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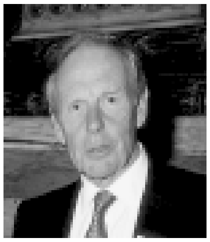

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CONTENTS

In 2000, the National Institute concluded a review of its strategic directions. It aims to continue producing high quality academic research which is relevant to the needs of business and public policy makers and, in keeping with its original purpose, will do so from an independent, non-aligned position.

Last year, I reported on the first phase of the Institute's review of its research and future strategy. The encouraging results from that exercise provided the basis for a specially-constituted Strategy Committee to consider options for future development and to make recommendations to the Institute's Council of Management. A report was subsequently made at the Annual General Meeting in November 2000.

The Strategy Committee found a clear consensus among our constituents on some key issues. First, the Institute's international links – already very diverse – are being strengthened and formalised. A European Economic Interest Grouping (EEIG) is being set up in association with the Deutsches Institut für Wirtschaftsforschung in Berlin and the Observatoire Française des Conjonctures Economiques in Paris. The EEIG will simplify our ability to compete for funding from European Union (EU) sources, an area where the Institute has a growing record of success. With the benefit of EU funding, the Institute has already begun to play an active role in the work of the Brussels-based Centre for Economic Policy Studies. A renewed agreement with our colleagues at the Lehrmittelverlag des Kantons Zurich in Switzerland will facilitate the continued development of educational materials for teaching primary school mathematics; and our model of the world economy continues to attract new subscribers from overseas.

Second, there was a feeling that the Institute could disseminate its outputs more actively and promote dialogue in research. After a competitive tendering exercise involving major journal publishers, the Institute has signed an agreement with Sage Journals to market and distribute the *National Institute Economic Review* world-wide on its behalf. The Institute retains ownership of the title, copyright and full editorial control. The journal is also adopting a more 'open' approach to the publication of articles by non-members of staff. We expect these changes to increase the appeal of the journal and widen its readership.

In association with Cambridge University Press (CUP), a series of public lectures has been set up to commemorate the life and work of Professor Richard Stone (1913–91), distinguished Cambridge economist and Nobel Prize Winner. Stone's Prize-winning study was originally published by the Institute and the Department of Applied Economics at Cambridge following his wartime research here. Lectures given in the series, commencing in 2001, will result in full-length published texts dealing with contemporary problems in economic theory and policy.

The Strategy Committee also looked at how the Institute could utilise its healthy finances to provide for future development. Against a background in which there is strong competition in many areas of research, the Committee concluded that we should enhance our complement of senior researchers by appointing Senior Visiting Fellows who hold university posts but work with us part-time in stimulating new fields of enquiry. Professor Philip Davis from Brunel University is the first such appointment.

Finally, the Institute has redefined its mission:

The National Institute aims to promote, through quantitative research, a deeper understanding of the interaction of economic and social forces that affect people's lives, so that they may be improved.

We believe this encapsulates both our distinctive research approach and a commitment to a better quality of life for all.

The National Institute has always been in a position to contribute to the public debate and to enhance the effectiveness of public policy from a position outside and independent of the Government. This sort of involvement has seen two important milestones in the last year. First of all, I became a Statistics Commissioner, joining the new body that the Government has set up to monitor the output of the Statistical Service. The main contribution I expect to make to the Commission is of a technical nature, helping the Commission to monitor the quality of statistical products. This is beginning with an assessment of what the Statistical Service knows about the reliability of its outputs, a study which will eventually, I hope, lead to users having more information than they currently do about the accuracy of the data with which they are provided.

The second milestone concerns public funding of a commentary on the state of the economy. Until 1991 HM Treasury, the Bank of England and the ESRC had funded the provision of a regular commentary as part of the activity of the Macroeconomic Modelling Consortium. This was, in itself, a continuation of the funding that HM Treasury had provided for the National Institute since the 1950s. But, in part because of a confusion between, on the one hand, an economic forecast like many of those produced in the City and, on the other hand, an independent commentary and policy analysis incorporating a forecast, public support for the commentary ceased. Since then the continuing regular commentary on the UK economy has been possible thanks to the support of our Corporate Members and Financial Supporters.

However, I am glad to report that, once again, the Institute is receiving funding to produce an economic commentary, albeit this time on the European Union rather than the UK. On this occasion it comes from the European Parliament and is provided to an international consortium of research institutes of which NIESR is one. A central part of the analysis is that it is built round the National Institute's Global Econometric Model (NiGEM). It is hoped that this is the beginning of a regular programme of cooperation between the National Institute and our partners in the rest of Europe. A large part of our programme of work on international issues is supported by the user group for NiGEM; by the end of 2000 the number of users had risen towards 40 and we hope to find scope for further expansion in 2001. The standing of the model and its forecasts is illustrated by the fact that these forecasts are the only ones produced by non-government organisations which the European Central Bank quotes on a regular basis.

An increasing amount of our research involves cooperation with other research organisations in Europe and with European Union institutions. The two themes of Europe and statistics are brought together by our programme of work on economic statistics. This has received support from grants made under the European Commission's Fifth Framework programme. A two-year programme of work is beginning, involving four partner organisations, to find ways of producing estimates of GDP and other key aggregates for the European Union earlier than are currently available. The work builds on the methods used to produce our estimates of monthly GDP in this country and on the work related to prompt estimates of EU industrial production described on page 17 of this report. Other research, supported by the Statistical Office of the European Commission (EUROSTAT) has looked at whether a business cycle can be identified in the Euro Area. In the coming year we hope to see a further expansion of this fruitful cooperation with EUROSTAT.

The current government is rightly concerned about Britain's productivity performance, which a number of studies at the Institute has shown to be poor compared to some other industrial countries. Our work has provided a basis for further analysis both here and elsewhere. Like other researchers we endeavour to publish our work in academic journals and the list of publications in this report shows that we are succeeding in this respect. But journals are not suitable for all our output and it is gratifying to see the widespread references, particularly in official documents, to the Institute's publication on comparative productivity.* Meanwhile we have under way a study of local authority productivity, investigating how the various authorities in the country match up against each other in the provision of local authority services. Other work on productivity is planned to explain factors which lead to efficiency differences between countries. We hope to develop this area with further support from the European Union, also as part of its fifth framework programme.

Last year I reported that the Institute had received a large grant from the ESRC under its evolving macroeconomy programme. In the second round of applications we received a second grant for work on means testing. The study will look at the link between means testing and saving; while the Government has proposed a number of reforms of the benefit system, it has, at present, no means of assessing their impact on savings behaviour. This work represents a development of earlier studies of the effects of tax and social security structures on savings behaviour and, in turn, we hope to build on it to expand our work in this area. I hope that future research will include an investigation of the effects of the various tax exemptions and reliefs offered on different types of saving, in order to understand their influence both on the level of aggregate saving and on the distribution of income and wealth in the economy.

Over a number of years I have reported on the cooperation between the Institute and the London Borough of Barking and Dagenham in developing new means of teaching maths to primary school children. Thanks largely to the efforts of the Institute Secretary, I am glad to report that much progress has been made with publishing the teaching materials developed by the programme so that they can be of use to schools throughout the country. A web site providing information on them is available at www.ipmaths.co.uk. I hope to be able to report on an expansion of this activity at this time next year. The merit of the project and the underlying materials themselves can be deduced from the fact that school test scores in Barking and Dagenham have risen more sharply than in the country as a whole. For the first time Barking and Dagenham's performance now matches the national average. This exercise has required us, in order to comply with the law on charities, to set up a trading company, NIESR Services Ltd. Any profits which accrue to this company are then covenanted to the Institute.

The strategic review of the Institute suggested that it would be sensible for us to strengthen our activities by increasing senior input through the appointment of a number of Visiting Fellows. As our first step in this direction we have recruited Professor Philip Davis from Brunel University. He is working with our international economics group on looking at international differences in financial market structures. We are also making use of the Institute's resources to provide the seed finance needed to build up research links with university researchers who, for geographic reasons, may not be able to visit the Institute on a frequent basis. During the coming year we hope to develop this further insofar as our resources allow.

*O'MAHONY, M. (1999), *BRITAIN'S PRODUCTIVITY PERFORMANCE, 1950–1966. AN INTERNATIONAL PERSPECTIVE*, LONDON, NATIONAL INSTITUTE OF ECONOMIC AND SOCIAL RESEARCH.

THE MACROECONOMIC IMPACT OF UK WITHDRAWAL FROM THE EU

During 2000, research led by Garry Young and Nigel Pain has contributed, from an independent standpoint, to the longstanding debate over the benefits to the British economy of membership of the European Union (EU). The Institute's macroeconometric model of the UK economy has been used to assess the consequences of UK withdrawal from the EU, with particular reference to jobs, investment and the long-term growth prospects of the British economy.

Over the past 30 years the British economy has become increasingly integrated with that of the other EU members. There have been noticeable changes in trade patterns since entry into the EU, with a rising share of UK trade in goods and services now taking place with other member states. Detailed estimates from input-output tables suggest that up to 3.2 million UK jobs are now associated directly with exports of goods and services to other EU countries. This has given rise to popular concern that some of these jobs might be at risk if Britain were to leave the Union. Opponents of membership on the other hand argue that many of the benefits flowing from the increasingly integrated European Economic Area might still be available even if the UK were to withdraw, particularly since the Uruguay Round Agreement has imposed significant limits on the trade barriers that the EU can place on non-members. In conjunction with the potential gains from withdrawing from the Common Agricultural Policy and no longer paying net fiscal contributions to the EU, there is a case that withdrawal from the EU might actually offer net economic benefits.

New theories of economic growth in open economies stress the importance of knowledge, both codified and tacit, brought in through international trade and direct investment in the economy by foreign firms. Such transfers may indeed have permanent effects on output and the growth process by affecting total factor productivity and technical change. It is clear from research using panel data evidence that foreign direct investment and imports both affect the rate of labour-augmenting technical progress in a number of different industries in the UK. The location of multi-national activity was also examined, using a panel data set of the level of fixed capital formation by US-owned companies in nine European countries, since the mid-1960s. From this analysis, it emerges that membership of the EU or membership of the European Economic Area (and hence participation in the Single Market Programme) both have a significant positive impact on the location and scale of investment. Thus the size of national economies has to be viewed as partially determined by the degree of integration with Europe.

This does not necessarily mean that the number of jobs in the economy is similarly affected. In an economy such as the UK with flexible real wages, trade and direct investment might ultimately be expected to affect only the types of jobs available rather than the quantity. In the short term there might be some job losses if British consumers and firms were denied free access to European markets, but higher unemployment would put downward pressure on wages and prices so that those losing their jobs as a consequence of trade and investment 'shocks' could price themselves back into work. Of course national income and living standards could still decline, even if the quantity of jobs was ultimately unchanged.

The provisional conclusion from the Institute's model-based estimates is that the level of real gross national income would be around 1½–1¾ per cent lower outside the EU than inside, with GDP at constant prices being 2¼ per cent lower permanently than in the baseline case of continued EU membership. These estimates appear broadly equivalent to the gains that other EU economies are estimated to have made from the European integration process.

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Survey data are widely used to provide indicators of economic activity ahead of the publication of official data. Traditionally, survey based indicators exploit only aggregate survey information, namely the proportion of respondents who reported a rise or fall in activity. A new project at the National Institute, supported by the ESRC, considers disaggregate or firm-level survey responses and derives an alternative indicator of economic activity.

The use of survey data as a complement to official sources of statistics about the economy continues to be popular. The data are available more promptly and are generally believed to offer a good guide to the current state of the economy and to its prospects in the near future. Survey responses are typically ordered and categorical; respondents report 'rise', 'stay the same' or 'fall' relative to the previous period. Traditionally the aggregate survey responses (weighted by firm size) are then converted into a quantitative series to provide early indicators of economic activity. We have compared these 'aggregate' indicators with 'disaggregate' indicators based on firm-level survey responses. The disaggregate indicators, recently developed at the National Institute, are derived by relating firms' micro-responses to the official data using ordered discrete choice econometric models.

Firm-level response data from the CBI's *Industrial Trends Survey* are used to compare our disaggregate indicator with the traditional aggregate indicators. Using the CBI's firm-level survey data we have constructed both aggregate and disaggregate indicators of manufacturing output growth by examining the responses to the question: 'Excluding seasonal variations, what has been the trend over the past four months with regard to volume of output?' Firms can respond either 'up', 'same', 'down' or 'not applicable'.

The results so far have shown that the disaggregate indicators provide more accurate early indicators of manufacturing output growth (MQ) than their aggregate counterparts. An illustration is given in the chart below. The disaggregate indicator is (1) better correlated with the outturn for MQ than the aggregate indicator (an R^2 of 0.719 rather than 0.484), and (2) has a lower root mean squared forecast error against the outturn (2.080 versus 2.873). Results at the sectoral level confirm this finding. Grouping the firms into seven industrial sectors, we consistently find the disaggregate indicator of sectoral output growth to be more accurate than the traditional indicator.

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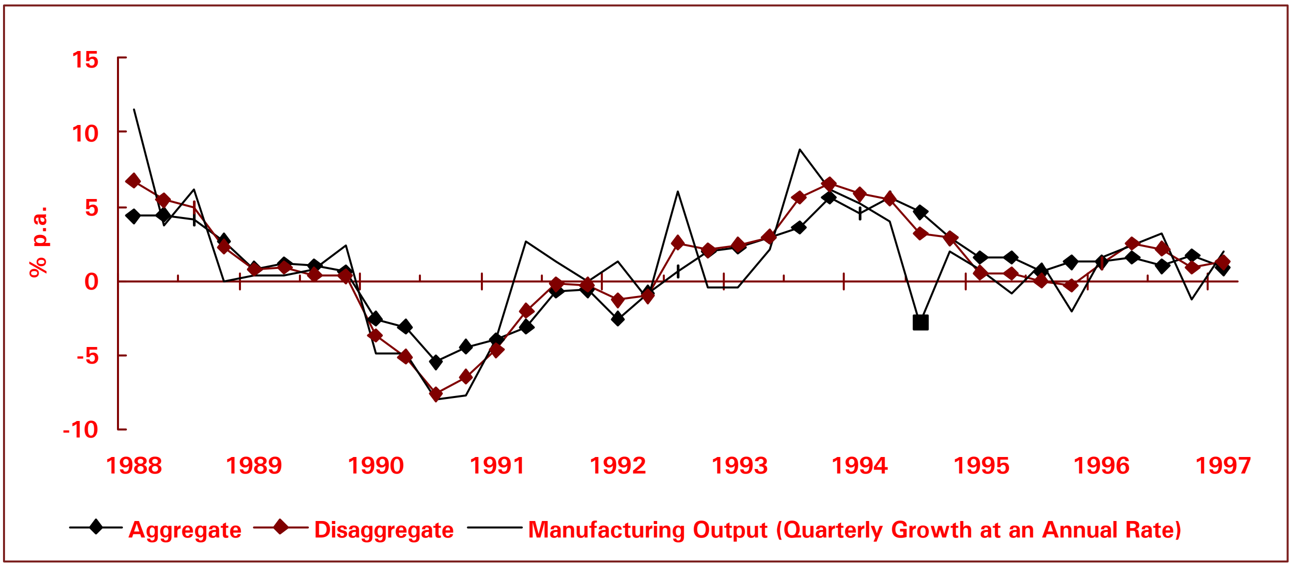
Survey data and growth of manufacturing output



INTERNATIONAL COMPARISON OF PERSONAL SECTOR SAVINGS RATES

It is already known that personal savings rates differ dramatically between countries. Financial institutions and public policy makers have a strong interest in understanding why this is so. Current research at the Institute, related to earlier work on generational accounts, seeks to address this question by analysing personal sector savings rates in three countries (Italy, USA and the UK) within a coherent and comprehensive framework.

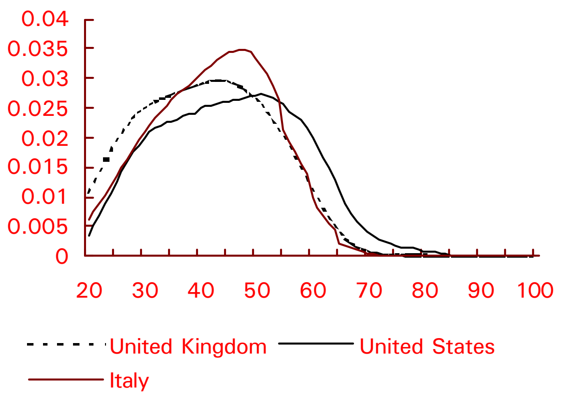
Italians save more than 16 per cent of their disposable income, the British just under 10 per cent on average and the Americans almost nothing. Is this because the British and the Americans, relative to the Italians, are not saving adequately for their retirement? Or are they saving less because the welfare state is doing the saving for them? Or does the incentive structure implicitly or explicitly built into the tax and benefit systems actually have the effect of discouraging savings?

For the average or representative individuals in each of the three countries, we have compiled a complete picture of all their expected revenues and expenditures throughout their lifetime, using a wide variety of survey data sources; we have also included all income in kind such as government education and health expenditure. By using the now widely accepted life-cycle model of savings behaviour, we have been able to answer the following question: if an average Italian expected to receive the same income in the course of a lifetime as an American, would he or she save more or less than the average American? The answer to this and similar questions has enabled us to deduce the causes of the difference in the savings rates between the countries.

Our work has suggested that all the difference between the personal sector savings rates in the US and Britain could be explained by the difference in retirement ages between the two countries. To illustrate this, in the figure below we have plotted the income profile of the average individual in each of these three countries. The average American tends to work almost six years longer than the average Briton or Italian. As expected lifetimes are almost identical in each of these countries, the average American needs to save less. In fact the difference is enough to explain all the difference in the savings rates between the US and the UK.

To explain the difference between the UK and Italy we focused on a very different mechanism. The evidence available to us suggests that the Italians saved more than the British because they were unable to borrow, particularly when they were young. In Italy, the capital markets and especially the mortgage markets are far less developed than in the UK. Hence the average Italian tends to make a down payment of at least 40 per cent on the initial purchase of a house. Also, he or she is far more likely to be unable to borrow when young, meaning that the average Italian has typically very low levels of debt.

Age profiles of labour income



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WE ARE GRATEFUL FOR THE FINANCIAL SUPPORT OF THE ECONOMIC AND SOCIAL RESEARCH COUNCIL IN CARRYING OUT THIS WORK.

Around one in every six adults in Britain has no bank or building society current account, and around one in every twelve has no bank, building society or Post Office account of any kind. Almost all those without accounts are not in paid employment. The question addressed by this research was whether those who do not have accounts differ in any significant way from apparently similar people drawn from the same population groups who do.

The research, using the 1997/98 Family Resources Survey and a series of questions inserted in the Office of National Statistics Omnibus Survey, found that the members of the non-working population who do not have accounts are very similar in most respects to those who have them. There are some differences. For example, those without accounts tend to have lower incomes. However, more than four out of five people with incomes of less than £100 a week do have accounts. Those who live in large cities are less likely to have accounts than similar people living in other areas. Social tenants and those of Indian, Pakistani or Bangladeshi origin are also less likely to have accounts than owner occupiers and people from other ethnic groups. Those who have some financial assets, a car, or a telephone, or who get a pension from a former employer or maintenance from a former partner are more likely to have accounts than those who do not.

On the basis of their characteristics and social and economic circumstances, most people without accounts might well be expected to have them. In other words, they are statistically indistinguishable from the majority who are already being served by the existing range of accounts offered by existing financial institutions. Only when we included information about usage of financial services by members of people's social networks were we able to identify more than half the non-users. Those who live in households where nobody else has an account are twenty-five times more likely not to have an account than a similar person who lives in a household where someone else has a current account. Similarly, people who say that few or none of their friends and relatives have accounts are twelve times more likely not to have an account than an identical person who says that all or most of their friends and family have accounts of some kind. Social networks make a much larger difference to someone's chances of having an account than any of their other characteristics. For instance, social housing tenants are twice as likely as owner-occupiers not to have an account.

The policy debate, sparked in part by the government's decision to pay all social security benefits into bank accounts from 2003, has concentrated on special accounts and new financial institutions. Our research suggests that most of those without accounts have a similar profile to existing customers of financial institutions; they are just less well informed. It may therefore be more practical for institutions to encourage non-customers to take up the existing range of accounts rather than develop new ones. However, there will continue to be the problem that some benefit claimants, including some elderly people, those with poor English, those with literacy problems and those with poor mental health, may find it impossible to cope with the complexity and organisation required. In these cases, the risks for the government, for financial institutions and for the individuals themselves appear to be large.

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WE ARE GRATEFUL TO THE BRITANNIA BUILDING SOCIETY FOR SUPPORTING THIS PROJECT. A COPY OF PAMELA MEADOWS' REPORT ENTITLED *ACCESS TO FINANCIAL SERVICES* IS AVAILABLE FREE ON REQUEST FROM THE NATIONAL INSTITUTE.

UNEMPLOYMENT TO SELF-EMPLOYMENT: THE ROLE OF MICRO-FINANCE

For the past two decades, the state has assisted unemployed people to become self-employed. Previous research has indicated that initial financing has tended to be very restricted and may contribute to business failure. Against this background, the ILO commissioned NIESR to examine whether there was a case for government micro-financial assistance to enable unemployed people to enter self-employment, and to identify the way in which support might best be structured and provided.

Assistance with a move from unemployment to self-employment has varied over time and by location, with, variously, advice, training, grants, loans and income support being available. At the same time, unemployed people have been able to access assistance from mainstream business support agencies, mainly providing advice and training. The study examined access to commercial loans for business start-up and found unemployed people were at a disadvantage, including through indirect discrimination in lending criteria. Some of the discriminatory criteria were justifiable in commercial terms; others were not. Irrespective of justification, the disadvantage, *inter alia*, suggested a need for government action.

Analysis of the current system of support across the UK revealed a plethora of programmes, schemes and providers, including government agencies and quangos, local authorities, the voluntary sector and the private sector. In some constituent countries of the UK, up to four government departments were involved, each with different aims (including tackling unemployment, business development, regeneration and income maintenance). The result was confusion, inefficient provision and variation in assistance across the country. Unemployed people had difficulty identifying support and lack of co-ordination resulted in a range of inefficiencies.

The study concluded that government intervention was appropriate and that the system of support needed improvement. As a prerequisite, government needs to develop a strategic approach to assisting unemployed people into self-employment, encompassing all micro-financial provision for unemployed people across the commercial, voluntary and state sectors. In England, the introduction of the Small Business Service provides a major opportunity for this. The aim of government support for business start-up by unemployed people also required clarification: our research suggested this should be to increase entry into employment (whether self-employment or as an employee) and that regeneration and the stimulation of a small business sector were inappropriate aims. Many of the improvements recommended would be cost-free and may indeed reduce costs.

Selected recommendations

- The structure should seek to maximise access to commercial funds, with the government playing an enabling role (through, for example, the provision of business start-up and continuation advice and training to unemployed people and loan guarantees); government provided grants and loans should be available to fill remaining gaps.
- Assistance should be available equally to all unemployed people across the country, irrespective of local economic conditions.
- The criteria for targeting assistance among the unemployed should be financial disadvantage not labour market disadvantage. Targeting the latter diverts support from those most needing micro-financial assistance (increasing deadweight) and, potentially, encourages less appropriate individuals to enter self-employment (increasing the risk of business failure).
- Delivery of public sector support should be rationalised at the local level to counter the diseconomies of scale, multiple bidding and confusion over access.

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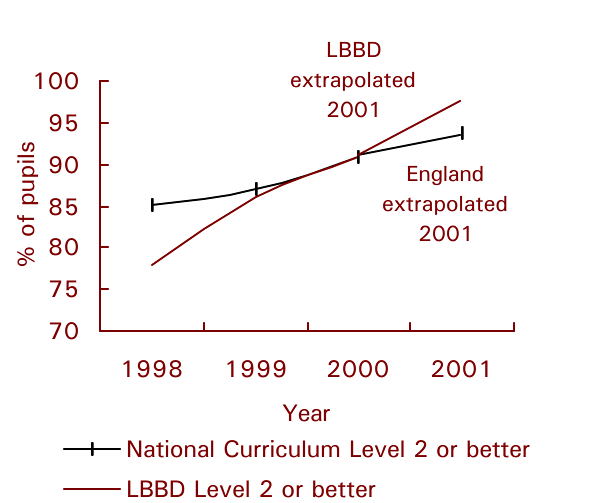
MOVING UP THE LADDER OF IMPROVEMENT IN MATHEMATICS

Collaboration between researchers at the National Institute and inspectors at the London Borough of Barking and Dagenham to improve standards of mathematics among primary school pupils of all levels of ability has continued. The partnership has been developing teaching materials and teaching methods based on successful practice observed in primary schools in Switzerland as part of the Improving Primary Mathematics (IPM) project. This school year, more than 18,000 pupils in over 60 schools are using the materials and teaching methods developed by the project.

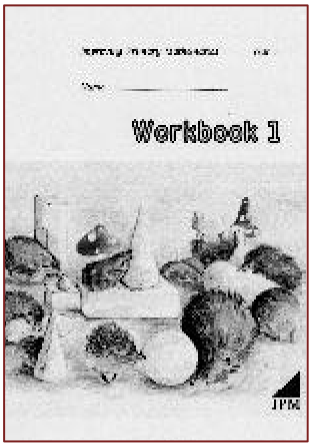
The project, which began in 1995 in Year 2 of primary school, now involves pupils in all six years of primary schooling; the first cohort of pupils to participate in the project will transfer to secondary schooling in September 2001. It is expected that at that time secondary schools in Barking and Dagenham will benefit from the higher standards of average mathematical attainment and the smaller proportion of lower attaining pupils. Plans to introduce reforms in secondary school teaching are under discussion.

Evidence regarding the effectiveness of the project in raising standards is provided by the nationwide tests at the end of Key Stage 1 (National Curriculum tests). When the project began, Barking and Dagenham was one of the lowest achieving education authorities in the country in terms of mathematical attainment. Since the project began, levels of achievement have risen markedly, and this year the percentage of pupils achieving Level 2 or better has reached the national average of 91 per cent (see chart).

KS1 Mathematics Test Results 1998–2000
% of pupils gaining level 2 or better



The growing evidence of the project's success, together with the cumulative refinement of the teaching materials after each year's teachers' evaluation, suggests that we should be making the project materials more widely available. With this objective in mind, we have plans for publication. Teaching materials for use with pupils in Years 1 and 2 should be available for schools to purchase in time for use in September 2001, with materials for other years being available by September 2002 and 2003. It is planned to launch the materials in the spring of 2001; a web site containing more detailed information and examples of pupils' and teachers' materials is available at www.ipmaths.co.uk.



The first workbook in the series.

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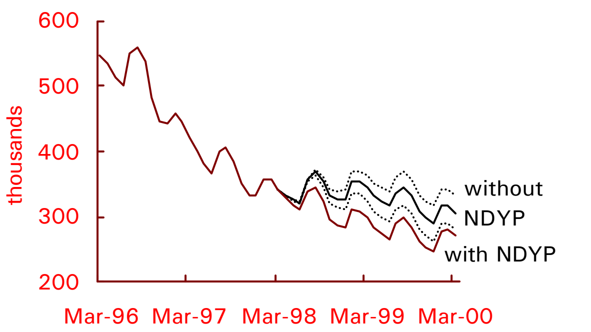
SALES AND DISTRIBUTION OF THE IPM TEACHING AND LEARNING MATERIALS IS BEING CARRIED OUT ON BEHALF OF THE NATIONAL INSTITUTE AND THE LONDON BOROUGH OF BARKING AND DAGENHAM BY THE MODBURY GROUP, SENTINEL HOUSE, POUNDWELL, MODBURY, DEVON PL21 0XX (TEL: 01548 830710. E-MAIL MISNET.CO.UK)

The New Deal for Young People (NDYP) is one of the main components of the government's Welfare-to-Work strategy aimed at reducing unemployment and benefit dependency and at raising the number of people in jobs. NIESR research on the macro-economic implications of NDYP aims to assess the impact of the programme on employment and unemployment and how much it has cost.

NDYP was introduced nationally in April 1998. It is intended to help young people, who have been unemployed for over six months, find lasting jobs and to increase their long-term employability. During the initial Gateway stage of the programme, participants are given assistance in job search and basic skills development. Those who are still unemployed four months after entering the Gateway are offered a number of options, including further skills development through full-time education and training, and work experience through job placements and subsidised employment. Importantly, there is no 'fifth' option to opt out of the programme and remain on unemployment benefits.

Comparing the experiences of young people to that of other age groups in local labour markets, NIESR research suggests that the programme has had a beneficial impact on youth employment and unemployment. Due to the programme, young people experience shorter spells of unemployment and find jobs quicker than they would otherwise have done. Although some young people helped out of unemployment by the NDYP become unemployed again fairly soon, the programme has reduced overall youth unemployment.

Youth unemployment with and without NDYP



Note: Dashed lines indicate high and low counterfactuals for youth unemployment without NDYP.

The overall beneficial effects of NDYP on the youth labour market have implications for the whole economy. By creating a greater pool of effective job-seekers, the NDYP has reduced wage pressure and so allowed the economy to grow further without triggering policy action to restrain inflation. While the precise magnitude of these effects is difficult to quantify, estimates suggest that national income is around £½ billion per annum higher as a consequence of the programme and private consumption is raised, indicating a welfare gain to the economy as a whole. By March 2000, the NDYP had probably reduced unemployment among all age groups, including the young, by around 45,000 and raised employment, excluding those on government employment schemes, by around 25,000.

During its first two years, £668 million had been spent on the NDYP programme. This is much lower than was originally anticipated, partly because of the continued fall in unemployment throughout the period, and because most participants leave the programme during the cheaper Gateway period of intensive job search assistance. The overall net exchequer cost is smaller than this because of lower expenditure on Job Seekers' Allowance and higher tax revenues, estimated to be worth about £3 in every £5 spent on the programme. This implies an exchequer cost per extra person in employment of around £7,000 per annum. However, since NDYP raises both national income and private consumption, there is an economic benefit rather than a cost to the whole economy.

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MORE INFORMATION IS GIVEN IN: RILEY, R. AND YOUNG, G., *NEW DEAL FOR YOUNG PEOPLE: IMPLICATIONS FOR EMPLOYMENT AND THE PUBLIC FINANCES*, RESEARCH AND DEVELOPMENT REPORT ESR62, EMPLOYMENT SERVICE.

STUDENT SATISFACTION WITH UNIVERSITY PROVISION

As part of a two-year study into the effects of the introduction of tuition fees on British universities, financed by the Leverhulme Trust, the Institute has conducted the first of two surveys of final year degree students. Preliminary analysis suggests that how students finance their higher education has little impact on their levels of satisfaction, once differences in personal characteristics and the type of university are taken into account.

The first phase of the study consisted of a postal survey of final year students from four universities in the spring of 2000. This was the last cohort of undergraduates who did not have to pay student fees. Considerable variation in the methods by which students finance their studies and living costs was revealed, allowing us to investigate the possibility of links with student satisfaction. A second survey, to be conducted in the spring of 2001, will allow us to establish whether the introduction of fees has had an effect.

As part of the survey, respondents were asked how satisfied they were with various aspects of their university's overall service. Using an ordered logit analysis that takes into account differences in individual respondents, we found that many of the apparent relationships with student satisfaction (e.g. the positive influence of A-Level/Higher grades) disappear (with students having higher entry qualifications choosing a university with higher levels of satisfaction). The table below shows the percentage of respondents who reported a particular level of satisfaction, taking into account other influences, such as personal characteristics.

Most students have their fees funded by their local education authority, although in a small number of cases fees are paid by the students themselves, their parents, employer or health authority. Those who are funded by their health authority report significantly higher levels of satisfaction with the content of their course and the quality of practical facilities (as do students funded by their employer in respect of the latter).

In the absence of maintenance grants, the majority of students will have to find other sources of money. There is a systematic negative effect of funding on satisfaction for a number of aspects of university provision. The exception to this are those who still receive some form of maintenance grant (e.g. those on nursing degrees), who generally have a higher level of satisfaction. Finally, disabled students are less satisfied with all aspects of university services, as, in general, are students from non-white ethnic minorities. Conversely, students with parents who are from higher socio-economic groups (professional, managerial and technical workers) are often happier with their university's provision.

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Students' satisfaction with university provision

Aspect of provision	Dissatisfied		Satisfied	
	Very	Somewhat	Somewhat	Very
Organisation of course	5.1	44.6	30.9	19.5
Content of course	22.2	61.7	14.4	1.7
Overall quality of teaching	21.2	59.0	16.3	3.5
Quality of facilities for practical work	4.8	33.9	40.7	20.7
Access to tutors/lectures for help and advice	23.5	49.5	19.5	7.5
Feedback on written work/assignments	20.2	58.9	16.3	4.6
Fairness of grades for course work/exams	11.0	64.3	19.1	5.6

Note: Table shows the percentage of respondents who report a given level of satisfaction with that aspect of university provision, taking into account other influences, such as personal characteristics.

The declining coverage and influence of trade unions throughout the 1990s raised the prospect of a vanishing union wage premium. Analysis of matched employer–employee data for over 14,000 employees has produced some novel findings on the size, location and durability of the 'union effect' on wages in the private sector in Britain.

As suspected for some time, there is now no general premium for employees covered by union bargaining in Britain. But specific types of employer-union arrangement do show a substantial premium compared with cases where the employee's pay is not the result of union negotiations. What matters most is how extensive the collective bargaining is in terms of the proportion of the workforce that it applies to – also a matter of voluntary agreement.

Only where bargaining covers between 70 and 99 per cent of employees is there a demonstrable pay premium over similar employees in similar non-union workplaces. The union premium in these circumstances is estimated at 8 per cent of hourly pay. It applies to 14 per cent of all employees in the private sector, just half of those whose pay is determined by collective bargaining.

There are other beneficiaries of union activity in these workplaces – mostly managers and professional workers. They may even benefit to a greater degree than the majority of their subordinates and junior colleagues who are directly covered by the union negotiations.

Multi-union representation, long recognised as one of the most potent forms of unionism, brings in a wage premium of around 11 per cent. Again, employees not in union membership in the same workplaces as those who were benefitted from the gains achieved by trade unions. The chart plots the proportion of employees gaining from the direct and spill-over effects of unions by their position in the private sector wage distribution.

Single union arrangements, often advocated as providing fertile ground for the new 'partnership' deals, show no advantage for employees over having no union negotiating their pay for them. This is matched by the ineffectiveness of non-union representation. Where managers consult with employees, either through a consultative committee or with individual non-union representatives, pay levels are unaffected.

Unions continue to have a role in whether employers in the private sector offer enhanced fringe benefits, but only in particular circumstances. Controlling for other factors, pension schemes are more common where unions negotiate at workplace or enterprise level, but not where there is multi-employer bargaining over pay. As with pay, non-union representation makes no difference as to whether employers provide pensions. Sick pay provision closely follows the pattern of higher pay, with the same types of workplace and union representation having an increased likelihood of providing the benefit.

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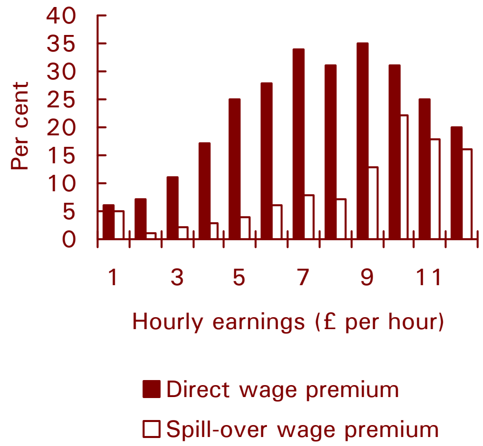
WE ARE GRATEFUL TO THE JOSEPH ROWNTREE FOUNDATION FOR SUPPORTING THIS RESEARCH AND TO THE FOUR SPONSORING BODIES OF THE 1998 WORKPLACE EMPLOYEE RELATIONS SURVEY.

Percentage of private sector employees with a union wage premium, by hourly earnings



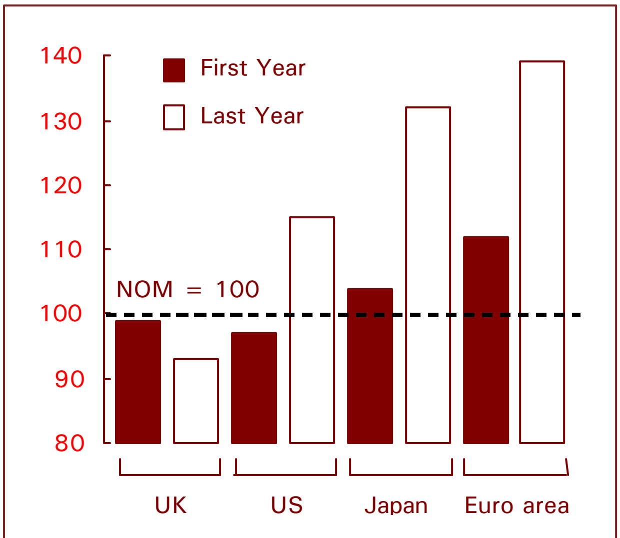
DESIGNING MONETARY POLICY RULES IN AN UNCERTAIN WORLD

The debate over the 'best' policy reaction to shocks to the economy can depend on the objectives of the authorities, the pattern of shocks the economy faces and the response of the private sector to those shocks. Recent research at the Institute has investigated these issues and brought a number of insights into the nature of the problems facing monetary authorities.

Research over the past year has continued to focus on evaluating the stabilisation properties of two types of monetary policy rules (nominal targets versus inflation targets) using stochastic simulation techniques on the National Institute's Global Econometric Model, NiGEM. The research has investigated the stabilisation properties of these rules under different objectives of the authorities and varying policy horizons over which the objectives are sought. Research has also focused on what the appropriate fiscal targets should be for the European economies so that automatic stabilisers are allowed to work freely given the constraints imposed by the Stability and Growth Pact.

Results suggest that a nominal aggregate targeting rule can be superior to inflation targeting at stabilising output and the price level but that inflation targeting can perform better at stabilising inflation variability except in large closed inflexible economies such as the Euro Area. It is clear that the preferred rule depends on the structure of the economy. Policy regimes that are appropriate for small open economies or very flexible ones may not be the best choice for large and inflexible groupings such as the Euro Area.

Price level variability over time
Index value for inflation targeting, NOM = 100.



The research has also examined the stabilisation properties of the rules over time and results suggest that a rule that contains a nominal aggregate can take the price level back to its baseline trajectory in the medium term more reliably than an inflation targeting rule. This has important implications for economic growth, especially in economies where longer-term contracting is prevalent. Contracts that can be safely made in real terms are probably better for enhancing growth. The chart shows the variability of the price level over time for inflation targeting compared to nominal targeting (NOM) which is given a value of 100. In general we see a rise in price level variability over time under inflation targeting compared to nominal targeting.

Rigidities in the labour markets were also shown to have important implications for policy setting. Different models of the European labour markets were constructed using panel estimation techniques. Results show that imposing commonalities in the transmission mechanisms introduces substantial amounts of inertia into the wage setting process. Results from the stochastic simulations suggest that the more inertial the economy, the more the authorities will favour a nominal aggregate rule.

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THIS RESEARCH WAS FINANCED BY AN ESRC AWARD. IT IS CONDUCTED BY MEMBERS OF THE MACRO MODELLING TEAM UNDER THE DIRECTION OF RAY BARRELL.

PRODUCTIVITY IN THE ELECTRICITY SUPPLY INDUSTRY

This research, financed by the Leverhulme Trust, examined the productivity performance of the privatised electricity supply industry (ESI) in the UK relative to the industry in the United States, France and Germany as well as its own past achievements. The report considers the justification for privatisation, notably that it would deliver efficiency improvements and eventually lead to lower prices for consumers.

A PRELIMINARY REPORT 'THE ELECTRICITY SUPPLY INDUSTRY: A STUDY OF AN INDUSTRY IN TRANSITION' HAS BEEN PRODUCED BY MARY O'MAHONY AND MICHELA VECCHI. FURTHER INFORMATION FROM M.VECCHI@NIESR.AC.UK.

The electricity industry witnessed radical changes in ownership and structure in 1990, when it was transferred into private ownership and broken up into its four components, generation, transmission, distribution and supply. Following privatisation, the acceleration in *labour* productivity growth achieved by the UK ESI was seen initially as evidence of the success of restructuring. Given the unimportance in the ESI of labour as an input relative to capital and fuel however, we considered it would be preferable to focus on total factor productivity (TFP) performance (see chart).

Over the entire period UK TFP growth of 2.2 per cent per annum was about equal to that in the USA, marginally above that in Germany and only about 60 per cent of rates achieved in France. In the post-privatisation period the UK's relative performance was poor, achieving TFP growth rates of 1.5 per cent per annum, about 60 per cent lower than the growth rates experienced when the industry was in monopoly control and lower than that achieved in the USA and France. The report also considers the change in consumer prices, adjusting for changes in fuel prices, and concludes that UK consumers did not gain before 1993; thereafter there is evidence of more rapid declines in prices in the UK than elsewhere.

The low rates of productivity growth in the UK occurred primarily as a result of the 'dash for gas' with high rates of investment by new independent power producers at a time when there was over-capacity in the industry. Moreover, the transition to a more competitive market structure may have been longer than originally envisaged. The experiment may yet yield the desired results as the excess coal-fired generating capacity is retired, replaced by more efficient gas-fired plants, and as competition in supply develops further.

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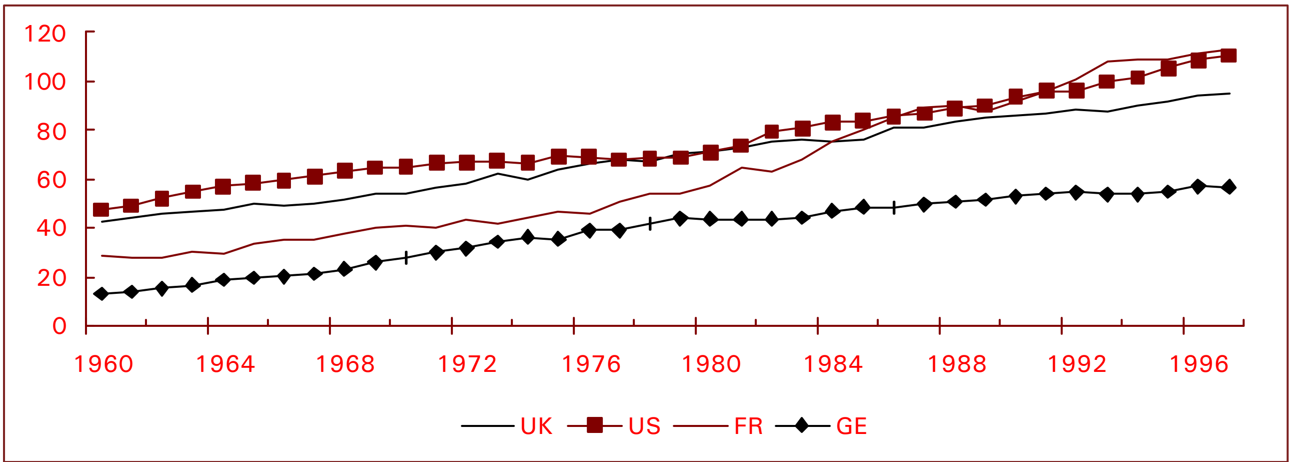
Relative levels of TFP, 1960–97
(US 1993 = 100)



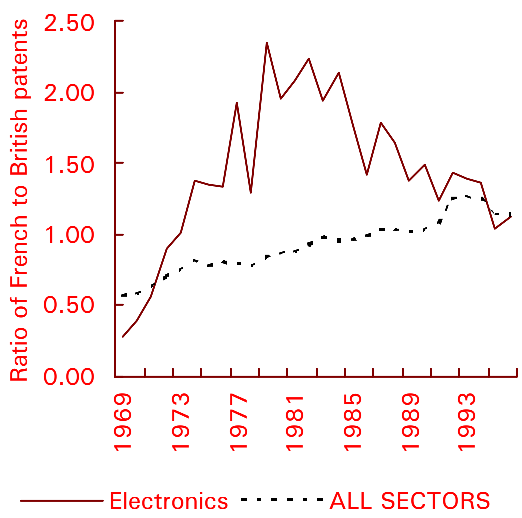
By some measures, the performance of the British electronics industry has much improved compared to continental European industries. Some of the reasons for this are highlighted in a recent ESRC-funded study of British and French electronics establishments carried out by researchers at the National Institute and at the University of Bourgogne. Foreign investment in the UK industry far exceeds that in France and this has contributed to a relatively high level of transatlantic networking and knowledge exchange in the British industry.

During the 1970s the French electronics industry enjoyed a substantial advantage over the British in patenting new ideas, which peaked at a ratio of 2.4:1 in 1979. Since then there has been a gradual decline in the French–British patent ratio to a point of near-parity in 1995 and 1996 (see chart). This British catch-up in electronics patenting has occurred despite much lower average levels of R&D expenditure in British electronics sectors compared to France. The British industry has also fared better in terms of export performance in recent years.

The study found a more dynamic and market-driven pattern of research interactions and exchange of ideas with customers in Britain, stimulated in part by the regular recruitment of experienced personnel who bring new networks of contacts with them – in contrast to the lack of mobility of French engineers and scientists. Finally, there was a faster rate of new relationship building in enterprise-university R&D interactions in Britain. This strongly reflected the budget constraints enforced on British universities, which have led them to adopt a highly proactive approach to research collaboration with industry.

The findings suggest that the greater 'openness' to new ideas and knowledge of British R&D networks may be particularly advantageous in a fast-changing 'high-tech' industry such as electronics. However, these recent trends in relative performance may not persist far into the future. A relatively weak level of investment in basic and strategic research in electronics in the UK continues to be a potential Achilles heel which could lead to long-term deficiencies in knowledge generation and the ability of enterprises to absorb relevant knowledge produced elsewhere. Conversely, the French electronics industry is in the early stages of adaptation to deregulated markets for telecoms and defence electronics products and could now conceivably make rapid improvements in competitiveness.

Ratio of French to British patents granted in the United States in electronics and in all sectors, 1969–96



Source: Data supplied to Science Policy Research Unit (SPRU) by the US Patent and Trademark Office
Note: Industrial classification (SPRU product areas): Electronics: 24 Telecommunications, 25 Semiconductors, 27 Calculators, computers and other office equipment, 28 Image and sound equipment, 29 Photography and photocopy.

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FURTHER DETAILS ABOUT THIS RESEARCH HAVE BEEN PUBLISHED BY GEOFF MASON, JEAN-PAUL BELTRAMO AND JEAN-JACQUES PAUL IN 'KNOWLEDGE INFRASTRUCTURE, TECHNICAL PROBLEM-SOLVING AND INDUSTRIAL PERFORMANCE: ELECTRONICS IN BRITAIN AND FRANCE' (PAPER TO DRUID SUMMER CONFERENCE ON THE LEARNING ECONOMY, AALBORG, DENMARK, JUNE 2000).

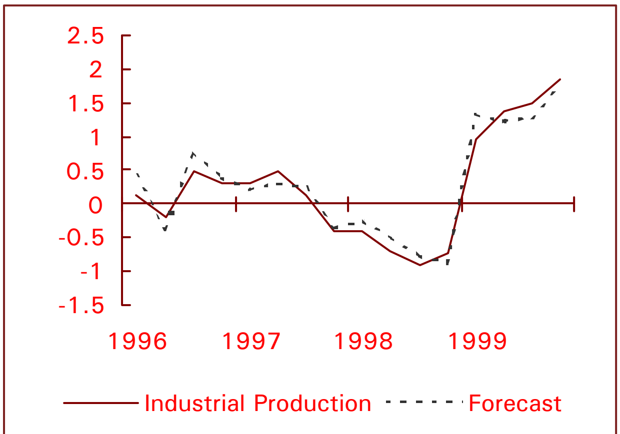
ESTIMATES OF EU INDUSTRIAL PRODUCTION ('NOW-CASTING')

One of the difficulties faced by the European Union and the Euro Area is the delay with which its statistics become available. It can take up to three months before quarterly estimates of Euro Area industrial output are published. An important statistical problem is the development and assessment of methods for 'now-casting' industrial production so as to provide estimates shortly after the end of each quarter and ahead of the data compiled from national statistical offices.

There are a number of indicators which can be used for now-casting. The European Commission and EU member states conduct business surveys which provide a prompt view of the state of business activity in the country. There is a question how best to extract a signal from these surveys, but the historic data present a balance showing the extent by which the proportion of those who think that things have improved exceeds those who think that things have worsened.

This study compared five different models which explain growth of industrial production on the basis of past movements and also in the light of business survey information. The first, a very naïve model, assumed that the rate of growth in each month to be forecast would be the same as that last observed in the data. This was a special case of the second, autoregressive, model in which output growth is forecast on the basis of past movements using a statistical relationship

Quarterly growth rate of EU industrial production



rather than one which is imposed. To simulate practical use of this model, the equation has to be re-estimated each month and assessed on the basis of the performance of this recursive estimation. The third method was to take the indicators on board and to treat each lag as a separate variable. One could then search over all possible combinations to choose the best-fitting equation and use this to forecast one period ahead. With more data, the best-fitting equation has to be chosen again and the new equation used to make the prediction for the next month. A close alternative to this is a vector autoregressive model comprising both the indicator and the predicend, with statistical tests used to determine the lag length. The fifth approach is to set up a neural network model, often found to be better than conventional models at coping with non-linearities. They readily adapt to fit the past pattern of data.

We assessed all of the models on the basis of their recursive performance. We found that, when forecasting seasonally adjusted industrial production, the first naïve model was the best forecasting tool. Looking one month ahead, its root mean square forecast error is 0.19 per cent while that of the autoregressive model, the second-best performer, is 0.21 per cent. The chart shows the quarterly growth rate of industrial production together with a now-cast where the last quarter is estimated by the preferred model. For forecasting manufacturing output growth the autoregressive model does slightly better than the naïve model. More complicated models are generally worse. For forecasting data before seasonal adjustment all the models perform very poorly, and the best one can do is simply to represent the seasonal effects.

These results suggest that early estimates of Euro-11 growth of industrial production can be produced to an identifiable quality.

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THIS STUDY WAS UNDERTAKEN WITH SUPPORT FROM EUROSTAT.

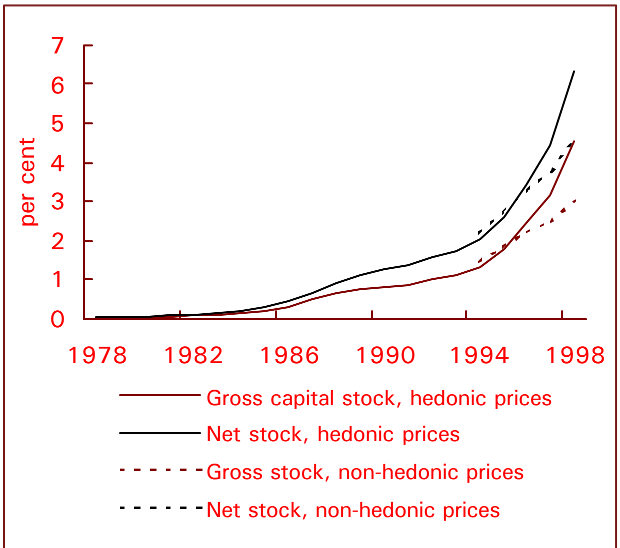
It is clear from casual observation that we are in the midst of a revolution in information technology. However, in contrast to the US experience, there has been little obvious impact on the British economy as conventionally measured. Research at the National Institute has been exploring the characteristics of the present situation in an effort to identify possible explanatory factors.

In the second half of the 1990s, productivity growth was about 1 percentage point lower than in the first half of that decade when measured on an output per hour basis. While goods price inflation has remained very subdued as unemployment has fallen, this appears to be due to an improvement in the behaviour of the labour market rather than a 'new economy' effect on pricing.

Despite this negative assessment of the effect of ICT on recent performance, there are some indications that its benefits are just about to reveal themselves:

- As far as we are able to tell from official figures, there has been extensive investment in ICT equipment and infrastructure in recent years and it is only now becoming an important component of the aggregate capital stock.

The stock of computers at 1995 hedonic prices



This is true whether or not it is measured after adjusting for quality change using so-called 'hedonic' prices. The growth in computer investment could not be expected to account for a pick-up in productivity growth in the late 1990s of more than a quarter of a percentage point. Similarly, the growth in the widespread use of the internet is very recent and it is unrealistic to expect it to have had an important impact so far.

- The fast rates of productivity growth in the US have largely been attributed to the manufacture of computer equipment. In the UK productivity growth of computer equipment has in fact been slower after 1995 than before. This appears to be due to differences in the composition of output. An increasing share of IT production in the UK has been taken up by services – software and computer maintenance.

- The slowdown in UK aggregate productivity growth in the second half of the 1990s is relatively easy to explain in terms of the old economy. Its main causes are the slowdown in the manufacturing and oil industries, alongside a reduction in the rate of capital deepening as the economy has generated another 1.5 million jobs. Contrary to the US experience, there is evidence of a strong pick-up in productivity growth in the key business services sector. With the manufacturing sector poised to recover from its recent weakness and with little slack left in the labour market, the factors that have obscured an underlying improvement in the economy are now expected to evaporate. As such, there is now a good chance of a strong revival in productivity growth even without allowing for any special new economy effects. Adding the effects of ICT investment strengthens the likelihood of this.

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INTERNATIONAL CONFERENCE ON PENSIONS AND SOCIAL INSURANCE

In April 2000, the National Institute joined forces with the Centre for Pensions and Social Insurance at Birkbeck College, London, to organise a one-day conference on *Guarantees: Social Protection and Pensions*. The international character of the conference was reflected in the list of leading speakers, which included David Lindeman from the World Bank and John Turner from the American Association of Retired Persons. The organisers were also pleased to welcome the former social security minister, the Rt Hon Frank Field MP, to give the opening address.

The conference attracted substantial interest from overseas academics working in the field, among them Professor Peter Jorgensen from the University of Aarhus in Denmark, who presented a paper on return guarantees. A second contributor on this topic was Professor David Miles of Imperial College, London. Dr Hugh Davies of Birkbeck College and Dr Heather Joshi from the School of Longitudinal Studies at the London University Institute of Education discussed problems associated with income generation, while Andrew Smith of Bacon and Woodrow contributed a practitioner's perspective. A report on the progress of the National Institute's work on pension funding issues was presented by Dr James Sefton.

SEMINAR AT THE HOUSE OF COMMONS ON THE LEVEL OF THE EXCHANGE RATE

The Institute organised a seminar in June 2000 to discuss the highly topical subject of the level of the exchange rate and its effect on economic prosperity. The seminar began with individual introductions to the topic by experts brought together for the event. The panel consisted of leading policy makers, business people and commentators: Ed Balls (Chief Senior Economic Adviser, HM Treasury); Vincent Cable MP; Dr Diane Coyle (Economics Editor, *The Independent*); Gerald Holtham (Norwich Union); Anatole Kaletsky (Assistant Editor, *The Times*); Lord Lawson of Blaby and Martin Weale, Director, NIESR. The meeting was chaired by Sir Peter Middleton, Chairman of Barclays plc.

Contributions from the panel provided the stimulus for a lively debate on the policy and research issues relating to exchange rates, and an account of the meeting appeared in the July edition of the *National Institute Economic Review.*

CONFERENCE ON THE 'NEW ECONOMY'

Professor Robert Gordon of Northwestern University and Professor Jack Triplett of the Brookings Institution in Washington DC were among the contributors to a highly successful conference held at the London Chamber of Commerce in September. The conference, entitled *Technical Progress, Economic Growth and the 'New Economy'*, attracted an audience of over 150 with nine countries represented. Again, the Institute demonstrated the appeal of its conferences to a broad range of academics, business people, commentators and policy makers.

The conference programme consisted of papers which addressed various dimensions of technological progress and their relationship to economic growth. Professor Danny Quah of the London School of Economics (LSE) explored some of the distinctive characteristics of the new

Professor Danny Quah of the London School of Economics

economy, while Professor Triplett discussed why productivity growth in the United States had increased and what part technology had played. A comparative perspective was offered by Jonathan Wadsworth of LSE and Royal Holloway College, who had examined trends in home computer ownership in the United States and Britain and their influence on education.

Professor Willem Buiter from the European Bank for Reconstruction and Development (represented at the conference by the Director of NIESR, Martin Weale) looked at economic development and policy responses; Professor Gordon dealt with technological advances in a historical context. Garry Young of the National Institute presented findings from its current research on the topic, with a look at how technological change had both affected the UK economy in recent time and might do so in the future. Finally, Jonathan Haskel of Queen Mary College, London, addressed the question of restructuring and productivity growth in UK manufacturing and Martin Brookes of Goldman Sachs considered the shocks caused to the economy by the internet.

GOVERNORS SEMINARS

The Institute continued its popular series of seminars given by members of its Board of Governors. These seminars are informal events at which the Institute's supporters and friends are particularly welcome. Sir Geoffrey Owen (London School of Economics) presented the first seminar of the year with a talk entitled: 'Falling behind and catching up: British industry since 1945'.

In April, Kate Barker (Chief Economist at the Confederation of British Industry), presented 'A business view of the productivity debate'.

Our speaker for the autumn seminar was Professor Charles Goodhart FBA (London School of Economics and a former member of the Monetary Policy Committee). He spoke about 'Some aspects of the work of the MPC' (see 'The inflation forecast', *National Institute Economic Review*, 175, January 2001).

Kate Barker, Chief Economist at the Confederation of British Industry.

In addition to the Governors' seminar series, His Excellency Professor Pang Eng Fong, High Commissioner for the Republic of Singapore, gave a presentation to invited guests at the Institute in December 2000. The topic of his talk was 'Foreign direct investment: recent trends and implications' and Mr Ken Warwick from the Department of Trade and Industry chaired the event. The seminar was organised jointly by the National Institute and the Association of Commonwealth Universities.

His Excellency Professor Pang Eng Fong, High Commissioner for the Republic of Singapore.

The Institute wishes to record its grateful thanks to all those who have contributed to our seminars and conferences throughout the past year.

Econometric modelling: techniques and applications

Edited by Sean Holly and Martin Weale
ISBN 521 65069 0 hardback. Price £45. Published by Cambridge University Press.

Macroeconomic modelling has been one of the most important and influential areas of economic research. This book brings together contributions from the leading researchers working in the area. The papers combine a description of the latest techniques used in modelling the economy with an account of the way that models can be used for purposes of policy analysis. The book will be of interest to students and professional economists who want a better understanding of the questions that macroeconomic models can address and the techniques used to address them.

Productivity, innovation and economic performance

Edited by Ray Barrell, Geoff Mason and Mary O'Mahony
ISBN 0 521 78031 4 £45 hardback. Published by Cambridge University Press.

Productivity and its determinants are at the heart of economic debate. Output per person or per capita is still the most influential measure of the prosperity of nations. Productivity depends on the quantity and quality of the factors of production available to a country and the social framework within which they operate. Education and the research base affect both the quality of factors and the ability of a nation to produce. This volume brings together papers from a number of authors from a variety of traditions. The importance of the growth and measurement of service productivity are addressed. The role of human capital in adapting to new technologies is discussed. The creation of knowledge through research and development and its diffusion through trade, investment and the interaction of firms are fully investigated. The volume starts with a discussion of differences in productivity between nations, and provides a comprehensive set of discussions as to why they exist.

Inward investment, technological change and growth: the impact of multinational corporations on the UK economy

Edited by Nigel Pain
ISBN 0 333 92536 X £45 hardback. Published by Palgrave Publishers Ltd.

At a conference held in September 1999, the speakers identified the channels through which inward investment can affect host economies and provided some quantitative evidence on the extent to which it has acted to shape the industrial structure of the UK economy and other industrialised economies over the past decade. The papers in this book are by leading authors in the fields of international investment and the behaviour of national and multinational firms. They have all published widely in leading academic journals and some have acted as informal academic advisors to government departments in the UK and overseas.

All change at work? British employment relations 1980–98, as portrayed by the Workplace Industrial Relations Survey series

Neil Millward, Alex Bryson and John Forth
ISBN 0-415-20634-0 £60 hardback and 0-415-20635-9 £20 paperback. Published by Routledge.

Have new configurations of labour-management practices become embedded in the British economy? Did the dramatic decline in trade union representation in the 1980s continue throughout the 1990s, leaving more employees without a voice? Were the vestiges of union organisation at the workplace a hollow shell? These and other contemporary issues of employee relations are addressed in this report. This book is the latest publication which reports the results from the series of workplace surveys conducted by the Department of Trade and Industry, the Economic and Social Research Council, The Advisory, Conciliation and Arbitration Service, and the Policy Studies Institute. Its focus is on change, captured by gathering together the enormous bank of data from all four of the large-scale and highly respected surveys, and plotting trends from 1980 to the present. In addition, a special panel of workplaces, surveyed in both 1990 and 1998, reveals the complex processes of change. Comprehensive in scope, the results are statistically robust and reveal the nature and extent of change in all but the smallest British workplaces.

Forthcoming publications

Monetary regimes of the twentieth century

by Andrew Britton
To be published by Cambridge University Press in 2001.

Abstract economic theory may be timeless and potentially universal in its application, but macroeconomics has to be seen in its historical context. The nature of the policy regime, the behaviour of the economy and the beliefs of professional economists all interact, and influence each other. This short historical account of monetary regimes since 1900 shows how the role of policy has changed, and how this has related to experience of inflation and the real economy, as well as to changes in political philosophies. The narrative concentrates on developments in America, Britain, Germany, France and Japan. It begins with the era of the classical gold standard and ends with the 'neo-liberal' regimes of today. The decades in between saw much more active policy intervention, and much less faith in the stability of markets. The 'grand narrative' of the century is a journey 'to Utopia and back'. It is argued that no school of macroeconomics is right for all time; different theoretical models may be appropriate for different periods and regimes.

Dr Paul Ashworth (left) and Dr Joe Byrne, who obtained their PhD qualifications in 2000.

NATIONAL INSTITUTE ECONOMIC REVIEW

The Institute's quarterly Economic Review *continued to provide a unique combination of analysis, forecasts and research results. The year 2000 was marked with a special issue in April on various aspects of the second millennium and another, in October, on monetary and fiscal policy in Europe. Each edition contains widely quoted forecasts for the UK and all major world economies, based on the Institute's own models, together with articles from leading commentators, and a comprehensive statistical appendix.*

Articles which appeared during the year were as follows:

No. 171 (January)

Should the UK join EMU?
Michael Artis
How well can we measure graduate over-education and its effects?
H. Battu, C.R. Belfield and P.J. Sloane
The implications of the comprehensive spending review for the long-run growth rate: a view from the literature
Richard Kneller
Comparative properties of models of the UK economy
Keith B. Church, Joanne E. Sault, Silvia Sgherri and Kenneth F. Wallis
Job creation and the 1999 reform of National Insurance
Robert A. Hart and Robin J. Ruffel

No. 172 (April) Themed issue on Aspects of the Second Millennium

Living standards in Britain 1900–2000: women's century?
Sara Horrell
1300 years of the pound sterling
Martin Weale
'The generous Utopia of yesterday can become the practical achievement of tomorrow': 1000 years of monetary union in Europe
Luca Einaudi
Domesday economy: analysis of the English economy early in the second millennium
John McDonald

No. 173 (July)

A tale of two cycles: closure, downsizing and productivity growth in manufacturing, 1973–89
Nicholas Oulton
Effects of minimum wages on the gender pay gap
Shirley Dex, Holly Sutherland and Heather Joshi
Christopher Dow on major recessions
Michael Artis, John Flemming, Robin Matthews and Martin Weale

No. 174 (October) Themed issue on Monetary and Fiscal Policy in Europe

Monetary and fiscal policy in Europe: an overview
Ray Barrell and Nigel Pain
Price level stability: some issues
Vitor Gaspar and Frank Smets
Optimality and Taylor rules
Andrew P. Blake
Open issues in the implementation of the Stability and Growth Pact
Marco Buti and Bertrand Martinot
An evaluation of monetary targeting regimes
Ray Barrell and Karen Dury

FROM JANUARY 2001, THE *REVIEW* WILL BE PUBLISHED BY SAGE PUBLICATIONS LTD AND SUBSCRIPTION ENQUIRIES SHOULD BE ADDRESSED TO SAGE AT 6 BONHILL STREET, LONDON EC2A 4PU AND IN NORTH AMERICA TO SAGE PUBLICATIONS LTD, PO BOX 5096, THOUSAND OAKS, CA 91359, USA.
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OTHER PUBLISHED ARTICLES AND PAPERS PRESENTED

Anderton, R., Riley, R. and Young, G., 'The New Deal for Young People: first year analysis of implications for the macroeconomy', *Labour Market Trends*, March.

Arrowsmith, J., Barrell, R.J. and Taylor, C., 'Managing the euro in a tri-polar world', in Artis, M. and Hennessy, C. (eds), *The Euro: A Challenge an Opportunity for Financial Markets*, Routledge.

Atkinson, A.B. and Weale, M.R., 'James Edward Meade', *Proceedings of the British Academy* (forthcoming).

Barrell, R., 'Strong growth and robust budgets in Europe', in Barrett, A. (ed.), *Budget Perspectives*, Dublin, ESRI.

— 'Forecasting the uncertain environment', in Hendry, D. (ed.), *Forecasting*, MIT Press.

Barrell, R., Byrne, J., Dury, K., Holland, D. and Hurst, I., 'Interdependency and the EMU outsiders', in Nilson, H. (ed.), *Britain and Scandinavia – Four North European States in the Gravitation Field of the EMU*, Europa Idag, 1/2001 (forthcoming).

Barrell, R. and Dury, K., 'The stability and growth pact, will it ever be breached? An analysis using stochastic simulations', in Brunila, A., Buti, M. and Franco, D. (eds), *The Stability and Growth Pact: The Architecture of Fiscal Policy in EMU*, Basingstoke, Macmillan (forthcoming).

—'Choosing the regime: macroeconomic effects of UK entry into EMU', *Journal of Common Market Studies*, 28, 4, November.

Barrell, R. and Holland, D., 'Foreign direct investment and enterprise restructuring in Central Europe', *Economics of Transition*, 8, 2, pp. 477–504.

—'Foreign direct investment in Central European manufacturing', in Weresa, M. (ed.), *Foreign Direct Investment in a Transition Economy: The Polish Case* (forthcoming).

—'A three-dimensional panel analysis of FDI in Central European manufacturing', in Welfe, W. and Wdowinski, P. (eds), *Proceedings of AMFET99 Conference – Modelling Economies in Transition*, Rydzyna, Absolwent, Lodz, pp. 222–40.

Barrell, R. and Pain, N., 'Macroeconomic management in the EU', in Brewer, T. and Boyd, G. (eds), *Globalizing Europe*, Macmillan (forthcoming).

Barrell, R. and te Velde, D.W., 'Catching-up of East German labour productivity in the 1990s', *German Economic Review special issue on German Unification 10 Years After*, 3, pp. 271–97.

— 'German monetary union and the lessons for EMU', in Baimbridge, M. and Whyman, P. (eds), *Europe, Theory, Evidence and Practice*, Edward Elgar.

Benàèek, V., Gronicki, M., Holland, D., Sass, M., 'The determinants and impact of FDI in Central and Eastern Europe: a comparison of survey and econometric evidence', *Transnational Cooperations* (forthcoming).

Blake, A.P., 'Solution and control of linear rational expectations models with structural effects from future instruments', *Economics Letters*, 67, 3, pp. 283–8.

Blake, A.P. and Kapetanios, G., 'A radial basis function artificial neural network test for ARCH', *Economics Letters*, 69, 1, pp. 15–23.

Blake, A.P., Weale, M.R. and Young, G., 'Optimal monetary policy', in Holly, S. and Weale, M.R. (eds), *Econometric Modelling: Techniques and Applications*, Cambridge University Press, pp. 209–36.

Bleaney, M., Gemmell, N., and Kneller, R.A., 'Testing the endogenous growth model: public expenditure, taxation and growth over the long run', *Canadian Journal of Economics* (forthcoming).

Cardarelli, R. and Sefton, J., 'Rolling back the welfare state', *European Economy*, 6, pp. 193–206.

Cave, M. and Weale, M.R., 'Higher education: expansion and reform', in Jenkinson, T. (ed.), *Readings in Microeconomics*, 2nd edn, Oxford University Press, pp. 230–43.

Chambers, R., Weale, M.R. and Youll, R., 'The average earnings index', *Economic Journal*, 110, 461, pp. 100–21.

Darby, J., Hart, R. and Vecchi, M., 'Wages, work intensity and unemployment in Japan, UK and USA', *Labour Economics* (forthcoming).

—'Labour force participation and business cycle fluctuations: a comparative analysis of Europe, Japan and the United States', *Japan and the World Economy* (forthcoming).

Dutta, J., Sefton, J. and Weale, M.R., 'Income distribution and income dynamics in the United Kingdom', *Journal of Applied Econometrics* (forthcoming).

Dutta, J. and Weale, M.R., 'Consumption and the means of payment: an empirical analysis for the United Kingdom', *Economica* (forthcoming).

Finegold, D., Wagner, K. and Mason, G., 'National skill-creation systems and career paths for service workers: hotels in the US, Germany and Britain', *International Journal of Human Resource Management*, 11, 3, pp. 497–516.

Forth, J. and Kirby, S., *Guide to the Analysis of the Workplace Employee Relations Survey 1998*, WERS98 Data Dissemination Service.

Gokhale, J., Kotlikoff, L., Sefton, J. and Weale, M.R., 'Simulating the transmission of wealth inequality via bequests', *Journal of Public Economics* (forthcoming).

Hubert, F. and Pain, N., 'Inward investment and technical progress in the United Kingdom', in Pain, N. (ed.),

Inward Investment, Technological Change and Growth: The Impact of Multinational Corporations on the UK Economy, Palgrave.
—*Inward Investment in France and the Effectiveness of Investment Incentives*, report prepared for the Direction de la Prévision.
—'Economic integration in Europe and the pattern of German foreign direct investment', in Korres, G.M. and Bitros, G.C. (eds), *Economic Integration: Limits and Prospects*, Macmillan (forthcoming).
—'Inward investment and technical progress in the United Kingdom manufacturing sector', *Scottish Journal of Political Economy*, 28, 2 (forthcoming).
Mason, G., 'Production supervisors in Britain, Germany and the United States: back from the dead again?', *Work, Employment and Society* (forthcoming).
Mason, G., Keltner, B. and Wagner, K., 'Productivity and service quality in banking: commercial lending in Britain, the United States and Germany', in Barrell, R., Mason, G. and O'Mahony, M. (eds), *Productivity, Innovation and Economic Performance*, Cambridge University Press.
Mason, G., Wagner, K., Finegold, D. and Keltner, B., 'The "IT Productivity Paradox" revisited: international comparisons of information technology, work organisation and productivity in service industries', *Quarterly Journal of Economic Research* (forthcoming).
Meadows, P., *Access to Financial Services*, Britannia Building Society, November.
—'Pensions and the labour market', *New Economy*, 7, 4, December, pp. 234–8.
—*Young Men and Work*, York Publishing Services for the Joseph Rowntree Foundation (forthcoming).
Meadows, P. and Campbell, M., *What Works at a Local Level*, York Publishing Services for the Joseph Rowntree Foundation.
Meadows, P., Supiot, A. *et al.*, *Beyond Employment*, Oxford University Press (forthcoming).
Millward, N., Forth, J. and Bryson, A., *Who Calls the Tune at Work? The Impact of Trade Unions on Jobs and Pay*, York, Joseph Rowntree Foundation (forthcoming).
Mitchell, J., 'Identification and estimation of impulse response functions in VAR models: analysing monetary shocks in the G7 economy', PhD thesis, University of Cambridge.
O'Mahony, M. and Vecchi, M., 'Tangible and intangible investment and economic performance: evidence from company accounts', in Buiges, P., Jacquemin, A. and Marchipont, F. (eds), *Competitiveness and the Value of Intangible Assets*, Edward Elgar.
Pain, N., 'The growth and impact of inward investment in the UK: introduction and overview', in Pain, N. (ed.), *Inward Investment, Technological Change and Growth: The Impact of Multinational Corporations on the UK Economy*, Palgrave.
—'Openness, growth and development: trade and investment policy issues for developing economies', in Rugman, A. and Boyd, G. (eds), *Millennium Round Trade and Investment Issues*, Edward Elgar (forthcoming).
Pain, N. and Wakelin, K., 'Foreign direct investment and export performance in Europe', in Read, R., Thompson, S. and Milner, C. (eds), *New Horizons in International Trade and Industry*, Macmillan (forthcoming).
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Pain, N. and Young, G., *Continent Cut Off? The Macroeconomic Impact of UK withdrawal from the EU*, report prepared for Britain in Europe.
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—'Discussion on Richard Aldrich's paper, Educational standards in historical perspective', in Goldstein, H. and Heath, A. (eds), *Educational Standards*, Oxford.
Riley, R. and Young, G., *New Deal for Young People: Implications for Employment and the Public Finances*, Research and Development Report ESR62, Employment Service.
Rolfe, H., *Improving Responsiveness to the Labour Market among Young People: an evaluation of four pilot projects*, Research Report RR190, Department for Education and Employment.
—*Solution Focused Guidance: an initial evaluation of its use in Humberside Connexions*, Report to the Humberside Partnership, October.
Sefton, J., 'A solution method for consumption decisions in a dynamic stochastic general equilibrium model', *Journal of Economic Dynamics and Control*, 24, 5–7, pp. 1097–119.
Sefton, J., Cardarelli, R. and Agulnik,P., 'The Pensions Green Paper: a generational accounting perspective', *Economic Journal*, 110, pp. 598–610.
Sefton, J., Cardarelli, R., Kotlikoff, L.J., 'Generational Accounting in the UK', *Economic Journal*, 110, 467, November, pp.F547–74.
Terry, F., 'Transport: beyond predict and provide', in Davies, H.T.O., Nutley, S.M. and Smith, P.C., *What Works? Evidence-based policy and practice in public services*, Policy Press.
Vecchi, M., 'Increasing returns versus externalities:

pro-cyclical productivity in US and Japan', *Economica*, 67, pp. 229–44.
—'Book review of Griliches, Z., 'The relationship between Investment in R&D and Productivity. The Econometric Evidence', *Journal of Economic Studies* (forthcoming).
Whitburn, J., 'Moving the goal posts', in Goldstein, H. and Heath, A. (eds), *Educational Standards*, Oxford University Press.
—'A tail of two systems', *Special Children*, May.

Papers presented

Barrell, R. and Holland, D., 'International capital flows in central and eastern Europe', European Economic Association Annual Conference, Bozen-Bolzano, August.
—'Foreign direct investment and enterprise restructuring in central Europe', Sunderland University, December.
Barrell, R., Holland, D. and Pain, N., 'Openness, integration and transition: prospects and policies for economies in transition', IESG Annual Conference, University of Sussex, September.
Blake, A. and Young, G., 'Evaluating macroeconomic models of the business cycle', City, Kent and Warwick Universities.
Darby, J., Hart, R., and Vecchi, M., 'Wages, work intensity and unemployment in Japan, UK and USA', EALE/SOLE Conference, Milan, June.
Dutta, J., Sefton, J. and Weale, M., 'Capital income taxation and public policy', Universities of Sussex and Birmingham.
Forth, J., 'Compositional versus behavioural change: combined analysis of the WERS98 Panel Survey, Closures and New Workplaces', First meeting of the WERS98 User Group, London, March.
Forth, J., Kirby, S. and Millward, N., 'An introduction to the content, methodology and analysis of WERS98', University of the West of England, May.
Forth, J. and Millward, N., 'Institutional change in British industrial relations, 1980 to 1998', University College, Dublin, April.
—'The changing nature of employee voice: features and implications', Warwick University Business School, November.
Holland, D. and Pain, N., 'On the road to the market: the prospects for growth in central Europe', IESG Easter Conference, Wales, April.
Hubert, F. and Pain, N., 'Inward investment and technical progress in the United Kingdom', Royal Economic Society Conference, St Andrews, July.
Kneller, R. and Young, G., 'The New British Economy', NIESR Conference, September; seminars at the University of Kent and for the House of Commons Treasury Committee.
—'Business cycle volatility, uncertainty and long-run growth', Conference on Growth and Business Cycles in Theory and Practice, University of Manchester, July.
Meadows, P., 'Beyond employment', Annual Conference of the Society for the Advancement of Socio-economics, London, July.
—'Gender segregation and labour market regulation', Workshop on Women's Conditions in Working Life, Brussels, September.
Mitchell, J., 'Analysing short and long run behaviour in the G7 using cointegrating VAR models', Royal Economic Society Conference, St Andrew's, July; Money Macro and Finance Research Group Annual Conference, London, September.
Mitchell, J., Smith, R.J. and Weale, M.R., 'Estimation of output movements from semi-disaggregate survey data', Macroeconomic Modelling Seminar, Warwick, July.
O'Mahony, M. and Vecchi, M., 'Productivity performance in the electricity supply industry: a study of an industry in transition', E.A.R.I.E. Conference, Lausanne, September.
Riley, R. and Young, G., 'Youth employment and active labour market policy: evidence from the New Deal', Department for Education and Employment seminar, London, June; Royal Economic Society conference, St. Andrews, July.
—'Analysis of the effects of New Deal for Young People on wages and the macroeconomy', Department for Education and Employment seminar, London, June.
—'Skill heterogeneity and unemployment', European Economic Association Conference, Bolzano, September.
Sefton, J., 'The demand for pensions', NIESR Conference, April, INQUIRE Conference, September, Inland Revenue, December.
Sefton, J. and Weale, M., 'Real national income', University of Birmingham.
Weale, M., 'Lessons from average earnings', Conference of Government Statisticians, Reading, October; Statistics Users Conference, November.
Whitburn, J., 'Changes to primary mathematics education in England', Tokyo Gakugei, Shizuoka and Nara Universities.
—'Disadvantage and low achievement in mathematics', British Society for the Learning of Mathematics Conference, University of Surrey, November.

NATIONAL INSTITUTE DISCUSSION PAPERS

Discussion papers exist to foster debate on Institute research. Recent papers listed below are £4.00 each or on subscription at £30.00 for 10 consecutive papers.

160. International monetary policy coordination: an evaluation of cooperative strategies using a large econometric model *Ray Barrell, Karen Dury and Ian Hurst*
161. The mix of graduate and intermediate-level skills in Britain: what should the balance be? *Geoff Mason*
162. Capital income taxation and public choice *Jayasri Dutta, James Sefton and Martin Weale*
163. Real national income *J.A. Sefton and M.R. Weale*
164. Testing for a unit root against nonlinear star models *George Kapetanios, Yongcheol Shin and Andy Snell*
165. Model selection uncertainty and dynamic models *George Kapetanios*
166. Information criteria, model selection uncertainty and the determination of cointegration rank *George Kapetanios*
167. Incorporating lag order selection uncertainty in parameter inference for AR models *George Kapetanios*
168. Choosing the regime: macroeconomic effects of UK entry into EMU *Ray Barrell and Karen Dury*
169. Cointegrating VAR models with endogenous I(0) variables: theoretical extensions and an application to UK monetary policy *George Kapetanios, James Mitchell and Martin R. Weale*
170. From unemployment to self-employment: developing an effective structure of micro-finance support *Hilary Metcalf and Roger Benson*
171. The determinants of pay levels and fringe benefit provision in Britain *John Forth and Neil Millward*
172. The importance of long-run structure for impulse response analysis in VAR models *James Mitchell*
173. Pay settlements in Britain *John Forth and Neil Millward*
174. Openness, growth and development: trade and investment issues for developing economies *Nigel Pain*
175. Inward investment and technical progress in the UK manufacturing sector *Florence Hubert and Nigel Pain*
176. Evaluating macroeconomic models of the business cycle *Andrew P. Blake and Garry Young*

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Members Forum meetings in 2000 were as follows:

17 February • Pay and Fair Treatment at Work: the impact of unions and other forms of employee participation in the late 1990s

Discussion led by Neil Millward and John Forth
Guests: Mike Emmett, Chartered Institute of Personnel and Development
John Hougham, ACAS
Ian Brinkley, TUC

25 May • The Benefits of Inward Investment for the UK

Discussion led by Nigel Pain
Guests: Professor John Cantwell, University of Reading
Nicholas Oulton, Bank of England
Dr Nicholas Owen, DTI

17 October • Monetary and Fiscal Policy in Europe: Implications for Britain's Membership

Discussion led by Ray Barrell
Guests: Christopher Allsopp, Monetary Policy Committee
Andrew Bailey, Bank of England
Ben Norman, Bank of England

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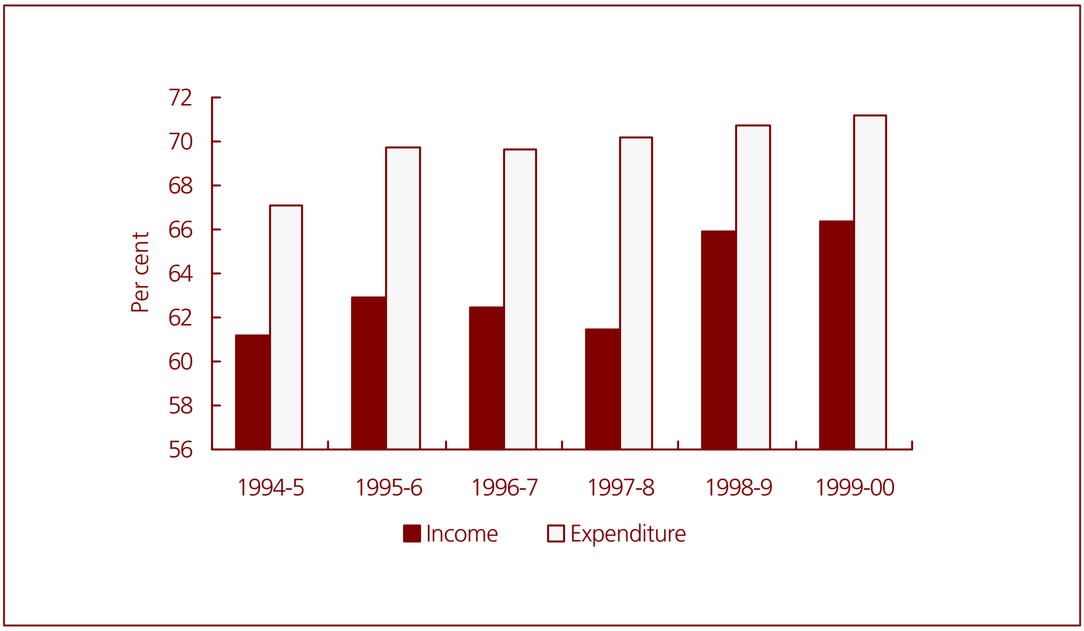
In the year to 31 March 2000 the Institute was able to generate an operating surplus for the fifth successive year. The policy of the Council is to balance income and expenditure over the long term, while recognising that fluctuations may occur in individual years. Full accounts for each of the years listed, including an unqualified audit report from KPMG Audit plc, have been filed at Companies House and the Charities Commission.

	1999–2000	*1998–99*	*1997–98*
	£	£	£
INCOME			
Research	1,346,399	*1,336,088*	*1,098,949*
Publications	443,721	*404,339*	*412,004*
Corporate supporters	86,630	*124,805*	*123,415*
Investments and interest	150,905	*162,742*	*152,503*
Total income	**2,027,655**	***2,027,974***	***1,786,871***
EXPENDITURE			
Research	1,349,369	*1,303,458*	*1,190,856*
Publications	252,640	*247,179*	*249,937*
Premises	87,581	*93,317*	*79,117*
Administration and general services	207,006	*200,006*	*176,936*
Total expenditure	**1,896,596**	***1,843,960***	***1,696,846***
OPERATING SURPLUS/(DEFICIT)	131,059	*184,014*	*90,025*



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