These have been developed with the aid of ESRC core funding over a number of years. The work of maintaining and upgrading models using the very latest data is time-consuming but essential to the more technical work that the Centre undertakes. We have also developed specialist programs to implement microeconomic procedures and these are widely used both at the Centre and elsewhere.

### ***TAXBEN2 (Tax and Benefit Model)***

TAXBEN is a microsimulation model of the UK personal tax and social security systems. It can currently operate on data from the Family Expenditure Survey (1978–99 data) and the Family Resources Survey (1994/95–98/99 data). The model has been converted to Pascal and updated to include a Windows-based graphical user interface. In the last year, the model has been extended backward to cover the years 1978–83. This allows the analysis of changes in labour supply and wage structures over a 20-year period. As well as its constant use for the assessment of the distributional consequences of government tax and benefit plans, the model continues to be integral to a number of major Centre research projects. Most importantly, the model has been used in work on the labour market impact of tax and benefit reforms, including the working families' tax credit and the proposed integrated child credit. For this purpose, the model has been extended to allow simulated childcare expenditures, based on information in the Family Resources Survey.

*Contact: Howard Reed*

### ***SPAIN-III (Simulation Program for the Analysis of Incentives)***

SPAIN is a menu-driven computer package, written in Gauss and designed to simulate labour supply responses to changes to the tax and benefit system. The package uses the tax and benefit model to simulate reforms to the tax system and summarises the behavioural impact of the reform both in aggregate and with reference to specific households. SPAIN can now use discrete models of household labour supply to simulate the joint responses of all household members. Quadrature methods are now used to integrate out wage rates for non-working households. Stochastic simulation methods are used to generate empirical confidence bands for simulated labour market responses. The latest version of SPAIN has been applied to model how the introduction of the new working families' tax credit might affect work incentives.

*Contact: Alan Duncan*

### ***SPIT (Simulation Program for Indirect Taxation)***

SPIT is a microcomputer-based simulation program, written in Fortran, to analyse the welfare and revenue consequences of changes to indirect taxes. The simulations are based on estimation of demand systems using 17 years of Family Expenditure Survey data.

*Contact: James Banks*

### ***Corporation Tax Model***

This is a microsimulation model of the UK corporate tax system, based on company accounts data. The model estimates tax liabilities for individual firms and allows the simulation of alternative company tax regimes.

*Contact: Steve Bond*

### ***DPD (Dynamic Panel Data)***

Written in Gauss, DPD is a user-friendly program for the estimation of dynamic models using panel data. It is used widely by academic researchers and covers a range of standard estimators for panel data as well as new Generalised Method of Moments estimators developed at the Centre. It can input panel data of widely varying structures and is particularly designed for use with unbalanced company panel data in which both the number of firms in any given year and the number of years for any given firm are allowed to differ. The current version can be obtained from our website.

*Contact: Steve Bond*

### ***NP-REG (Non-Parametric Regression)***

Written in Gauss, NP-REG is a menu-driven computer package incorporating a range of non-parametric techniques, from basic Kernel density methods to more complex multivariate regression techniques. The package exploits procedures available within Gauss to produce a graphical display of non-parametric regression results. NP-REG now includes procedures for the estimation of partially linear and shape-invariant semi-parametric regression models.

*Contact: Alan Duncan*

## **RESEARCH TRAINING**

The Centre provides a unique training for young economists, combining a breadth of experience matched in few other environments. Researchers are expected to work on a range of topics, bringing academic rigour to public policy debate and policy relevance to scientific research. The Centre instils appreciation of the latest microeconomic and microeconomic techniques, coupled with an understanding of institutional reality and current policy debates. Researchers have regular contact with the range of the Centre's users: academics at the frontier of our research programme; policymakers, including civil servants and politicians; the business community, including industry and tax practitioners; and the media.

Presentation of research findings is emphasised and a wide range of presentational skills are developed. Researchers are encouraged to write up their findings for a wide range of different audiences, including publication in top academic journals, more accessible policy papers for IFS's own journal, *Fiscal Studies*, 'in-house' publications such as the IFS Commentary series and on-line Briefing Notes, and articles for the national media. Oral skills, too, are developed across a broad range: academic seminars, conference speaking and summarising research results in 'sound bites' for the broadcast media. Researchers are responsible for all

dissemination of their research, including writing their own press releases and material for our website. As well as ‘on-the-job’ training, staff are encouraged to attend ESRC Media Training and Presentation to Policymakers courses.

Computing is very important to Centre research. Staff are encouraged to develop a whole range of computer skills necessary for the analysis of micro-datasets and for the preparation and presentation of written and graphical results. New researchers are trained in the effective use of microcomputer networks, programming languages and statistical packages (such as Gauss and STATA), and word-processing, spreadsheet and graphics packages.

The management and supervisory structure is based around three research programmes – the Consumption Sector, the Corporate Sector and the Personal Sector. Each full-time researcher is allocated to a programme, managed by one of the Programme Directors. Members of the Centre management team, Research Fellows and Senior Research Economists often supervise researchers on individual projects.

The Centre offers an effective training to individuals ranging from undergraduate students to those with postgraduate degrees, giving them a broad experience of rigorous applied microeconomics and an appreciation of policy issues. Research training is organised at four levels.

- Full-time Research Economists are recruited after completing their degree, often with some other work experience. Research Economists generally work in teams and under supervision on two or three projects a year. By doing so, they learn the skills and techniques associated with conducting and disseminating economic research.
- Research Economists without a postgraduate qualification are encouraged to study part-time for an MSc, whilst those arriving already with a postgraduate qualification have the opportunity to study part-time for a PhD. Researchers are currently registered for the MSc in Economics at Birkbeck College and for PhDs at University College London.
- Summer internships are offered to undergraduate or graduate students, who typically carry out short projects, usually for six weeks. This year, three summer students worked on our guides to the UK tax and benefit systems and on childcare credits. In addition, a PhD student from the University of Chicago joined us to work on the evaluation of the working families’ tax credit, with particular focus on the role of the childcare component.
- Each year, IFS offers a research scholarship in applied microeconomics. Scholars are based at IFS, giving them access to supervision and to the Centre’s research facilities, and enrolled at University College London on the PhD programme. This year, one new Research Scholar – Emla Fitzsimons – began working on child labour supply. This coming year, we have appointed two new PhD scholars – Renata Bottazi working on housing and Elena Martinez working on econometric theory. We also have a TMR scholar – Susann Rohwedder – who is working on part of the European-funded project on pensions and savings. Monica Paiella is about to submit her PhD and has joined the Bank of Italy as a researcher.

## **4. Major Research Findings**

In this section, we present a detailed analysis of the findings of the research conducted across the whole range of the Centre's activities during the past year. As well as a summary of developments, we detail a few selected publications in each area and give contact names of Centre researchers working in each field.

### **HOUSEHOLD SAVING AND PENSIONS**

Centre research has continued to look at many aspects of the pensions debate. Work has looked at the tax treatment of private pension saving and found that, despite the abolition of dividend tax credits to pension funds in the July 1997 Budget, private pension saving remains relatively tax-favoured compared with savings held in an Individual Savings Account. Moreover, employer contributions to private pensions are particularly tax-favoured since there is no employer or employee National Insurance either when the contribution is made or when the income is withdrawn. There is no obvious economic rationale for the tax system to favour one type of pension contribution over another. Centre researchers also contributed to the further government consultation process on stakeholder pensions, which included looking at the way in which contributions should be treated by the tax system. Related further research looked at the economic arguments for different types of public and private provision of pension income and contrasted this to the experiences seen in practice, in particular in the UK. While there are concerns that some individuals may not be saving enough for their retirement, this may in part reflect the complexities of the current pension system. This complexity has also led to almost continuous reform (which often has the effect of adding yet more complexity). The argument either for a period of stability or, if there is to be further pension reform, for that reform to ensure that the current system is simplified is strong.

Using previously unused data from the Family Resources Survey, Centre research showed that those individuals in the UK who have purchased an annuity tend to have much higher levels of savings, are more educated and are more likely to own their own homes than those who have not purchased an annuity. This provides an indication of the amount of selection into the annuities market, with these individuals being considered as 'bad risks', i.e. having longer life expectancies than those suggested by the UK population tables. We have also shown that those who purchased an annuity voluntarily have, on average, even more years of education and even higher levels of savings than compulsory annuitants. Figures suggest that future generations of annuitants will continue to be, on average, wealthier than those without an annuity. That is, although there is some evidence of selection in the current market for annuities, this may not be completely eliminated by the introduction of mandatory annuitisation requirements. We expect that future annuitants will continue to be wealthier than average because of selection into the personal pension market.

Motivated by the fact that the US has legislated to abolish its social security earnings test, Centre research has looked at the impact of a similar reform made in the UK in October 1989. Using data from the Family Expenditure Survey, the research shows that the abolition of the earnings rule in the UK increased the number of hours worked by men. The lack of any evidence of a reduction in hours may be a consequence of those who previously earned more than the earnings threshold deferring pension receipt at an actuarially favourable rate. This is consistent with there being little evidence of a significant change in the number of deferrals after the earnings rule was abolished.

- Banks, J., R. Disney and Z. Smith, 'What can we learn from Generational Accounts for the UK?', *Economic Journal Features*, forthcoming.
- Banks, J. and C. Emmerson (2000), 'Public and private pension spending: principles, practice and the need for reform', *Fiscal Studies*, 21 (1), 1–63.
- Banks, J. and S. Tanner, 'Household portfolios in the UK', in L. Guiso, M. Halliasos and T. Jappelli (eds), *Household Portfolios*, Cambridge, Mass.: MIT Press, forthcoming.
- Emmerson, C. (1999), 'UK annuitants', presented at conference on 'UK Annuities and Retirement: Challenges and Policy Options', Imperial College, London, organised by the Centre for Pensions and Social Insurance at Birkbeck College, 7 December 1999.
- Emmerson, C. and S. Tanner (1999), *The Government's Proposals for Stakeholder Pensions*, IFS Briefing Note no. 1 (<http://www.ifs.org.uk/pensions/stakeholder.pdf>).

*Contacts: James Banks and Carl Emmerson*

## **CONSUMPTION GROWTH AND PRECAUTIONARY SAVING**

Research this year has considered the evolution of the variance in consumption and income and used the different dynamics of these two variables for different groups of individuals to identify changes in the variance of permanent and transitory shocks. Since individuals can react to wage shocks by changing their labour supply behaviour, we develop a methodology that allows us to consider how wage shocks of different natures are translated into shocks to income and finally consumption. First, we consider the case in which there is a single earner and in which hours choices are continuous. We then consider the situations in which there are two earners and in which there is both an intensive and an extensive margin that are relevant for labour supply choices. Preliminary results for the UK and the US indicate that a considerable amount of smoothing of wage shocks occurs through labour supply behaviour. Female participation, which has changed considerably over the last few decades, plays an important role. As a consequence of labour supply choices, the effect that wage shocks have on consumption is much reduced.

We have continued to work on empirical models of consumption growth, precautionary saving and income risk. One approach has been to model the income process explicitly and construct risk terms for various cohorts that enter the Euler equation explicitly. Using Family Expenditure Survey data, such an analysis indicates that there is an important role for uninsured cohort-level risks in determining consumption growth. This is being further investigated by the development of a new test of consumption insurance – examining whether the cross-sectional variance of the marginal utility of consumption is kept constant through time. The test is important for two reasons. First, by considering the within-group variance, one can use time series of cross-sections to perform the test of insurance within a group. Second, by considering different groups and characterising deviations from the null in these groups, one can infer something about the nature of the shocks. We apply this test to household data from the US and the UK. We first construct groups on the basis of the year of birth. We then move on to consider groups that are defined both by the year of birth and the educational attainment of the household head. What we find is that, in the former case, the variance of consumption increases much more in line with the variance of wages and income, indicating that shocks to these variables are translated to a considerable extent into shocks to consumption. On the other hand, we find that when we consider education groups, the variance of consumption increases by much less, indicating a greater degree of insurance of within-education-group shocks. This evidence is consistent with the hypothesis that shocks across education groups are related to permanent factors (technical changes) while, within education groups, shocks are of a more temporary nature and therefore more easily smoothed out, either by self-insurance or by market insurance.

We have also investigated the performance of standard methods used to estimate the structural parameters of an Euler equation. It has been normal practice to log-linearise such equations to obtain a relationship that is linear in the parameters and amenable to estimation by using synthetic cohort techniques. Such a practice has recently been criticised as giving rise to biased and misleading estimates. The main reason for the criticism is the fact that the log-linear approximation typically ignores the variation in the conditional second moments of consumption growth and interest rates. We have therefore performed a Monte Carlo experiment, which consisted in solving a reasonably realistic life-cycle problem numerically, simulating the model for a large number of individuals and using the resulting data to estimate a log-linearised Euler equation. The results we obtain indicate that the estimates of the elasticity of intertemporal substitution one gets from the log-linearised Euler equation are, on average, reasonably close to the true value of the parameter. Therefore we are unable to identify any systematic bias in the procedure.

Attanasio, O., G. Berloffà, R. Blundell and I. Preston (2000), 'From wage shocks to income and consumption shocks', presented at NBER Summer Workshop, Boston, July 2000.

Attanasio, O. and H. Low (2000), 'Estimating Euler equations', NBER Technical Working Paper no. T0253.

Banks, J., R. Blundell, and A. Brugiavini, 'Risk pooling, precautionary saving and consumption growth', *Review of Economic Studies*, forthcoming.

*Contacts: Orazio Attanasio and James Banks*

## DEMAND

This year we have worked on developing non-parametric methods of analysing indirect tax reform. The analysis of indirect tax reform often takes one of two, somewhat extreme, forms. One approach assumes that there are no consequent changes to the pattern of households' demands, despite the changes in relative prices brought about by changes in indirect taxes. Another models behavioural responses in detail on the basis of assumptions about the way in which household welfare is influenced by tax changes. The first approach is computationally straightforward, but almost certainly inaccurate. The second approach is computationally intensive but may give results that are closer to the truth, although we have no way of knowing for sure. This year, following on from our work using non-parametric consumer theory and non-parametric statistical methods to analyse the welfare effects of price changes, we have sought to develop similar methods of predicting the likely behavioural responses to tax changes. The aim is to be able to provide bounds that will tell us how a household's patterns of demands will be altered when prices change, without making specific assumptions about the household's preferences for different goods and services. It seems that such bounds can be derived in a wide range of circumstances, and that by scaling household incomes appropriately, these bounds can be made to be quite tight. However, the method does badly when extrapolating outside the range of the observed data, and this has highlighted the fact that predicting behaviour for price levels that have not been observed in the data is heavily reliant on untestable functional form assumptions.

Blundell, R., M. Browning and I. Crawford (2000a), 'Nonparametric Engel curves and revealed preference', IFS, mimeo.

Blundell, R., M. Browning and I. Crawford (2000b), 'Nonparametric methods for indirect tax reform', IFS, mimeo.

*Contacts: Laura Blow, Richard Blundell and Ian Crawford*

## INDIRECT TAX POLICY

Our applied work on indirect tax policy has focused on the role of taxes in influencing the demand for certain goods: tobacco and road fuels. The UK currently taxes petrol at a rate that is higher than that in any other European country. Increases in the price of petrol over the course of this year, which have largely been due to increases in oil prices, seem to have focused attention on the price of petrol and, in particular, the contribution of indirect taxes to the retail price. Our work in this area has been mainly concentrated on spelling out the economic arguments for and against the current system of motoring taxation and providing estimates of the likely behavioural responses to changes in road fuel duties. One important aspect of the debate has been the growing realisation that having a largely undifferentiated specific tax on road fuels as the main tool of environmental policy in this area is a too simplistic approach to the complicated problems of car-related pollution and congestion. One recent attempt to provide a more closely targeted policy response to the environmental and social problems created by car use has been the proposed congestion charging scheme currently being considered for London by the Greater London Assembly. IFS research has helped to inform the debate by analysing the distributional effects of the proposed charging scheme.

Crawford, I. (2000), *The Distributional Effects of the Proposed London Congestion Charging Scheme*, IFS Briefing Note no. 11 (<http://www.ifs.org.uk/consume/gla.pdf>).

Smith, Z. (2000a), *The Petrol Tax Debate*, IFS Briefing Note no. 8 (<http://www.ifs.org.uk/consume/petrol.pdf>).

Smith, Z. (2000b), *Vehicle Excise Duty Discounts in Rural Areas*, IFS Briefing Note no. 10 (<http://www.ifs.org.uk/consume/ved.pdf>).

*Contacts: Laura Blow, Ian Crawford and Zoë Smith*

## CORPORATE TAX

Much of the Centre's research on corporate taxation in recent years has been concerned with developing measures of how corporate tax systems affect costs of capital and effective average tax rates for firms in an international context. This work has allowed a Centre team, led by Research Fellow Michael Devereux, to undertake a major empirical project over the last year for the European Commission, together with researchers from ZEW, Mannheim. This project is constructing empirical measures of the impact of corporate income taxes in all 15 EU countries, as an input into discussions on the future of corporate taxation within the European Union.

This research has also been the foundation for two reports on corporate taxation published in the last year. One, commissioned by the Bertelsmann Foundation, compares the corporate income tax structure in Germany with those in six other European countries and analyses the likely effects on investment of the recent German corporate tax reform. The second report, partly funded by the International Fiscal Association, reviews the costs and benefits of greater corporate tax harmonisation within the EU and considers what forms such harmonisation could take.

Empirical research at the Centre has looked at the impact of R&D tax credits on the amount and location of R&D. The findings suggest that the impact of changes in the user cost of R&D investment is much bigger in the long run than in the short run. Preliminary work suggests that R&D tax credits not only increase the level of R&D investment but also have a substantial relocation effect. This suggests that countries may be using the tax system to compete for footloose R&D.

We have advised HM Treasury, the DTI and the Inland Revenue on methods and data collection needed to evaluate the new R&D tax credit for small and medium-sized enterprises (SMEs) which was introduced in the 2000 Budget.

Bloom, N., R. Griffith and J. Van Reenen, 'Do R&D tax credits work? Evidence from an international panel of countries 1979–97', *Journal of Public Economics*, forthcoming.

Bond, S. and L. Chennells (2000), *Unternehmensbesteuerung und Investitionen – Deutschland im internationalen Vergleich*, Gutersloh: Verlag Bertelsmann Stiftung (available in English as *Corporate Income Taxes and Investment: A Comparative Study*, from <http://www.stiftung.bertelsmann.de/english/publika/download/index.htm>).

Bond, S., L. Chennells, M. Devereux, M. Gammie and E. Troup (2000), *Corporate Tax Harmonisation in Europe: A Guide to the Debate*, London: IFS.

*Contacts: Steve Bond and Rachel Griffith*

## **THE LOCATION DECISION OF THE FIRM**

Work at the Centre has analysed the determinants of where new plants in the UK set up business. We consider two separate models: a discrete choice framework, in which existing firms choose the location of a new plant, and a count model, which identifies the number of new enterprises starting up in each location. In each model, we identify the impact of a number of factors on new plant start-ups, including agglomeration effects – both among firms within the same industry and among firms in different industries – and grants offered in specific locations. The models are estimated using data on the population of all new manufacturing plants in the UK.

This work has been of particular policy interest and has been discussed within HM Treasury and the DTI in considering the role of government in encouraging agglomeration economies. Work in the new economic geography literature suggests that there are positive externalities associated with clusters of 'similar' firms, where similar could be defined in terms of the inputs used or the outputs produced. Regional grants, infrastructure projects and other policies affect firms' decisions over where to locate production. We have continued work describing where production activity takes place and investigating the evidence for agglomeration economies.

One area of particular interest is the role that regional selective assistance (RSA) has played in influencing firms' location decisions and in encouraging agglomerations. Last year, we gained access to detailed information on individual grants offered under RSA. Under a project funded by the Leverhulme Trust, we have matched these grant data to the detailed establishment-level ARD data and investigated the impact of grants on firms' location decisions. These data have been used to provide an analysis of the impact of selective assistance on the Northern Ireland economy for the Northern Ireland Economic Council.

Devereux, M., R. Griffith and H. Simpson (2000), 'The geography of firm formation', IFS, mimeo.

*Contacts: Rachel Griffith and Helen Simpson*

## COMPANY INVESTMENT AND FINANCIAL BEHAVIOUR

Research on company investment has considered the relationship between share prices, earnings forecasts and investment. Using data on listed US companies that are tracked by securities analysts and for which data on consensus earnings forecasts have been made available by I/B/E/S, Bond and Cummins (2000a) demonstrate that there is a close relationship between investment spending and the present discounted value of analysts' profit forecasts, consistent with the Q model of investment. The relationship between investment and the firm's stock market valuation is much weaker, suggesting that share prices do not simply capitalise expected future earnings. Bond and Cummins (2000b) show that this basic result is not driven by the role of intangible assets, nor is it confined to firms in sectors associated with the 'New Economy'. They conclude that persistent differences between stock market valuations and the present discounted value of expected future earnings have been an important feature of the US equity market in the last two decades.

Another major project on company investment is investigating the relationship between uncertainty and investment. The idea that macroeconomic stability promotes investment is at the heart of government policy to raise UK investment levels, but there is remarkably little empirical evidence on the nature and size of this effect. Bloom, Bond and Van Reenen (2000) characterise the effects of higher uncertainty on investment in a model where investment expenditures are assumed to be partly sunk (i.e. irreversible) and the 'real option' to delay investment spending is valuable, given uncertainty over future demand. We show that higher uncertainty tends to delay the response of investment to new information about demand, but the longer-run effect on the level of the capital stock is more ambiguous. Explicit consideration of aggregation over multiple investment decisions up to the level of total company investment suggests that these theoretical effects have testable implications for company investment dynamics. Our empirical research using data on listed UK companies finds strong evidence that higher uncertainty has the predicted effect on the speed of adjustment, but only weak evidence for any long-run effect on the capital stock.

This work is extended by Bloom (2000), who examines the real options effects of uncertainty on investment and employment in a broad class of models. By explicitly distinguishing between the short- and long-run effects, he is able to prove that there is no long-run effect of uncertainty on investment rates. This is in contradiction to the implications of a number of prior articles, which appear to suggest a negative effect of real options on investment rates. Our work shows that these results in fact derive from the strong short-run effects of uncertainty, which, given certain initial conditions, can reduce short-run investment and employment. Simulation exercises using US firm-level data confirm these theoretical predictions, noting that changing levels of macroeconomic stability can significantly alter the way firms react to their demand conditions and the business cycle.

Other research on investment and financial behaviour has investigated the effects of changing share ownership structures on dividends and investment. Agency cost models of the firm predict that weak direct monitoring of managers by shareholders may be associated with higher dividend payout ratios, to reduce managerial discretion over 'free cash flow' and to increase the likelihood that investment decisions are subjected to scrutiny in the external capital market. To the extent that these mechanisms are imperfect substitutes for direct monitoring, we may still expect investment decisions by managers subject to weak monitoring to display excess sensitivity to cash flow. Work funded by the Leverhulme Trust has developed a dataset with detailed information on share ownership structures for a sample of around 300 listed UK manufacturing firms, which has been used to investigate these relationships. We find that both an increase in the fraction of equity owned by financial institutions and a reduction in ownership concentration tend to increase the dividend payout

ratio, consistent with the idea that these developments lead to weaker direct monitoring of company managers. These same changes in ownership structures also lead to an increase in the sensitivity of investment to fluctuations in cash flow. Investment–cash-flow sensitivity is found to be particularly low in firms where an individual shareholder owns a significant block.

Bloom, N. (2000), ‘The dynamic effects of real options and irreversibility on investment and labor demand’, IFS, Working Paper no. W00/15.

Bloom, N., S. Bond and J. Van Reenen (2000), ‘The dynamics of investment under uncertainty’, IFS, mimeo.

Bond, S. and J. Cummins (2000a), ‘Noisy share prices and the Q model of investment’, IFS, mimeo.

Bond, S. and J. Cummins (2000b), ‘The stock market and investment in the New Economy: some tangible facts and intangible fictions’, *Brookings Papers on Economic Activity*, (1), 61–124.

*Contacts: Nick Bloom and Steve Bond*

## **INNOVATION AND PRODUCTIVITY**

A major policy objective of the UK government is to increase the growth rate of productivity. In order to achieve this, we need to understand what the determinants of productivity growth are. Work at the Centre has focused on the importance of inward investment in the UK on raising productivity levels. In a project funded by the Gatsby Foundation, we are working with researchers at the Institute for Manufacturing at Cambridge University. Combining econometric and case-study work, we are investigating the determinants of productivity growth in a small number of industries.

In a project funded by the Leverhulme Trust, researchers at the Centre have been trying to quantify the social rates of return to R&D. Many writers have claimed that R&D has two ‘faces’. In addition to the conventional role of stimulating innovation, R&D enhances technology transfer by improving the ability of firms to learn about advances in the leading edge (‘absorptive capacity’). We document that there has been convergence of total factor productivity (TFP) within a panel of industries across 13 OECD countries since 1970. Furthermore, we find evidence that both R&D and human capital appear statistically and economically important in this catch-up process as well as stimulating innovation directly. Researchers at the Centre are using this work to inform policy advice and consider what it implies for government’s approach to subsidising R&D.

Further research on innovation, which has also been funded by the Leverhulme Trust, has focused on using patent data and patent citations as indicators of technical change. This project has built up a new IFS–Leverhulme patents database, which carefully matches data on over 200 UK firms to the detailed patenting records of their international subsidiaries. Using these patents to generate proxies for knowledge stocks, Bloom and Van Reenen (2000) demonstrate that innovation plays an important role in company productivity and market values. A doubling of the patent stock is found to increase total factor productivity by 5 per cent and market values by 10 per cent. More preliminary work has also investigated the nature of knowledge spillovers between firms, industries and countries using the information from patents records on the location of inventors and patent citations. Initial results suggest these locational spillovers play an important productivity role at the firm level.

Bloom, N. and J. Van Reenen (2000), ‘Patents, productivity and market value: evidence from a panel of UK firms’, IFS, Working Paper no. W00/21.

Griffith, R. (2000), *How Important Is Business R&D for Economic Growth and Should the Government Subsidise It?*, IFS Briefing Note no. 12 (<http://www.ifs.org.uk/innovation/randdcredit.pdf>) and forthcoming as HM Treasury Working Paper.

- Griffith, R., S. Redding and J. Van Reenen (2000), 'Mapping the two faces of R&D: productivity growth in a panel of OECD manufacturing industries', CEPR, Discussion Paper no. 2457.
- Griffith, R. and H. Simpson, 'Foreign-owned firms and productivity growth in British manufacturing', in R. Blundell, D. Card and R. Freeman (eds), *Creating a Premier League Economy*, Chicago: NBER, forthcoming.

*Contacts: Nick Bloom and Rachel Griffith*

## **ECONOMETRIC METHODS FOR PANEL DATA**

Centre research, additionally funded by ESRC grant no. R000223068, has considered finite sample inference for linear generalised method of moments (GMM) estimators in dynamic panel data models. This has led to the development of a finite sample correction for the variance of two-step GMM estimators, resulting in much more reliable finite sample inference than standard Wald tests based on this estimator. Alternative criterion-based test statistics, which are computed as the difference between tests of overidentifying restrictions in the restricted and unrestricted models, have also been considered. These too produce more reliable small sample inference than conventional GMM Wald tests, and a particularly simple version based on the standard Sargan test of overidentifying restrictions performs as well as more complex alternatives.

We have continued research on the properties of GMM and projection estimators in dynamic panel data models with persistent series. We have performed an extensive Monte Carlo analysis on a dynamic model with weakly exogenous regressors, confirming that first-differenced GMM estimators can give seriously biased estimates when the series are highly persistent. An extended system GMM estimator that exploits additional instruments implied by initial-condition restrictions gives much less biased and more precise parameter estimates.

- Blundell, R. and S. Bond (2000), 'GMM estimation with persistent panel data: an application to production functions', *Econometric Reviews*, 19, 321–40.
- Blundell, R., S. Bond and F. Windmeijer (2000), 'Estimation in dynamic panel data models: improving on the performance of the standard GMM estimator', in B. Baltagi (ed.), *Nonstationary Panels, Panel Cointegration, and Dynamic Panels*, Advances in Econometrics 15, Amsterdam: JAI Press, Elsevier Science.
- Bond, S., C. Bowsher and F. Windmeijer (2000), 'Criterion-based inference for GMM in autoregressive panel data models', IFS, mimeo.
- Windmeijer, F. (2000), 'A finite sample correction for the variance of linear two-step GMM estimators', IFS, Working Paper no. W00/19.

*Contacts: Steve Bond and Frank Windmeijer*

## **HEALTH**

Centre research, co-funded by the King's Fund, contributed to the government consultation on the NHS. This culminated in an IFS Commentary being launched at the King's Fund in May. The work looked at the size of the NHS spending pledges made in the March 2000 Budget and some of the challenges facing UK policymakers. Among other things considered were issues arising from the measurement of quality in the NHS, the impact of changing demographics on the NHS and the role of the private sector. Information from the Family Resources Survey (FRS) was used to look at the characteristics of those with private medical insurance (PMI), in part to see who would benefit from any government subsidy to PMI. Future work will use the FRS dataset to look at the impact of the July 1997 Budget decision

to remove the tax allowance for those aged over 60 and assess the extent to which such a subsidy could help the NHS.

Work in progress is analysing the smoking decisions of UK households and individuals. Using different information on tobacco consumption from the Family Expenditure Survey, General Household Survey and British Household Panel Survey, we look at the extent to which prices have affected individuals' decisions regarding whether to smoke and how much to smoke. Attention is paid to controlling for the effects of past smoking behaviour and we also evaluate the degree to which there is heterogeneity in responses in the population, focusing in particular on differences by gender, education, age and income groups.

Banks, J., L. Blow and F. Windmeijer (2000), 'Cigarette taxes and smoking behaviour in the UK', IFS, mimeo.  
Emmerson, C., C. Frayne and A. Goodman (2000), *Pressures in UK Healthcare: Challenges for the NHS*, IFS Commentary no. 81.  
Frayne, C. (2000), 'Private medical insurance in the UK', *Economic Review*, 18 (2), 32–33.

*Contacts: Carl Emmerson and Frank Windmeijer*

## **EDUCATION AND TRAINING**

Work on education and training has been continuing in a number of ways. First, Centre staff have been involved in the evaluation of the Education Maintenance Allowance (EMA), which has been fully funded by the DfEE. During 1999 and 2000, data have been collected and a report on the first-year impact of the policy has been submitted to the DfEE. The project has opened a number of research avenues relating to education policy, which will be pursued over the next year. The other main aspect of our current work on education is work on the evaluation of the Swedish education reform. This is particularly interesting because the reform touches upon a number of topical issues in the public policy debate in the UK, such as the role of selection and streaming. The implementation of the reform was preceded by a social experiment. The evaluation we are carrying out, in collaboration with Marten Palme of the Stockholm School of Economics, uses that data and indicates that the reform that abolished selective schools and made access to academic education easier benefited primarily the children from poorer backgrounds. However, there is some evidence that the reform may have had a small negative impact on children from wealthier backgrounds. Finally, another important development has been the creation of the Centre for the Economics of Education (funded by the DfEE) in collaboration with the Centre for Economic Performance (CEP) at the LSE and the Institute of Education. This provides basic funding for research in issues of education policy as well as interdisciplinary collaboration in this crucial field of public policy.

Meghir, C. and M. Palme (1999) Assessing the returns to Schooling using a Social experiment, IFS WP 99/10 (under revision)

*Contacts: Lorraine Dearden, Carl Emmerson and Costas Meghir*

## **INEQUALITY, INCOME DISTRIBUTION AND LIVING STANDARDS**

### ***An analysis of trends in inequality in 1990s Britain***

Recently, the Centre has embarked on its first major examination of UK income inequality since the study of Goodman and Webb (A. Goodman and S. Webb, *For Richer, For Poorer*:

*The Changing Distribution of Income in the United Kingdom, 1961–91*, IFS Commentary no. 42, 1994) which covered the period 1961 to 1991. The work has established comparability of distributional analysis based on the Family Expenditure Survey with that based on the Family Resources Survey, a larger and more detailed household-level survey of incomes, available from 1994–95 onwards. The survey evidence suggested that the widely charted rise in income inequality in the 1980s was checked during the recession of the early 1990s, and also that inequality has since begun increasing again. The renewal of widening income dispersion is confirmed by analysis of the sampling variation in the results, which demonstrated that the change between 1994–95 and 1997–98 was statistically significant.

Clark, T. and J. Taylor (1999), 'Income inequality: a tale of two cycles?', *Fiscal Studies*, 20 (4), 387–408.

Contact: Tom Clark

### ***Multidimensional notions of social welfare***

There are probably many economic and social attributes that combine to determine an individual's and a society's overall welfare. However, most of both the theoretical and applied literature on the measurement of economic and social welfare has been concerned with uni-dimensional indicators of economic status (often equivalised net or gross income). This research develops a non-parametric statistical test of stochastic dominance criteria to allow tests of differences in social welfare based upon multivariate distributions of economic factors. The approach allows non-financial measures of well-being to be considered.

Crawford, I. (1999), 'Nonparametric tests of stochastic dominance in bivariate distributions, with an application to UK data', IFS, Working Paper no. 99/28.

Contact: Ian Crawford

## **TAXES, BENEFITS AND SOCIAL SECURITY**

### ***Distributional consequences of fiscal reform since May 1997***

Researchers have used the TAXBEN microsimulation package operating on data from the Family Expenditure Survey to examine the effects on the income distribution of the tax and benefit reforms made during the present government's period of office. The results show that the overall effect of changes to income tax, National Insurance, VAT and excise duty combined with benefit reforms has been progressive. The post-tax income of an average household in the bottom decile of the income distribution increased by around 9 per cent compared with a system where all taxes and benefits had simply been uprated by the retail price index. Meanwhile, there have been small losses in post-tax income for the richest 30 per cent of the population. By family type, pensioners and families with children are average gainers from the reforms. The on-line document on the IFS website that contains this analysis is kept up to date as new reforms are announced in Budgets and Pre-Budget Statements.

Myck, M. (2000), *Fiscal Reforms Since May 1997*, IFS Briefing Note no. 14 (<http://www.ifs.org.uk/taxben/fiscalreform.pdf>).

Contact: Michal Myck

### ***TAXBEN: the IFS tax and benefit microsimulation model***

IFS's tax and benefit microsimulation model, TAXBEN, is a key tool for both policy analysis and econometric work on the effects of government tax and benefit policies on individuals and households. Recent Centre-funded improvements to the model include the design and implementation of a full Windows-based front end and the rewriting of the model in Object Pascal. TAXBEN now runs efficiently under Windows 98, 2000 and NT. During 2000, historic parameter systems dating back to January 1978 were added to the model; these allow researchers to analyse the impact of changes to direct and indirect taxes and benefits from the late 1970s to the present day. The model has also been augmented to analyse new proposed developments in the benefit system, such as the integrated child credit and pension credit. The model now calculates childcare expenditures, given assumptions on the structure and generosity of the child credit, by using information on childcare use in the Family Resources Survey. This was used by Centre researchers in evaluating the impact of the working families' tax credit.

*Contacts: Tom Clark and Howard Reed*

### ***A guide to the UK tax system and a guide to the UK benefit system***

The UK taxation and social security systems exhibit a complexity that can baffle the uninitiated. They have also been subject to periodic reforms, some very major, over the last 20 years. IFS is committed to enhancing public knowledge of the way the system works as part of our contribution to ongoing policy analysis and debate. With this in mind, the Centre has helped fund the writing of on-line guides to the tax system and the benefit system. These papers, published on the IFS website, describe the main components of the current UK tax and benefit systems, the revenue raised from different taxes and the cost of different benefits, and they discuss how the systems have changed over the last 20 years. These are supplemented by the 'Fiscal Facts' section of the website, which gives the historical rates for all UK direct and indirect taxes back to 1973.

Chennells, L., A. Dilnot and N. Roback (2000), *A Survey of the UK Tax System*, IFS Briefing Note no. 9 (<http://www.ifs.org.uk/taxsystem/taxsurvey.pdf>).

Emmerson, C. and A. Leicester (2000), *A Survey of the UK Benefit System*, IFS Briefing Note no. 13, (<http://www.ifs.org.uk/taxsystem/benefitsurvey.pdf>).

*Contact: Carl Emmerson*

### ***The working families' tax credit***

The working families' tax credit (WFTC) is the government's main support package for low-income working families with children; it replaced family credit (FC) in 1999. WFTC has a similar basic structure to FC, but it incorporates a new system of childcare subsidy and is also substantially more generous than FC overall. IFS has produced an explanatory paper on WFTC, which describes its structure, analyses the characteristics of recipients and discusses how the new credit will affect work incentives for different types of households.

More adventurously, Centre funding has supported research into the labour market impact of WFTC. Our econometric model focuses on estimating the employment impact of replacing FC with WFTC, using simulation methods to predict the effects even before empirical data relating to the reform have been released. The results suggest that for 'workless households' – unemployed single parents and couples with no earner – labour market participation will modestly increase. However, some working mothers in two-earner households may be induced to leave work because WFTC has increased their husband's income. Recent research published on-line has also compared the results of several IFS research projects that have

estimated the employment impact of WFTC using a variety of methodologies. We find that, in most cases, there is broad agreement about the magnitude of the effects.

Further research on the impact of in-work benefit schemes on the income distribution was presented at a conference hosted by IFS on 12 May 2000. Centre researchers Alan Duncan and Howard Reed presented an econometric analysis which used the labour supply simulation model developed to analyse the employment impact of WFTC. They examined the effects of varying key WFTC parameters (for example, the adult and child credit levels, the withdrawal taper rate, and the full-time bonus) on labour market participation and the distribution of gains to post-tax income across household income deciles and for people of different family types. The initial results reveal a systematic tendency for increasing the generosity of joint-income-assessed in-work benefits to promote single-earner households, both through encouraging one person in a workless household into employment and through second earners leaving the labour market.

Blundell, R., A. Duncan, J. McCrae and C. Meghir (2000), 'The labour market impact of the working families' tax credit', *Fiscal Studies*, 21 (1), 75–103.

Duncan, A. and H. Reed (2000), 'Meeting distributional and employment objectives using tax credits', presented at conference on welfare-to-work policies, IFS, 12 May 2000.

*Contacts: Michal Myck and Howard Reed*

### ***Comparing in-work benefits and work incentives in the US and the UK***

The goals of income transfer systems in the US and the UK for low-income families are to reduce poverty and welfare dependency and to encourage work. Both the US and the UK have made in-work benefits a key part of their strategy through the earned income tax credit (EITC) and working families' tax credit (WFTC) respectively. But although similar in aims, there are significant differences in how the WFTC and EITC are structured and how they work operationally. Recent IFS work has explored these differences in great detail. Our study finds that, in both countries, the combination of in-work benefits and welfare benefits produces a theoretical budget constraint with good financial incentives for lone parents to take a minimum-wage job but poor incentives to increase earnings beyond that. Help with housing costs and childcare costs reduces financial work incentives in both countries. However, direct comparisons of financial work incentives are complicated by our lack of knowledge on how take-up differs between and within countries, and the difference in assessment and payment mechanisms between EITC and WFTC.

Brewer, M. (2000), 'Comparing in-work benefits and financial work incentives for low-income families in the US and the UK', IFS, Working Paper no. 00/16.

Brewer, M. and P. Gregg, 'Eradicating child poverty in Britain: welfare reform and children since 1997', *Journal of American Public Policy*, forthcoming.

*Contact: Mike Brewer*

## **LABOUR MARKET PARTICIPATION AND WAGES**

### ***Evaluation of the Swedish active labour market programmes***

This project, co-funded by IFAU (Office of Labour Market Policy Evaluation) in Uppsala, exploits a very large and comprehensive new dataset to evaluate the effectiveness of the Swedish labour market policy on various labour market outcomes of participants. We have used non-parametric statistical matching techniques to assess programme impacts on various

outcomes over time (including employment probability, probability of regular education and benefit collection probability), as well as on job-finding rates, job retention and a number of outcomes should individuals lose their jobs again. Results so far have shown that, at best, these programmes have no effect; when they display a negative effect, unemployment benefit collection incentives appear to be the most likely explanation.

Sianesi, B. (2000), 'An evaluation of the active labour market programmes in Sweden', IFS, mimeo.

*Contacts: Costas Meghir and Barbara Sianesi*

### ***Interpreting aggregate wage growth***

Aggregate figures for real wage growth are used extensively in policy debate to analyse changes in the well-being of workers over time and to compare different groups of people both within and across countries. However, if employment rates change across time periods or across the groups used in the comparisons, then aggregate wages can give a misleading impression of changes in the structure of wages facing individual workers. For example, if participation drops and the people moving out of the labour market are drawn disproportionately from the lower end of the earnings distribution, this can lead to an increase in the measured average wage that is an artefact of sample selection rather than an increase in welfare. Recent Centre work has developed a model of the relationship between participation and average hourly wage measures, which provides the means to estimate the size of the measured bias using a sample selection model and male wage data from the Family Expenditure Survey from 1978 to 1997. The selection term in the model is identified using exogenous variations in the level of housing benefit available to men when out of work using simulated budget constraints from IFS's TAXBEN microsimulation model. The results show that correcting for selection due to reductions in the male employment rate over the period reduces our estimate of real aggregate male hourly earnings growth from around 30 per cent to less than 20 per cent.

Blundell, R., H. Reed and T. Stoker (2000), 'Interpreting aggregate wage growth', IFS, Working Paper no 99/13, revised version (September).

*Contact: Howard Reed*

## **PUBLIC FINANCES AND PUBLIC SPENDING**

Centre research has continued to inform and contribute to public debate in the run-up to, and immediately after, the government's announcements on taxation and spending. Conferences were held at IFS the day after the Pre-Budget Report, the Budget and the Summer Spending Review in order to present our initial analysis. These were well attended by civil servants, politicians and the media. The slides from these conferences were made available on the IFS website. As detailed above, the website was also expanded to contain two papers on the UK tax system and the UK benefit system, alongside downloadable tables containing details of how the main tax and benefit parameters have changed over time. Various policy reforms were discussed in meetings with various interested groups, such as political parties, the IMF and the Bank of England. Centre staff gave oral evidence to the Treasury and Social Security Select Committees of the House of Commons and to the Fiscal and Monetary Affairs Committee of the European Parliament. Pre-Budget seminars, organised by the ESRC, were given to all three major UK parties, in the House of Commons. Over 100 MPs attended. Many meetings occurred over the year with civil servants in HM Treasury, Inland Revenue, Cabinet Office, DSS, DTI and DfEE. IFS has published a Briefing Note which looks at the

distributional impact of the Labour government's tax and spending reforms. This shows that lowest-income households have gained the most from the reforms, while the richest 30 per cent of households have lost out.

Centre research contributed once again to the publication of the IFS Green Budget at the end of January 2000, which was launched at a conference attended by around 120 people at Stationers' Hall in the City of London. For the first time, the Green Budget was made available on the IFS website, free of charge, alongside slides from the conference. The research looked in detail at a variety of issues raised in both the Pre-Budget Report and previous Budget announcements. In particular, the Green Budget assessed the state of the public finances and issues in public spending on health and education, the way in which income tax and National Insurance could be integrated further, issues in the taxation of mobile factors such as corporate activity and gambling, and longer-term issues in welfare reform such as the possibility of an integrated child credit. At the time of the Green Budget and throughout the year, Centre staff made frequent contributions to the debate about public finances and public spending, in both printed and broadcast media.

IFS is also hosting a series of academic seminars on topics in public spending for publication in the journal *Fiscal Studies*. So far, these have included seminars on government spending on research and development, education, pensions, the arts, defence and transport. Once the series of seminars is completed, the individual papers will be published together in a book by Oxford University Press.

In addition, Centre researchers gave a series of public economics lectures at Cambridge and Oxford Universities. These covered topics such as training and higher education, taxing alcohol and cigarettes, public policy to increase investment, and government policy and productivity. Slides from these talks were also made available on the IFS website.

- Banks, J. and C. Emmerson (2000), 'Public and private pension spending: principles, practice and the need for reform', *Fiscal Studies*, 21 (1), 1–63.
- Chennells, L., A. Dilnot and N. Roback (2000), *A Survey of the UK Tax System*, IFS Briefing Note no. 9 (<http://www.ifs.org.uk/taxsystem/taxsurvey.pdf>).
- Chennells, L., A. Dilnot and C. Emmerson (eds) (2000), *The IFS Green Budget: January 2000*, IFS Commentary no. 80.
- Dilnot, A. and Emmerson, C. (2000), 'The economic environment', in A. Halsey and J. Webb (eds), *Twentieth Century British Social Trends*, London: MacMillan Press.
- Emmerson, C. and A. Leicester (2000), *A Survey of the UK Benefit System*, IFS Briefing Note no. 13 (<http://www.ifs.org.uk/taxsystem/benefitsurvey.pdf>).
- Myck, M. (2000), *Fiscal Reforms Since May 1997*, IFS Briefing Note no. 14 (<http://www.ifs.org.uk/taxben/fiscalreform.pdf>).

*Contacts: Carl Emmerson, Chris Frayne and Alissa Goodman*

## **5. A Look Forward**

In this section, we summarise plans for the development of specific aspects of the Centre's research over the coming year.

### **HOUSEHOLD SAVING AND PENSIONS**

The empirical analysis of saving and household portfolios will continue to be an important part of Centre research over the coming year. First, we will continue to look at issues in retirement saving in Britain, in particular focusing on the impact of reforms that have increased the fraction of the work-force opting out of public provision and that have permitted individuals to choose their private provider. The research will build on evidence from the British Household Panel Survey (BHPS), which shows that many of those without any private pension saving tend to have little saving in general and more unstable employment patterns. Research will also look at whether the present structure of 'contracting out' has led to a higher savings rate in general, and whether allowing individuals to choose not to join their employer's pension scheme has increased the flexibility of the UK labour market. We will also consider recent pension reform in the context of wider reforms to the taxation of household saving, particularly the introduction of Individual Savings Accounts. Second, we will look more broadly at the economics of household portfolios, focusing in particular on providing descriptive evidence on changes in direct and indirect holdings of stocks and shares and on analysing the interactions between housing wealth and other forms of financial wealth. Third, we will look at comparing the distribution of wealth and financial asset holding in the UK to that observed in the US, using comparable household survey data from the BHPS and the Panel Study of Income Dynamics (PSID) respectively. In particular, we will concentrate on differences in financial and non-financial wealth, as well as on the proportion of households holding various types of financial wealth. Finally, we will begin a detailed study of the relationship between pensions, other assets and retirement income for the elderly population in England, drawing on new data that will come on stream from the English Longitudinal Study of Ageing, which is currently being designed by an interdisciplinary team including Centre researchers.

### **CONSUMPTION GROWTH AND PRECAUTIONARY SAVING**

In the future, research in this area will continue to focus on the evaluation of models of consumption growth over the life cycle. First, we intend to retain the emphasis on exploring simulation techniques as well as using estimation based on both cross-sectional and panel data. In particular, we will draw on such simulation techniques to continue to incorporate labour supply responses into consumption smoothing and consumption insurance models. For example, we intend to use such methods to further investigate potential links between changes in income inequality and changes in expenditure inequality over time in the UK. Second, research will also follow up our work on the retirement-savings puzzle to look in more detail at how changes in consumption patterns around the time of retirement are related to changes in income patterns at the same time, and the degree to which such changes in resources are anticipated or unanticipated.

We are also planning to investigate the consumption-retirement puzzle in the US where the availability of (short) panel data allows us to observe the changes in consumption at retirement of individual households that retire.

Finally, we are also planning to work with different preference specifications. Recently, several researchers have looked at the theoretical implications of hyperbolic discounting and stressed that it has important consequences for the design of saving incentives and policies. However, virtually no systematic evidence, beside anecdotes, exists on the empirical relevance of hyperbolic discounting. We plan to investigate these issues.

## **DEMAND AND INDIRECT TAX POLICY**

We plan to develop our work on non-parametric approaches to demand to look at dynamic models of demands and labour supply over the life cycle. The ability to estimate life-cycle models of consumer behaviour often depends upon maintained assumptions on the form of preferences. These assumptions are usually difficult to test as it is hard to estimate models that do not make these assumptions. However, many of the basic assumptions that are needed in order to generate an empirically useful version of the life-cycle model are amenable to non-parametric testing, and a profitable approach to labour supply and commodity demands over the life cycle may be to test the basic assumptions by means of revealed preference restrictions. Static models of consumers' demands will also remain important and we will continue with our research effort aimed at developing non-parametric models for analysing tax reforms. Another focus of future research will be to look at cross-section price variation. Work currently going on in the Consumption Sector, funded by the Nuffield Foundation, is uncovering and documenting large and persistent differences in the prices of foods between households and regions. Centre research will develop this work by looking at the link between cross-section price dispersion and locally varying supply and demand decisions.

## **COMPANY TAXATION**

The ESRC Centre conference in May 2001 will be on 'Empirical Issues in International Tax Competition' and co-organised with Tim Besley, Jim Hines and Joel Slemrod. Researchers at the Centre are working on two papers for the conference. One describes what has happened to tax rates and revenues in EU and OECD countries using a range of data sources. The idea is to describe how tax systems have changed over time and to assess whether there has been a 'race to the bottom' as most tax competition models predict. A second paper estimates countries' reaction functions, i.e. how countries behave in setting taxes. It looks at whether these functions change when countries do things such as abolish capital controls, join the EU or elect a new party into power, and whether they differ over types of tax (e.g. corporate income taxes, excise duties or labour income taxes).

Researchers will continue to investigate the impact of R&D tax credits on the location of R&D. Work at the Centre will evaluate the new UK R&D tax credit using panel data from the ARD. We have gained access to the micro BERD (Business Expenditure on Research and Development) data and are discussing the possibility of using Inland Revenue tax record data, which would enable us to conduct a difference-in-difference type analysis, i.e. we will be able to compare the growth in R&D in firms that were eligible for the credit (the treated) and those that were not (the control). This allows us to isolate the impact of the tax credit from the impact of other changes in the economic environment, something that most other studies have not been able to do.

## **COMPANY INVESTMENT AND FINANCIAL BEHAVIOUR**

Further work is planned on both the relationship between share prices and investment and the impact of uncertainty on investment. The former will consider identification of the Q model of investment in contexts where data on long-term earnings forecasts are not available (essentially in all countries except the US) or when no earnings forecasts are available at all. The latter will adopt a more structural approach in its investigation of the relationship between investment and uncertainty using theoretical and computational tools developed at the Centre to deal with aggregation and firm heterogeneity. Another objective is to subject each of these rather different structural models to more rigorous testing, which will be considered in the context of comparing non-nested econometric models.

## **INNOVATION AND PRODUCTIVITY**

Lack of product market competition is thought to be one of the reasons that European productivity lags behind that of the US. Theoretical models are ambiguous about the way in which competition should affect firm performance. Work at the Centre will investigate how changes in product market competition affect different types of firms. This work will investigate the idea that product market competition helps reduce agency costs. The possibility that the impact of product market competition may be non-linear – with the largest impact at intermediate levels of market concentration – will be investigated using data on innovative outputs. Information on share ownership structures will also be considered, the idea being that product market competition may have a more significant influence on productivity for firms where direct monitoring of managers' behaviour is weak, and conversely that ownership structure may matter less in more competitive product market environments. Changes in regulatory regimes will be used to instrument for the change in product market competition.

A second strand of productivity work will focus on extending the Leverhulme-Trust-funded work examining knowledge spillovers using our panel of detailed patenting information on UK firms. This will develop a variety of indicators of spatial knowledge stocks to examine the influence of geographical, industrial and national proximity on productivity and market value spillovers.

## **INEQUALITY, INCOME DISTRIBUTION AND LIVING STANDARDS**

### ***Research into inequality***

Inequality is often said to relate negatively to social welfare. But the precise mechanism underlying this relationship is rarely spelled out, and the various measures used to rank the inequality of incomes could each be interpreted as implying something different about the right way to rank social states. New work by Centre staff will begin by suggesting how minimal microeconomic assumptions can be used to generate rules to rank different distributions in terms of welfare. It will go on to apply statistical tests to a time series of UK income data to see whether such conditions are satisfied.

Current Centre research is also focusing on supplementing the income-based analysis of inequality with an expenditure-based analysis, with a view to assessing how important greater short-term volatility of income has been in increasing cross-sectional measures of inequality.

### ***Intergenerational mobility***

In 1996, Centre researchers presented evidence that showed that parents' position in the income distribution is a major determinant of where their child will end up in the income distribution a generation later. But is mobility increasing or decreasing over time? New work in the Personal Sector is looking at this question using the latest waves from the National Child Development Survey (NCDS) – a cohort of men and women born in 1958 – and the British Cohort Study (BCS70) – a cohort born in 1970. The new data have the advantage over the previous waves of each dataset that both cohorts were surveyed simultaneously. This will allow greater scope for separating the effects of time-specific shocks to the labour market (which should affect both cohorts) and cohort-specific shocks (which should affect one or the other) in analysing income mobility. Moreover, the new NCDS data mean that we now have two waves of detailed income information for this group, which means that mobility estimates can be made utilising moment restrictions on the covariances of incomes in each wave rather than simple cross-sectional regression techniques, which should result in greater robustness of the results.

## **TAXES, BENEFITS AND SOCIAL SECURITY**

### ***Integrated child credit***

The UK government announced in March 2000 that it wanted to bring together the different strands of support for children in the working families' tax credit, income support and the children's tax credit to create an integrated system of financial support for children. Although some broad objectives were set in the 2000 Budget (and repeated in the 2000 Pre-Budget Report), few practical details have been released on how the credit will operate. An integrated child credit represents a radical reform of the tax and benefit system for families with children, allowing the government to change almost all of the major parameters of the current tax and benefit system affecting children, such as how the credit relates to family size and income, the period of assessment and length of award, the responsiveness to changes in needs or income and whether the system is cumulative or non-cumulative, as well as how it treats different sorts of income and capital. Centre researchers are assessing the current structure of financial support for families and asking how the integrated child credit could be structured to meet the costs of children in different sorts of households. IFS's TAXBEN microsimulation model is being extended to facilitate modelling a range of possible implementations of the integrated child credit, given that the details of how the scheme will operate are not yet known. Econometric analysis of the dynamics of family income should also help inform the government's decision on how the credit should relate to family income.

### ***Modelling take-up of benefits***

Distributional analyses of tax and benefit measures frequently assume 100 per cent take-up: in other words, that all who are eligible for transfers from the government do receive them. In practice, take-up of means-tested benefits is not 100 per cent, nor is non-take-up random, and this can bias any analysis that relies upon calculations of net family incomes (for example, labour supply models and distributional analysis of Budget measures).

Past studies of non-take-up have attempted either to calculate aggregate rates of take-up or to estimate an econometric model of non-take-up. We are using data from the Family Expenditure Survey and the Family Resources Survey and IFS's TAXBEN model to achieve both of these, updating previous IFS work that looked at take-up in the pre-1988 social security system (V. Fry and G. Stark, *The Take-Up of Means-Tested Benefits, 1984–1990*, IFS, 1993). We hope to present extensions that will incorporate the simultaneous decisions

made by families eligible for two benefits, and show the effects of allowing for modelling in a structural framework, following previous work (J. Duclos, 'Estimating and testing a model of welfare participation: the case of supplementary benefits in Britain', *Economica*, 64, 81–100, 1997). Beyond modelling take-up for its own sake, some applications of a new take-up model would be to show the effect of varying the '100 per cent take-up' assumption on a number of past analyses.

### ***Tax and benefit microsimulation***

Some major innovations to the TAXBEN model are planned for the next year. The disability benefit calculation routines are being rewritten for work that we plan to do with the 1996–97 Disability follow-up to the Family Resources Survey. Code to model Legal Aid entitlements is being incorporated into TAXBEN after being tested during work for the Legal Aid Foundation. With the aid of new research results on the non-parametric estimation of standard errors on distributional results, it will soon be possible to incorporate standard errors into TAXBEN's distributional tables. Other developments are set to include, for the first time, a full user manual.

## **LABOUR MARKET PARTICIPATION AND WAGES**

### ***Selection into employment and changes in the wage distribution over time***

Recent work has analysed the behaviour of male wages over the period 1978–98 and asked, in particular, how the selection bias induced by changes in employment over time affects estimates of wage growth. There are a number of directions in which we would like to extend this work. First, we will examine changes in the returns to education for different skill groups (for example, men who stayed on in full-time education after age 18 versus those who left school at the minimum school-leaving age). Second, we would like to explore the implications of more general models of wage determination, including match-specific effects. Third, we will explore the impact of selection on the entire wage distribution. This allows us to discover the impact of changing composition of employment on within-group inequality as well as on educational and gender differentials, among other things. The research approach we will use for this is a methodology based on bounding the changes in the wage offer distribution using alternative assumptions on the wage determination process and the selection into employment.

### ***Labour market transitions and the effects of tax and benefit policies***

We are currently tendering for a project that the ESRC Centre would co-fund with HM Treasury and the Inland Revenue on labour supply estimation using the IFS tax and benefit model combined with data on labour market transitions. The objectives are to estimate the short-run and long-run impacts on labour supply of tax and benefit reforms and other factors that affect the financial gain to work, such as changes to the wage distribution or the cost of childcare, and to provide breakdowns of such policy effects between different household types and other observable characteristics such as region, educational qualification and age of children. The project will use data from the Labour Force Survey panel to look at transitions into and out of work, and will combine this with Family Resources Survey data running through TAXBEN to create a full dynamic labour supply model. A version of this will then be grafted on to the Treasury's IGOTM tax and benefit model to enable Treasury researchers to evaluate the putative impact of tax and benefit reforms. It is estimated that this project will run for around two years.

### ***A broader approach to analysing in-work benefits***

We are planning to organise interdisciplinary work on the issue of labour supply and the benefit system, probably through a conference in mid-2001. The focus will be on the work incentive effects of recent reforms, such as the working families' tax credit. IFS has traditionally analysed such reforms from a purely economic angle, but the reforms may have major effects that work through other channels. In particular, changes to the way that benefits are administered and the expansion of the numbers entitled to them may – for psychological or sociological reasons – affect take-up behaviour and the perceived relation between work and reward. Indeed, the belief that such effects are important seems a major part of the government's motivation. But there is, as yet, little conclusive evidence on these matters. An interdisciplinary approach thus seems especially urgent in evaluating these changes.

### ***Evaluation of Swedish active labour market programmes***

The analysis of the Swedish labour market programmes is of great importance for the UK since they have, to an extent, motivated the New Deal programmes instituted here. The evaluation will be expanded to take full account of an institutional environment where individuals can potentially participate in a wide array of different types of programmes. Recently introduced multiple-treatment matching techniques will be employed to investigate the possibility of heterogeneous programme effects.

Future work will also consider an alternative methodological approach, a parametric multiple-state, multiple-destination transitions model in which the sequence of choices made by individuals in an intertemporal framework will be modelled in a structural way.

## 6. Financial Summary

The table below summarises how the ESRC's financial contribution to the Centre was spent. Once again, it has been possible to work within the ESRC's cash limits and it is envisaged that this will be the case throughout the remainder of the contract period. The ESRC Centre contributes around 35 per cent of IFS income. The remainder is derived from IFS membership subscriptions, publication sales, conference income and general project funding. In addition to other ESRC support, general project funding comes from research trusts (such as the Anglo-German Foundation, the Nuffield Foundation, the Leverhulme Trust and the Joseph Rowntree Foundation), government departments (such as the Department of Social Security, HM Treasury, the Department for Education and Employment, the Department of the Environment, Transport and the Regions, and the Inland Revenue), the European Union (under TSER and TMR programmes) and other bodies, including the International Fiscal Association, the Bank of England, the Charities Aid Foundation, BBC TV and Goldman Sachs. In addition, the IFS Tax Law Review Committee has been supported by a consortium of private sector firms, government departments and professional bodies.

Salary costs make up the bulk of expenditure within the Centre. IFS determines its own salary structure through internal discussion with staff and by referral to its Executive Committee, with negotiations taking into account prevailing levels of remuneration in both the Civil Service (primarily the Government Economic Service) and universities. IFS operates a personal pension scheme under which it matches the contribution of the employee.

Other expenditure covers payments to Research Fellows and Associates (14 are financed, at least in part, by the Centre), the cost of the Research Scholars (including their fees paid to University College London), secretarial costs, overheads (at an average of 50 per cent of direct salaries), computing, travel and miscellaneous costs.

### RESEARCH CENTRE BREAKDOWN OF COSTS, 1999–2000 (Academic Year)

Research staff	£333,959
Research Fellows and Associates	£38,575
Research Scholars	£31,338
Summer interns	£2,113
Total research staff	£405,984
Secretarial support	£21,232
Computing costs	£22,925
Conference costs	£1,653
UK travel	£7,202
Overseas travel	£7,421
Overheads	£213,608
Miscellaneous	£64,750
Total costs	£744,776

## 7. Centre Output

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- Devereux, M., Griffith, R. and Simpson, H. (1999), 'The agglomeration of production activity in the UK', IFS, Working Paper no. W99/26.
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- Disney, R. and Tanner, S. (2000), 'The abolition of the earnings rule for UK pensioners', IFS, Working Paper no. W00/13.
- Duncan, A., Paull, G. and Taylor, J. (2000), 'Work incentives and the local provision of childcare services', Interim Report, London: Nuffield Foundation.
- Dustmann, C., 'Temporary migration and economic assimilation', IZA, Discussion Paper no. 189; forthcoming *Swedish Economic Policy Review*.

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- Dustmann, C. and Fabbri, F. (2000), 'Language proficiency and labour market performance of immigrants in the UK', IZA, Discussion Paper no. 156.
- Dustmann, C. and Preston, I. (2000), 'Racial and economic factors in attitudes to immigration', IZA, Discussion Paper no. 190/2000.
- Dustmann, C. and Schmidt, C. (2000), 'The wage performance of immigrant women: full-time jobs, part-time jobs, and the role of selection', IZA, Discussion Paper 233
- Dustmann, C. and van Soest, A. (2000), 'Parametric and semiparametric estimation in models with misclassified categorical variables', IZA, Discussion Paper no. 218.
- Dustmann, C. and Windmeijer, F. (2000), 'Wages and the demand for health: a life cycle analysis', IZA, Discussion Paper no. 171.
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- Griffith, R. (2000), *How Important Is Business R&D for Economic Growth and Should the Government Subsidise It?*, IFS Briefing Note no. 12 (<http://www.ifs.org.uk/innovation/randdcredit.pdf>) and forthcoming as HM Treasury Working Paper.
- Griffith, R., Redding, S. and Van Reenen, J. (2000), 'Mapping the two faces of R&D: productivity growth in a panel of OECD manufacturing industries', CEPR, Discussion Paper no. 2457; submitted to *Journal of Political Economy*.
- Haskel, J. and Slaughter, M. (2000), 'Does the sector bias of skill-biased technological change explain changing wage inequality?', NBER, Working Paper no. 6565.
- Horstmann, I. and Scharf, K. (1999), 'The New Federalism: distributional conflict, voluntarism and segregation', CEPR, Working Paper; currently under review at the *Journal of Political Economy*.
- Low, H. (1999), 'Self-insurance and unemployment benefit in a life-cycle model of labour supply and savings', IFS, Working Paper no. W99/24.
- Low, H. and Maldoom, D. (2000), 'Optimal taxation, prudence and risk sharing', IFS, Working Paper no. W00/01.
- Miles, D. (1999), 'Jeux sans Frontières: The New Economic Geography and the New Europe', Merrill Lynch Special Report, November.
- Miles, D. (2000), 'Funded and unfunded pension systems: risk, return and welfare', CEPR, Discussion Paper, January; Centre for Economic Studies (Munich University), Discussion Paper, January.
- Myck, M. (2000), *Fiscal Reforms Since May 1997*, IFS Briefing Note no. 14 (<http://www.ifs.org.uk/taxben/fiscalreform.pdf>).
- Overman, H., Midelfart-Knarvik, K., Redding, S. and Venables, A., 'The location of European industry', *European Economy*, forthcoming.
- Sianesi, B. (2000), 'An evaluation of the active labour market programmes in Sweden', IFS, mimeo.
- Sianesi, B. and Van Reenen, J. (1999), 'Education and economic growth: a review of the literature', Report for the DfEE; Centre for Economics of Education, Discussion Paper no. 3.
- Smith, Z. (1999), *The Revenue Effect of Changing Alcohol Duties*, IFS Briefing Note no. 4 (<http://www.ifs.org.uk/consume/alcohol.pdf>).
- Smith, Z. (2000), *The Petrol Tax Debate*, IFS Briefing Note no. 8 (<http://www.ifs.org.uk/consume/petrol.pdf>).
- Smith, Z. (2000), *Vehicle Excise Duty Discounts in Rural Areas*, IFS Briefing Note no. 10 (<http://www.ifs.org.uk/consume/ved.pdf>).

- Tanner, S. (1999), *The Role of Information in Saving Decisions*, IFS Briefing Note no. 7 (<http://www.ifs.org.uk/pensions/financialbrief.pdf>).
- Windmeijer, F. (2000), 'A finite sample correction for the variance of linear two-step GMM estimators', IFS, Working Paper no. W00/19.

## 6. DATASETS

- Crawford, I. and Smith, Z., compilation of FES/RPI expenditure data, 1974 to 1997/8.
- Griffith, R. and Simpson, H., preparation of Annual Census of Production Respondents Database (ARD).
- Paull, G., preparation of lifetime employment histories from the first eight waves of the British Household Panel Survey, and exploration of most appropriate method.

## 7. SOFTWARE

- MITTS: The **M**elbourne **I**nstitute **T**ax and **T**ransfer **S**imulator. Developed in conjunction with the Melbourne Institute of Applied Economic and Social Research. Contact: Alan Duncan.
- Corporation Tax Model. Contact: Steve Bond.
- DPD98 for GAUSS (Dynamic Panel Data estimation). Contact: Steve Bond.
- NP-REG (Non-Parametric Regression). Contact: Alan Duncan.
- SPAIN-III (Simulation Program for the Analysis of Incentives). Contact: Alan Duncan.
- SPIT (Simulation Program for Indirect Taxation). Contact: James Banks.
- TAXBEN2 (Tax and Benefit Model). Contact: Howard Reed.

## 8. EDITORSHIPS

- Attanasio, O., Managing Editor, *Review of Economic Studies*
- Attanasio, O., Associate Editor, *Research in Economics*
- Attanasio, O., Editorial Board Member, *European Economic Review*
- Banks, J., Associate Editor, *Ricerche Economiche*
- Banks, J., Guest Editor, *Oxford Review of Economic Policy*, special issue on Household Saving
- Besley, T., Co-Editor, *American Economic Review*
- Besley, T., Associate Editor, *International Tax and Public Finance*
- Besley, T., Associate Editor, *Journal of Development Economics*
- Besley, T., Associate Editor, *Review of Development Economics*
- Besley, T., Editorial Board, *Review of Economic Studies*
- Blundell, R., Co-Editor, *Econometrica*
- Blundell, R. Editorial Board, *Fiscal Studies*
- Bond, S., Associate Editor, *Economica*
- Bond, S., Editorial Board, *Fiscal Studies*
- Browning, M., Associate Editor, *Econometrica*
- Browning, M., Editorial Board, *Journal of Economic Literature*
- Brugiavini, A., Editorial Board, *Fiscal Studies*
- Crawford, I., Managing Editor, *Fiscal Studies*
- Devereux, M., Policy Watch Editor, *International Tax and Public Finance*

Disney, R., Editorial Board, *Australian Economic Review*  
 Disney, R., Editorial Board, *Fiscal Studies*  
 Meghir, C., Joint Managing Editor, *Economic Journal*  
 Meghir, C., Associate Editor, *Econometrica*  
 Miles, D., Editor, *World Economics*  
 Miles, D., Managing Editor, *Fiscal Studies*  
 Myles, G., Managing Editor, *Fiscal Studies*  
 Myles, G., Associate Editor, *Journal of Public Economic Theory*  
 Myles, G., Production Editor and Editorial Board Member, *Review of Economic Studies*  
 Preston, I., Managing Editor, *Fiscal Studies*  
 Preston, I., Associate Editor, *Economic Journal*  
 Scharf, K., Associate Editor, 2000 RES issue of the *Economic Journal*  
 Scharf, K., Editorial Board, *Fiscal Studies*  
 Van Reenen, J., Editorial Board, *Economic Policy*  
 Van Reenen, J., Editorial Board, *European Economic Review*  
 Van Reenen, J., Editorial Board, *Journal of Industrial Economics*  
 Van Reenen, J., Editorial Board, *Review of Economic Studies*  
 Violante, G., Editorial Board Member, *Review of Economic Studies*  
 Walker, I., Editorial Board, *Fiscal Studies*  
 Weber, G., Editorial Board, *Fiscal Studies*

## 9. PRIZES AND HONOURS

Blundell, R., Duncan, A. and Meghir, C., *Ragnar Frisch Medal 2000*. Best empirical paper published in *Econometrica* over the past five years, awarded every two years. Article: 'Estimating labour supply responses using tax reforms', *Econometrica*, vol. 66, no. 4.  
 Blundell, R., awarded *Leverhulme Research Professorship*.  
 Dilnot, A. Commander of the British Empire (CBE)  
 Meghir, C., Elected Fellow of the Econometric Society.

## 10. SUMMARY OF PUBLICATIONS AND DISSEMINATION, 1999–2000

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### GROUP A:

### PUBLICATIONS AND DISSEMINATION

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1. Books and monographs	15
2. Chapters	35
3. Refereed journal papers	53
4. Non-refereed journal papers	3
5. Other publications	62
6. Datasets	3
7. Software	7
8. Editorships	39
9. Prizes and honours	4

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## **GROUP B: EXTERNAL RELATIONSHIPS**

### **1. MEMBERSHIP OF COMMITTEES**

Attanasio, O., Advisory board to MECOVI  
Attanasio, O., World Bank and Inter-American Development Bank initiative for the development of household datasets in Latin America  
Besley, T., Council, Royal Economic Society  
Besley, T., Programme Director, CEPR  
Besley, T., Programme Committee, World Congress of Econometric Society  
Blundell, R. National Academy of Science, Panel Member.  
Blundell, R. National Strategy Committee for Longitudinal Data.  
Bond, S., Member, ESRC Politics, Economics and Geography (PEG) College  
Devereux, M., Member, Expert Panel of the European Commission, set up to investigate Effective Levels of Corporate Taxation in the EU  
Dilnot, A., Member, Social Security Advisory Committee  
Dilnot, A., Member, Foresight Panel on Ageing Population  
Dilnot, A., Member, Inland Revenue Peer Review Panel  
Dilnot, A., Member, Steering Group, Performance and Innovation Unit study on modelling and analysis in government, 1999–2000, and subsequent implementation group, 2000–  
Dilnot, A., Member, HM Treasury Evidence-Based Policy Fund Panel  
Dilnot, A., Member, Advisory Board for Centre for Research in Social Policy, Loughborough University  
Dilnot, A., Member, Decennial Review of Social Studies, University of Oxford, 1999–2000  
Dilnot, A., Member, Advisory Board for Social Sciences Division, University of Oxford  
Dilnot, A., Member, External Relations Group, Economic and Social Research Council, 1995–  
Griffith, R., Appointed Member, Royal Economic Society Conference Programme Committee, 2001–04  
Griffith, R., Elected Member, Royal Economic Society Committee on Women in Economics, 2000–03  
Meghir, C., Fellow, Econometric Society  
Walker, R., Member, Advisory Committee, Research Centre on Micro-Social Change, Institute for Social and Economic Research, 2000  
Windmeijer, F., Member, Technological Change in Health Care (TECH) Research Network  
Windmeijer, F., Research Fellow, IZA, Bonn

### **2. MEMBERSHIP OF NETWORKS**

Attanasio, O., Member, TMR on Pensions and Saving  
Attanasio, O., TMR on New Approaches to the Study of Economic Fluctuations  
Besley, T., Co-organiser, Public Economics Working Group  
Blundell, R., Advisory Panel, ESRC Econometric Study Group  
Blundell, R., Member, TMR on Pensions and Saving  
Blundell, R., Member, NBER Network on International Social Security  
Blundell, R., TMR on New Approaches to the Study of Economic Fluctuations  
Blundell, R., Advisory Panel, ESRC Econometric Study Group  
Bond, S., Advisory Panel, ESRC Econometric Study Group  
Browning, M., Member, Canadian International Labour Network  
Crawford, I., Co-organiser, Public Economics Working Group

Dearden, L., Member, DfEE Working Group on the Returns to Education and Training, June 1999–

Dearden, L., Member, DfEE Skills Research Group, July 1999–February 2000

Dearden, L., Strand Leader (Returns to Education), DfEE Centre for the Economics of Education, January 2000–

Griffith, R., Research Affiliate, Centre for Economic Policy Research

Low, H., Co-organiser, Public Economics Working Group

Redding, S., Research Affiliate, International Trade Programme, CEPR

Scharf, K., Co-organiser, Public Economics Working Group

Walker, I., Member, EU TSER ‘PURE’ network on economics of education

Windmeijer, F., Co-organiser, ESRC Econometric Study Group

### **3./4. OVERSEAS VISITORS AND FELLOWS**

Joshua Angrist (MIT)	Marten Palme (Stockholm School of Economics)
Martin Browning (University of Copenhagen)	Krishna Pendakur (Simon Fraser University)
David Card (Berkeley)	Isabelle Perrigne (Univ. of Southern California)
Bronwyn Hall (Berkeley)	James Poterba (MIT)
Dietmar Harhoff (ZEW, Mannheim)	Jean-Marc Robin (CREST, INRA, Paris)
Mike Hurd (RAND)	James Smith (RAND)
Michael Keen (IMF)	Quang Vuong (Univ. of Southern California)
Tor Jakob Klette (Oslo)	Guglielmo Weber (Padua)
Arthur Lewbel (Boston College)	Robert Willis (Michigan)
Thierry Magnac (CREST, INRA, Paris)	Michael Wiseman (Urban Institute)
Daniel McFadden (Berkeley)	

### **5. SUBSTANTIVE ADVICE AND CONSULTANCY**

Attanasio, O., Consultant, International Monetary Fund

Attanasio, O., Consultant, Inter-American Development Bank

Bond, S. and Van Reenen, J., evidence to the Trade and Industry Select Committee, January 2000

Crawford, I., Witness, House of Commons Select Committee on Scottish Affairs

Dilnot, A. and Emmerson, C., evidence to the Social Security Select Committee Report on Pensioner Poverty, 28 June 2000

Duncan, A., Academic Consultant, World Bank, June 2000–

Emmerson, C., evidence to the Treasury Committee on the Spending Review 2000, 20 July 2000

Griffith, R., Expert Advisor, European Union Commission on Corporate Taxation and Innovation

Haskel, J., Academic Consultant, HM Treasury

Miles, D., Expert Witness, Treasury Select Committee

### **6. CONFERENCE PAPERS**

Attanasio, O., invited paper, Annual World Bank Conference on Development and Economics: Inequality in Latin America, Washington, April 2000.

- Attanasio, O., invited lecture, World Congress of the Econometric Society, Seattle, August 2000, 'Consumption smoothing and extended families'.
- Attanasio, O., Berloff, G., Blundell, R. and Preston, I., 'From wage shocks to income and consumption shocks', presented at NBER Summer Workshop, Boston, July 2000.
- Banks, J. and Emmerson, C., *UK Annuityants*, IFS Briefing Note no. 5 (<http://www.ifs.org.uk/pensions/annuities.pdf>). This paper was presented at a conference on 'UK Annuities and Retirement: Challenges and Policy Options' on 7 December 1999 at Imperial College, London, organised by the Centre for Pensions and Social Insurance at Birkbeck College.
- Banks, J. and Emmerson, C., 'Public and private pension spending: principles, practice and the need for reform', *Fiscal Studies*, vol. 21, no. 1, pp. 1–63. This paper was presented at the *Fiscal Studies* seminar on public spending, 7 December 1999.
- Besley, T., 'Political economy of decentralisation'. Keynote address, Association of Public Economic Theory conference, University of Warwick, July 2000, 'Political economics of decentralisation'.
- Bingley, P. and Walker, I., 'Work incentives and housing subsidies', RES St Andrews; forthcoming *Economic Journal*.
- Bloom, N., 'A generalised model of investment under uncertainty: aggregation and estimation', presented at the BIRC conference, Maastricht, Holland, November 1999, and 8<sup>th</sup> ENTER Jamboree, London, January 2000.
- Bloom, N., 'Modelling the dynamic demand for capital and labour', presented at the World Congress of Economics, Seattle, August 2000.
- Bloom, N., 'The real options effects of uncertainty on investment and labour demand', presented at Money, Macro and Finance Conference, London, September 2000.
- Bloom, N., 'Public policy to promote investment', Oxford and Cambridge Public Economics lecture series, 'Topics in the Application of Economics'.
- Bloom, N., Bond, S. and Van Reenen, J., 'The dynamics of investment under uncertainty', presented at BIRC conference, Maastricht, Holland, November 1999.
- Blundell, R. *Invited Lecture*: 8th World Meetings of the Econometric Society, Seattle, August.
- Blundell, R. *Invited Lecture*: European Workshop in Labour Economics, IZA, Munich, September.
- Bond, S. and Cummins, J., 'The stock market and investment in the New Economy: some tangible facts and intangible fictions', Brookings Panel on Economic Activity, March 2000.
- Bond, S. and Cummins, J., 'Noisy share prices and the Q model of investment', Industrial Structure and Input Markets conference, ZEW, Mannheim, May 2000, and Econometric Society 8<sup>th</sup> World Congress, Seattle, August 2000.
- Browning, M., invited address, ESRC Econometric Study Group.
- Devereux, M., Griffith R. and Simpson, H., 'The geographic distribution of production activity in the UK', Econometric Society 8<sup>th</sup> World Congress, Seattle, August 2000.
- Disney, R., 'Income and well-being of the elderly in Britain', QMC Medical School, January 2000.
- Disney, R., panel speaker, CEPR/RES conference 'Defusing the Pension Time Bomb: What Are the Reform Options?', London, 3 February 2000.
- Disney, R., 'Opting out of state pensions: comparative evidence', CERP, University of Turin, conference on pensions, June 2000.
- Disney, R., 'Tax policy and employment: what do macroeconomic and microeconomic studies tell us?', International Monetary Fund, July 2000.
- Disney, R., Emmerson, C. and Smith, S. (2000), 'Pension reform and labour market flexibility in Britain', presented to conference on 'Creating a Premier League Economy', London School of Economics, 4–5 May 2000.

- Disney, R., Haskel, J. and Hedden, Y., 'Restructuring and productivity growth in Britain', Bank of England, February 2000, and HM Treasury, March 2000.
- Disney, R. and Smith, S., 'The impact of the abolition of the earnings test for pensioners', University of Manchester, March 2000, and TMR conference, Deidesheim, April 2000, and International Monetary Fund, June 2000, and World Bank, July 2000, and Brookings Institution, July 2000.
- Duncan, A., invited seminar, 'Household labour supply, childcare costs and tax credits', IZA Workshop, 'The Economics of Childcare', Bonn, November 1999.
- Duncan, A., invited paper, 'Work incentives and tax credits: an international perspective', presented to the Welfare Reform Group, University of Melbourne, January 2000.
- Duncan, A., departmental seminar, University of Leicester, April 2000.
- Duncan, A., Royal Economic Society conference, University of St Andrews, 14 July 2000.
- Duncan, A., invited presentation, 'Employment incentives and tax credits in the United Kingdom', presented to the Welfare Reform Group, University of Melbourne, 10 November 2000.
- Duncan, A. and Reed, H., 'Meeting distributional and employment objectives using in-work benefits', presented to the Welfare-to-Work Policy Seminar, University College London, 12 May 2000.
- Emmerson, C., 'UK annuitants', presented at conference on 'UK Annuities and Retirement: Challenges and Policy Options', Imperial College, London, organised by the Centre for Pensions and Social Insurance at Birkbeck College, 7 December 1999.
- Emmerson, C., 'Government spending and the public finances', Oxford and Cambridge Public Economics lecture series, 'Topics in the Application of Economics'.
- Hindriks, J. and Myles, G., 'Strategic inter-regional transfers', Stanford Institute of Theoretical Economics, Stanford, 2000.
- Low, H., Winter Meeting, Econometric Society, January 2000.
- Low, H., Public Economics Working Group, February 2000.
- Low, H., NBER Consumption Workshop, July 2000.
- Low, H., Royal Economic Society, July 2000.
- Myck, M., 'Welfare-to-work: evaluating the New Deal', Oxford and Cambridge Public Economics lecture series, 'Topics in the Application of Economics'.
- Myles, G., 'Economic mismeasurement and the bias in policy choice', Public Economic Theory Conference, University of Warwick, 2000.
- Nickell, S., Redding, S. and Swaffield, J., 'Educational attainment and specialisation in OECD countries', CEPR European Research Workshop in International Trade, Copenhagen, June 2000.
- Redding, S., 'The dynamics of international specialisation', Empirical Investigations in International Trade Conference, Purdue, Indiana, November 1999.
- Redding, S. and Venables, A., 'Economic geography and international inequality', CEPR Discussion Paper no. 2568. This paper was presented at CEPR European Research Workshop in International Trade, Copenhagen, June 2000.
- Reed, H., 'Training and higher education', Oxford and Cambridge Public Economics lecture series, 'Topics in the Application of Economics'.
- Rohwedder, S., 'The pensions debate', Oxford and Cambridge Public Economics lecture series, 'Topics in the Application of Economics'.
- Scharf, K., invited presentation, Econometric Society Meetings, Boston, August 2000.
- Scharf, K., CEPR/Toulouse conference on Institutions of Restraint, Toulouse, June 2000.
- Scharf, K., APET 2000, Warwick University, June 2000.
- Scharf, K., CEPR Public Policy Symposium, Madrid, September 2000.
- Simpson, H., 'Government policy and productivity', Oxford and Cambridge Public Economics lecture series, 'Topics in the Application of Economics'.
- Smith, Z., 'Taxing alcohol and cigarettes', Oxford and Cambridge Public Economics lecture series, 'Topics in the Application of Economics'.

- Walker, R., keynote presentation, 'Work patterns and the consequences for social security', European Institute of Social Security Conference, Cyprus, 6 October 1999.
- Walker, R., guest presentation, 'Will ONE be Effective?', Queen Mary and Westfield Public Policy Seminar, London, 12 October 1999.
- Walker, R., 'Workfare: thanks and no thanks', Graduate Seminar, School of Public Policy, Maryland University, Baltimore County, 3 November 1999.
- Walker, R., session organiser and selected paper, Annual Conference of the Association of Public Policy Analysis and Management, Washington, 4–6 November 1999.
- Walker, R., keynote presentation, 'Evaluation in the new policy environment', British Evaluation Society, Edinburgh, December 1999.
- Walker, R., 'After work, beyond welfare', presented to an IFS International Seminar, London, May 2000.
- Walker, R., 'Social security research and evaluation', presented to the Social Security Advisory Committee, Hitchin Priory, 8 June 2000.
- Walker, R., guest presentation, 'Great expectations: can social science evaluate New Labour's policies?', Royal Statistical Society conference on evaluation, London, 4 July 2000.
- Walker, R., 'Transatlantic policy transfer loops: reforming welfare', presented at the Comparative Social Policy Conference, University of Stirling, July 2000.
- Windmeijer, F., 'Identifying demand for health resources using waiting times information', Bergen Workshop in Health Economics, Bergen, May 2000.
- Windmeijer, F., 'Criterion-based inference for GMM in autoregressive panel data models', 9<sup>th</sup> International Conference on Panel Data, Geneva, June 2000, and World Congress of the Econometric Society, Seattle, August 2000.

## 7. MEDIA COVERAGE: NEWSPAPER ARTICLES

- Dilnot, A. and Emmerson, C., 'Wisdom of the wait see approach to public finances', *Financial Times*, 10 November 1999.
- Dilnot, A. and Emmerson, C., 'Ministers' challenge lies in delivery', *Financial Times*, 18 July 2000.
- Dilnot, A. and Emmerson, C., 'Not much to play with come the main event', *Financial Times*, 9 November 2000.
- Disney, R., 'Agreeing the cost of getting old', *Financial Times*, 24 March 2000.
- Disney, R., 'The European way of aging', *Financial Times*, 10 October 2000.
- Disney, R., Haskel, J. and Heden, Y., 'Rover's open and shut case', *The Guardian*, 20 March 2000.
- Reed, H., 'Low-income bands continue to feel benefit of working families' tax credit', *Financial Times*, 22 March 2000.
- Smith, Z., 'Fuelling dissent', *The Guardian*, 12 September 2000.
- Van Reenen, J., 'Small is not always beautiful', *The Independent*, 20 February 2000.

## 8. MEDIA COVERAGE: RADIO AND TV

### National Television

BBC1, 1 O'clock News	A. Dilnot	9.11.99, 17.1.00, 21.3.00, 18.7.00, 20.9.00
	C. Emmerson	21.3.00, 25.9.00
	Z. Smith	11.9.00

BBC1, 6 O'clock News	A. Dilnot	12.10.99, 17.5.00, 11.7.00, 20.9.00
BBC1, 9 O'clock News	A. Dilnot	8.11.99, 26.1.00, 14.3.00, 27.4.00, 11.7.00, 17.7.00, 18.7.00, 20.9.00
BBC1, Breakfast News	I. Crawford A. Dilnot	10.11.99, 17.11.99 9.11.99, 17.5.00, 3.7.00, 18.7.00
BBC1, Business Breakfast	C. Emmerson	16.2.00, 21.3.00
BBC2, Live Budget Special	A. Dilnot	5.10.99
BBC2, Newsnight	A. Dilnot	21.3.00
	A. Dilnot	7.3.00, 14.3.00, 11.7.00
	C. Emmerson	24.5.00
	J. Taylor	15.3.00
BBC2, North of Westminster	A. Dilnot	19.3.00
BBC2, On the Record	A. Dilnot	12.3.00, 26.3.00, 25.6.00
BBC2, South of Westminster	A. Dilnot	19.3.00
BBC2, Westminster Live	A. Dilnot	11.7.00, 18.7.00
BBC2, Working Lunch	A. Dilnot	18.7.00
	C. Emmerson	27.9.00
BBC News 24	A. Dilnot	17.1.00, 18.7.00
	C. Emmerson	12.9.00
BBC World	C. Emmerson	12.9.00
Bloomberg News	A. Dilnot	13.3.00
	Z. Smith	13.9.00
Channel 4, News	L. Blow	5.7.00
	A. Dilnot	11.10.99, 2.4.00, 24.5.00, 11.7.00, 7.9.00, 20.9.00
	C. Emmerson	22.6.00
CNN, Inside Europe	G. Violante	2.8.00
ITN, 11 O'clock News	A. Dilnot	18.7.00
ITN, Lunchtime News	A. Dilnot	20.9.00
ITV, News at 6.30pm	A. Dilnot	18.7.00
ITV, Tonight	A. Dilnot	3.11.99, 6.7.00, 13.9.00
Sky News	A. Dilnot	22.3.00
	C. Emmerson	14.4.00, 20.9.00
<b>National Radio</b>		
BBC Radio 4, 6 O'clock News	A. Dilnot	8.11.99, 8.5.00, 15.9.00
	C. Emmerson	22.3.00, 31.5.00
BBC Radio 4, Analysis	A. Dilnot	4.11.99, 23.12.99, 27.4.00, 13.7.00, 13.8.00
	A. Goodman	16.3.00
BBC Radio 4, Disability	A. Dilnot	1.2.00, 7.2.00, 14.2.00, 28.2.00
BBC Radio 4, Financial World Tonight	A. Dilnot	26.1.00, 18.7.00
BBC Radio 4, History of Income Tax	A. Dilnot	27.10.99
BBC Radio 4, Moneybox	S. Tanner	1.3.00
BBC Radio 4, PM	A. Dilnot	22.3.00, 11.7.00
	C. Emmerson	4.4.00
BBC Radio 4, Today	A. Dilnot	29.12.99, 17.1.00, 18.1.00, 27.1.00, 28.1.00, 9.2.00, 15.2.00, 17.2.00, 20.3.00, 22.3.00, 24.4.00, 30.5.00,

		11.7.00, 13.7.00, 6.9.00, 20.9.00
BBC Radio 4, Week in Westminster	C. Emmerson	4.6.00
BBC Radio 4, Westminster Hour	A. Dilnot	19.3.00
BBC Radio 4, World at One	A. Dilnot	6.10.99, 10.12.99, 8.5.00, 17.7.00, 20.9.00
	J. McCrae	21.10.99, 20.9.00
BBC Radio 4, World Tonight	A. Dilnot	19.3.00, 18.4.00, 8.6.00, 11.7.00, 18.7.00
BBC Radio 4, You and Yours	C. Emmerson	27.9.00
BBC Radio 5, Breakfast News	A. Dilnot	15.3.00
BBC Radio 5, Financial World Tonight	A. Dilnot	18.7.00
BBC Radio 5 Live	A. Dilnot	16.2.00, 21.3.00, 20.9.00
	C. Emmerson	11.4.00, 24.5.00, 30.6.00, 11.7.00, 1.8.00, 11.9.00
BBC World Service	A. Dilnot	15.9.00
	C. Emmerson	11.9.00

### **Local Radio**

BBC Radio Gloucestershire	C. Emmerson	12.9.00
BBC Radio Humberside & Worcester	C. Emmerson	12.9.00
BBC Radio Lancashire	C. Emmerson	30.6.00
BBC Radio Leeds	C. Emmerson	12.9.00
BBC Radio Newcastle	C. Emmerson	12.9.00
BBC Radio Scotland	A. Dilnot	17.3.00
	C. Emmerson	29.6.00, 14.7.00
BBC Radio Sheffield	C. Emmerson	12.9.00
BBC Radio Wales	A. Dilnot	19.9.00
	C. Emmerson	12.9.00
IRN	C. Emmerson	18.7.00
London Live Radio	I. Crawford	11.9.00
Three Counties Radio	C. Emmerson	24.5.00

## **9. CONFERENCES**

Attanasio, O., Organiser, NBER Summer Institute Workshop, 'Aggregate Implication of Microeconomic Consumption Behaviour'.

Besley, T., Crawford, I., Low, H. and Scharf, K., Co-organisers, Public Economics Working Group Conference, Warwick, February 2000.

Windmeijer, F., Co-organiser, ESRC Econometric Study Group Conference, Bristol, July 2000.

Alcohol Taxes, Tax Revenues and the Single European Market, October 1999

Public Spending on Education, October 1999

Household Saving: Issues and Evidence, October 1999

Income Dynamics and Health Inequalities, December 1999

Public Spending on Pensions, December 1999

Financial Planning: The Role of Information in Saving Decisions, December 1999

Green Budget 2000, January 2000

Public Spending on Broadcasting, Media and the Arts, February 2000

Post-Budget Briefing, March 2000

Pressures in UK Healthcare, May 2000  
 Tax Harmonisation in Europe, May 2000  
 The Effectiveness of Welfare-to-Work Programmes, May 2000  
 Public Spending on Defence, June 2000  
 Annuity Markets and Retirement Security, July 2000 (Annual Lecture)  
 Spending Review Briefing, July 2000  
 Public Spending on Transport and Infrastructure, September 2000  
 Aligning Tax and Accounts, September 2000 (with CIOT)

## 10. INTERNATIONAL COLLABORATIVE RESEARCH PROJECTS

Attanasio, O., Deleire, T., Meghir, C. and Weber, G., ‘Comparison of consumption of the elderly in the US and the UK’, University of Chicago research grant.  
 Bond, S., ‘Noisy share prices and the Q model of investment’, with J. Cummins (NYU).  
 Bond, S., ‘Estimation of production functions and factor demands’, with T.J. Klette (Oslo).  
 Bond, S., Griffith, R. and Devereux, M., project for European Commission on Measurement of Corporate Taxation in the EU, with C. Spengel and others (ZEW, Mannheim).  
 Violante, G., currently engaged in research projects with Daron Acemoglu (MIT), Philippe Aghion (Harvard), Jason Cummins (NYU), Pietro Garibaldi (Bocconi, Italy), Per Krusell (Rochester) and Ricardo Lagos (NYU).

## 11. QUALIFICATIONS OBTAINED

## 12. SUMMARY OF EXTERNAL RELATIONSHIPS, 1999–2000

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### GROUP B:

#### EXTERNAL RELATIONSHIPS

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1. Membership of committees	24
2. Membership of networks	20
3./4. Overseas visitors and fellows	21
5. Substantive advice and consultancy:	
UK	6
Non-UK	4
6. Conference papers	62
7. Newspaper articles	9
8. Radio and TV	50
9. Conferences	21
10. International collaborative research projects	5
11. Qualifications obtained	0

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