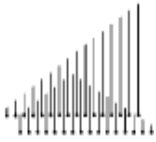


'In its simplest form, the object is to examine the way in which wealth is created in this country...how it compares with other countries, what causes the gradual increase and what could be done to accelerate it'



NATIONAL INSTITUTE OF ECONOMIC AND SOCIAL RESEARCH

PRESIDENT	SIR BRIAN CORBY Appointed November 1994; former Chairman of Prudential Corporation plc
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MARTIN WEALE	Institute Director

WHERE TO FIND US

The National Institute welcomes enquiries on all aspects of its work, and suggestions for collaboration with universities, business or government.

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or to any of the following:

World economic model

Ray Barrell • 0171 654 1925

Véronique Genre • 0171 654 1935

Domestic economic model

Garry Young • 0171 654 1915

National Institute Economic Review

Submission of articles:

Fran Robinson • 0171 654 1933

Publications/Review sales:

Annie Stewart • 0171 654 1923

Events

Gill Clisham • 0171 654 1901

Research programmes covered in this report

Bob Anderton • 0171 654 1928

John Arrowsmith • 0171 654 1927

Ray Barrell • 0171 654 1925

Geoff Mason • 0171 654 1936

Neil Millward • 0171 654 1953

Mary O'Mahony • 0171 654 1917

Nigel Pain • 0171 654 1929

Heather Rolfe • 0171 654 1937

James Sefton • 0171 654 1931

Martin Weale • 0171 654 1945

Julia Whitburn • 0171 654 1943

Garry Young • 0171 654 1915

Further information on Institute activities can
also be found on our website:

<http://www.niesr.ac.uk>

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COVER QUOTATION

THE QUOTATION ON THE FRONT COVER IS TAKEN FROM THE NATIONAL INSTITUTE'S ANNUAL REPORT FOR 1943. IT DEMONSTRATES THE INSTITUTE'S INTENTION, FROM ITS ORIGIN, TO COMBINE HIGH QUALITY ACADEMIC WORK WITH QUESTIONS OF DIRECT RELEVANCE TO POLICYMAKERS IN GOVERNMENT AND BUSINESS. THIS HAS REMAINED CENTRAL TO OUR WORK EVER SINCE.



“The National Institute has been responsible for some of the great ideas that have influenced government. There is hardly an economist that will be written about in the next century who has not passed through the Institute’s doors.”

“The Institute represents a tremendous success story for British economic and social research. Over six decades, it has marked the way in changing the direction of its research in the most appropriate ways.”

Rt Hon. Gordon Brown MP, Chancellor of the Exchequer, speaking at the Institute’s 60th anniversary reception

1998 was an exceptionally productive year for the Institute, with a series of new initiatives, major reports and prestigious events adding to our sixtieth anniversary celebrations. Highlights included the following:

January

One hundred and eighty delegates from eighteen countries attended a major conference on Macroeconomics for Business and Policy, to hear speakers from Yale University, IMF, HM Treasury, Bank of England and leading UK university research teams (see page 18).

February

Productivity and competitiveness was the focus of an international conference organised by the Institute and featuring the internationally renowned Professor Zvi Griliches of Harvard University (right) on a rare visit to the UK (see page 18).



March

The Institute’s European Financial Integration programme published *Thinking the Unthinkable. Coping with turbulence between 1998 and 2002* – a detailed discussion of the problems of transition involving leading European academics, UK business economists and NIESR staff (see pages 9 and 20).

April

Launch of the Institute’s new monthly GDP indicator, the first time a comprehensive picture of GDP has been available on a monthly basis in the UK (page 6).

May

Launch of a new model of the London economy developed by the Institute in conjunction with the London Chamber of Commerce and Industry to provide a regular quarterly analysis of economic trends in the capital.

June

The Chancellor of the Exchequer was guest of honour at a special reception to celebrate the Institute’s sixtieth anniversary.

“. . . in an extraordinary educational experiment under the guidance of the National Institute of Economic and Social Research, Swiss methods have been imported to Barking and Dagenham. Where Barking and Dagenham has gone, the rest of the country may yet follow”

Financial Times
30 April 1998

"One of the country's most respected economic forecasters, the National Institute of Economic and Social Research, is also warning that the UK could suffer a prolonged period of very slow growth after joining the European single currency."

BBC On Line
24 July 1998

July

In a major expansion of our work on training and employment, the Institute announced the appointment of a new team of four, led by Hilary Metcalf, formerly of the Policy Studies Institute (pages 12 and 15).



August

The experiment in mathematics teaching, involving the Institute and the London Borough of Barking, enters its fifth year.



The work has now extended to 10,000 pupils, spread across 68 schools in 5 local education authorities (page 13).

September

As part of a major international comparison of labour market regulation in Europe, funded by the Leverhulme Trust, a new Institute Discussion Paper looked at measuring employment security using employers' attitudes (page 14).



October

A new NIESR paper finds that Britain's productivity performance, relative to other western countries, still lags behind but has not deteriorated in the last two decades (pages 11 and 21).

Early findings were published from the 1998 Workplace Employee Relations Survey, the largest exercise of its kind, involving 3,000 managers, 1,000 worker representatives and 30,000 employees (page 15).

"Income tax may have to rise by 2p in the pound to ensure that future generations are not lumbered with an unfair share of the bill for the welfare state . . . the figures come from Britain's first generational accounts drawn up by economists from the National Institute of Economic and Social Research and Boston University, which are likely to intensify debate about the long-term sustainability of the public finances."

The Guardian
5 December, 1998



November

Four new members were elected to the Institute's Council of Management (right) – Sir Dominic Cadbury, John Monks, Professor Charles Bean and Professor Nicholas Stern.

New members elected to the Institute Council in November 1998 were, from the top, Sir Dominic Cadbury (Chairman, Cadbury Schweppes plc), John Monks (General Secretary, TUC), Professor Charles Bean (London School of Economics) and Professor Nicholas Stern (Chief Economist, European Bank for Reconstruction and Development).

December

Frank Field MP headed the list of speakers at an Institute conference on Financing the Welfare State, which saw the first public discussion of an Institute project to develop Britain's first set of intergenerational accounts (page 5 and 19).

DIRECTOR'S PREFACE

Throughout its history, the central theme of Institute work has been the desire to understand the conditions which create economic prosperity. We recognise that these are influenced by many factors, ranging from short-term government economic policy to long-term developments in society as a whole. That is why our portfolio of projects stretches from modelling of the global economy to developing teaching methods for individual schools.

This year we were able to broaden our scope still further, through the recruitment of a new team to extend our work in the key fields of employment, careers guidance and industrial relations. Their arrival was one of the highlights in a year which saw several new initiatives, both within our existing specialisations and in the development of new ones.

A further highlight was our sixtieth anniversary reception, at which the Chancellor of the Exchequer spoke so warmly of the Institute. Particularly welcome was his recognition that our value lay not only in the quality of our work, but in its independence. The knowledge that our findings continue to be held in high regard, whether or not they conform with current government thinking, is most reassuring. Indeed, the contents of this report will provide both encouragement and concern for certain areas of government policy. That is exactly as it should be for an organisation with no party political affiliation, and no core funding from public sources.

All of this augurs well for the Institute's future, but in one sense the year was tinged with sadness. In the Autumn, we lost three of our longest standing governors – Sir Alec Cairncross, Christopher Dow and Tad Rybczynski – all of whom had retained involvement with our work until shortly before their deaths. Each contributed, in different ways, to the strong base with which we now face the future, and each will be greatly missed.

This Annual Report does not seek to provide a comprehensive account of Institute work in 1998, but to highlight some findings of particular interest. Amongst the items omitted are several projects where work has started during the year, and which will play a major part in our 1999 programme. For example, the Joseph Rowntree Foundation is supporting further work on employment relations, EUROSTAT is funding the development of leading economic indicators, the Leverhulme Trust on the relationship between regulation and production, and the Equal Opportunities Commission on the link



Martin Weale (Director, 2nd from left) with new staff (from left): Neil Millward, Hilary Metcalf, John Forth, Heather Rolfe, Michela Vecchi and George Kapetanios.

between race relations and business performance. As the year ended, the Department of Trade and Industry confirmed support for a major Anglo-German comparison of product quality, and our largest single sponsor, the Economic and Social Research Council, confirmed new projects on foreign direct investment, inherited wealth and European integration.

This range of activities would not be possible without the backing of our research sponsors, the corporate supporters whose generosity underpins much of our work, and the skill and dedication of our staff. In introducing this report, I would like to express my sincere thanks to all of these. I hope you will agree that their investment of time, effort and resources has been worthwhile.

Martin Weale

PAYING FOR WELFARE

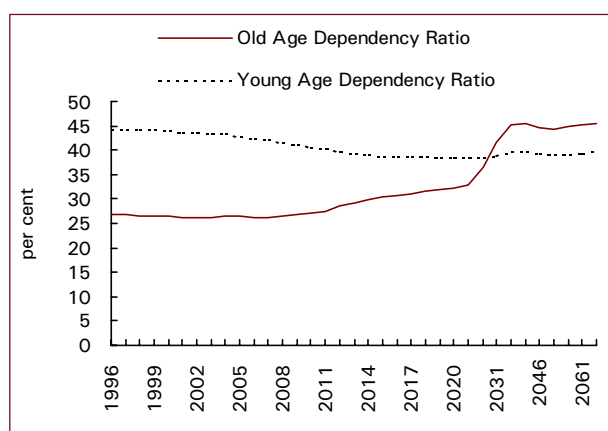
The projected ageing of the population has raised serious concerns about the sustainability of current fiscal policies. Generational Accounting measures the burden that such policies are likely to impose on future generations. It also identifies the set of policy reforms needed to achieve generational balance – or a situation in which current and future generations face the same lifetime net tax rates. In 1998, the Institute made a major contribution to this work by compiling the first ever set of generational accounts for the United Kingdom.

Compared with other leading industrial countries like the US, Japan, and Germany, the imbalance in UK generational policy is, under the assumed baseline policy, quite modest. In other words, there is not a major intergenerational problem. Moreover the imbalance would disappear entirely if labour productivity growth should turn out to be $\frac{1}{4}$ per cent higher than our baseline assumption and government expenditures were not raised in line with the increase in the tax base. Otherwise, some fiscal adjustment would be needed to achieve generational balance. This could, for example, involve either a £5 bn increase in tax revenue or a £5 bn reduction in government spending, with proportionate tax increases or spending reductions thereafter.

a

The baseline policy scenario, which represents our sense of current government policy, is marked by very considerable fiscal restraint and prudence. It assumes a) the price indexation of a variety of social benefits, including the Basic and SERPS pension benefits, and b) a slowdown in the growth of health care spending per beneficiary. In the baseline, pension and other social benefits payments decline by 2050 from 13 to 9 per cent of GDP. Social security contributions also decline under the baseline, lowering total taxes relative to GDP after 2050. Due to population ageing, health care spending rises in the baseline from 6 to 8 per cent of GDP between now and 2050 notwithstanding the assumed slower growth of benefits per beneficiary.

Old age and young age dependency ratios



Despite the fiscally responsible baseline, these assumptions still leave a generational imbalance. Without great restraint in future government purchases of goods and services or increases (relative to our baseline projection) over time in the net tax payments of current British adults, future British children could well face higher *lifetime net tax rates* (the present value of lifetime net taxes divided by the present value of lifetime labour earnings) than their parents now face.

Under an alternative policy scenario, pension and other social benefits are wage indexed and growth in health care spending per beneficiary remains at current levels until 2030. Since current generations pay less in net taxes under this alternative scenario, a larger fiscal bill is left for future generations to pay. In this case, achieving generational balance would require much stronger medicine, either a substantial sustained cut in non-education and non-health government spending or an equally substantial increase in income tax revenues and a corresponding increase in social security contributions.

THE GENERATIONAL ACCOUNTS PROJECT WAS UNDERTAKEN BY ROBERTO CARDARELLI AND JAMES SEFTON, IN COLLABORATION WITH PROFESSOR LAURENCE KOTLIKOFF, OF BOSTON UNIVERSITY, AND HOUBLON-NORMAN FELLOW AT THE BANK OF ENGLAND. FINANCIAL SUPPORT WAS PROVIDED BY HM TREASURY AND THE ECONOMIC AND SOCIAL RESEARCH COUNCIL.

MONTHLY GDP: A NEW ECONOMIC TOOL

Britain's first monthly GDP estimates, launched by the Institute in 1998, are already being widely used by economists and the media. The new indicator is also one of the factors which the Bank of England Monetary Policy Committee takes into account in determining interest rates.

A range of monthly series is currently available giving indications of short-term movements in output. In the United Kingdom, as in most other countries, these indicators provide only an incomplete picture of the output measure of gross domestic product (GDP). However, as the only available information, they are nonetheless already exploited in various ways: financial commentators routinely examine monthly data on retail sales, the trade figures, and the output of the production industries; academic researchers exploiting high frequency econometric techniques make use of one or other of these series as the best available proxy for a broader measure of demand or output.

If these monthly data are to be used to draw inferences about the state of the economy as a whole, then it is desirable that there should be some formal procedure for grossing them up to represent the whole of GDP. Such a procedure is likely to produce estimates of GDP which are less satisfactory than those which might be produced by direct measurement. On the other hand, it is almost certainly more satisfactory than simply making an informal inference from

whatever happen to be the latest numbers available.

The National Institute has developed techniques for producing a monthly indicator of GDP based on ONS data. The indicator draws heavily on industrial production estimates and is published on the same day as these are released. It is made available to subscribers at 2pm and released to the press at 3.30pm.

Obviously any statistic of this type needs to be verified; we cannot check it against official estimates because there are no such estimates. However, we can use standard forecasting techniques to project one month further than the official data allow. Every three months this allows us to calculate an estimate of quarterly GDP which is released 2–3 weeks ahead of the first ONS estimate; we can compare our performance against the official estimate as a means of assessing our methods. The results, shown in the table below, admittedly in a rather quiet spell, are encouraging. We also show our results for one of the sub-components of output, market services. We expect this to be less reliable than the indicator for GDP as a whole, but the performance is still good.

THE INSTITUTE'S MONTHLY GDP ESTIMATES ARE AVAILABLE IN ADVANCE TO SUBSCRIBERS. FURTHER INFORMATION IS AVAILABLE FROM GILL CLISHAM.

	GDP		Output of market services	
	NIESR estimate	ONS preliminary estimate	NIESR estimate	ONS preliminary estimate
1997Q3	1.2	1.0	1.6	1.2
1997Q4	0.5	0.5	1.2	1.4
1998Q1	0.5	0.4	1.2	1.1
1998Q2	0.5	0.5	0.8	0.7
1998Q3	0.5	0.4	0.8	0.9
1998Q4	0.1	0.2		

CAPITAL TAXATION: FINDINGS FROM A VIRTUAL FOCUS GROUP

New techniques to study the preferences and savings decisions of individual households will have important implications for policymakers and those seeking to analyse long-term financial behaviour.

THIS RESEARCH WAS UNDERTAKEN BY MARTIN WEALE, JAMES SEFTON AND JAYASRI DUTTA WITH SUPPORT FROM THE ECONOMIC AND SOCIAL RESEARCH COUNCIL.

Economists have, for some time, argued that income from capital should not be taxed. The argument is fairly clear. Capital is acquired by saving income earned from labour and taxes are already paid on labour income. Taxation of income from capital is therefore double-taxation. People who might save for their retirement find that they have to pay more to consume when they are retired than when they were young. A tax on income from capital is a tax on consumption in retirement. It is also possible that the tax has the effect of reducing the capital stock and this in turn reduces income from labour. In other words, although the tax is levied on income from capital it actually falls on income from labour.

These arguments are well-rehearsed but they face a solid objection. A tax on income from capital has equalising consequences for the distribution of income. If there were only a single consumer, then the concern about distortion would be intelligible. But does it make sense with the economy as it actually is?

The National Institute addressed this question using its new General Equilibrium Model of the UK Economy. This model, designed for long-term policy analysis, allows us to study the spending and saving decisions of households spread out along the income distribution. Every one of the 5,000 people represented has an uncertain income and its members are uncertain about their life expectancy. They make savings decisions in the light of this, and also taking into account benefits such as old age pensions. The model is calibrated so that it replicates the income distribution actually observed.

This structure allows us to conduct an electronic plebiscite, asking our 5,000 people whether they would prefer a system with taxation of income from both labour and capital or one where only labour income is taxed, subject of course to the requirement that a given amount of revenue is raised overall. We asked voters to choose between rates of 0, 20, 40 and 60 per cent of taxation on income from capital, voting by single transferable vote, on the basis of the effect on their own

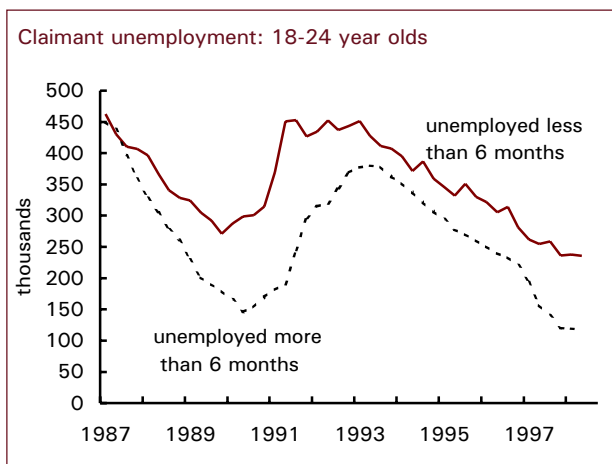
welfare. The voting polarised. In the final count we found that 2,663 voters favoured no taxation of income from capital, while 2,337 preferred a rate of 60 per cent. As the table shows, it is the older voters, rather than New Labour, who deliver this result.

Voters preferences on taxation of income from capital					
Age	No of people	Rate of tax on income from capital			
		0	20%	40%	60%
First preference votes					
80–86	189	189	0	0	0
73–79	328	328	0	0	0
66–72	479	479	0	0	0
59–65	477	379	18	70	10
52–58	562	326	22	159	55
45–51	589	229	35	178	147
38–44	609	144	14	166	285
31–37	584	88	19	118	359
24–30	585	170	19	130	266
17–23	598	184	20	133	261
Total	5000	2516	147	954	1383
Votes in final round		2663		2337	

EARLY ASPECTS OF THE NEW DEAL

As part of the government's Welfare to Work strategy, the New Deal for Young Unemployed People (NDYP) was introduced nationally in April last year, designed to help young people who have been unemployed for six months or more into work and to improve their chances of remaining in work. The Institute is evaluating the effects of this programme on the youth labour market and on the macro-economy in general. We aim to develop an understanding of the contribution of the New Deal including its effect on output, prices and public finances.

The NDYP is expected to improve the employability of young people and to help them into sustainable employment. After claiming Jobseekers' Allowance (JSA) continually for six months, 18 to 24 year olds enter the New Deal Gateway where they receive careers advice and guidance and assistance in job search. If after four months they have not found a job, they are offered one of four options: subsidised employment, full-time education and training, or work



experience with a voluntary organisation or on an environmental task force. Importantly, after the Gateway period there is no fifth option of remaining on JSA.

The impact of the NDYP will be most pronounced in the youth labour market. Its overall effect will depend on the degree to which NDYP participants substitute for or displace other workers and on the extent to which the young

long-term unemployed would have found jobs without help from the NDYP, i.e. the deadweight loss. More generally, its overall macroeconomic impact will depend on its success in bringing down equilibrium unemployment by raising the effective labour supply.

Although it is as yet too early to evaluate the macroeconomic effects of the NDYP in full, we can assess its preliminary effects. By the end of October 1998, almost 200,000 young people had joined the programme. During the Gateway period 43,780 have found jobs, of which more than 75 per cent were unsubsidised (*see DfEE statistical first release, 5 January 1999*). What does this say about the early effects of the NDYP?

One way to judge this is to compare outflows from unemployment with what might have been expected in the absence of the NDYP. Based on information before the NDYP was introduced, we forecast the likely development of the outflow rate from unemployment. Comparing this with the actual development in unemployment outflows for different age and duration bands, we get an indication of the early effects of the NDYP.

While outflows for the target group have been larger than they would have been without the programme, there is no evidence to suggest a fall in outflows from short-term unemployment. These results and others suggest that the NDYP has not had significant substitution effects so far.

In continuing our evaluation we will obtain more accurate calculations of the substitution effects after the NDYP has been in operation for a longer period of time. Incorporating these results into the Institute's macro model will then allow us to estimate the full impact of the NDYP on both the labour market and the wider economy.

THIS EVALUATION IS BEING UNDERTAKEN BY BOB ANDERTON, GARRY YOUNG AND REBECCA RILEY, WITH FUNDING FROM THE EMPLOYMENT SERVICE.

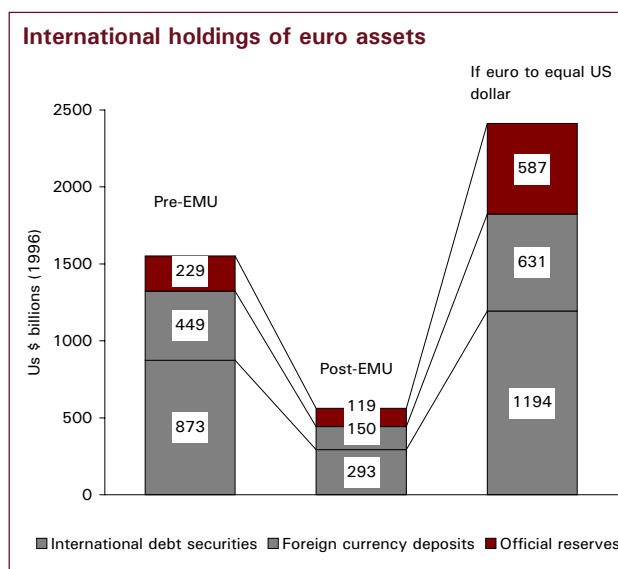
THE EURO AS A DOMESTIC AND A GLOBAL CURRENCY

The short-term outlook for the euro and the establishment of the single monetary policy seems set fair, but the policy represents a major step into unknown territory with many potential dangers. In the event of economic or political setbacks, national governments and the European Central Bank (ECB) will need to be open-minded and adaptable. Otherwise financial markets might start to factor EMU break-up risk into the pricing of euro assets.

The creation of Economic and Monetary Union in Europe and the introduction of the euro in wholesale financial markets took place smoothly at the start of 1999. With market speculation reinforcing interest rate convergence and exchange rate stability, the locking of the national currencies of the eleven candidate countries took place at market exchange rates exactly matching the existing official central rates in the ERM. This enabled conversion of the ECU into the euro, as required, at a rate of 1:1 and at an unchanged external value of EUR/ECU 1 = USD 1.16675.

The ECB now faces a number of uncertainties in its conduct of monetary policy. EMU represents such a radical change of regime that previous national economic relationships and policy experience will be an unreliable guide. Furthermore, the single monetary policy will not be able to discriminate between countries according to their different policy needs; yet its effects may be uneven across the eleven countries according to differences in interest and exchange rate sensitivities and in monetary transmission mechanisms.

Additionally, as a result of a politically motivated decision to admit as many as 11 countries to EMU, several of the participants have weaker government finances than had been envisaged in the Maastricht Treaty. Thus shortcomings in the institutional blueprint may become exposed: the limited provision for policy co-operation both between national finance ministers in the Euro



11 and between the Euro 11 and the ECB; and the separation of responsibilities for exchange rate policy and monetary policy.

Monetary policy may be further complicated by exchange rate volatility, especially if the euro becomes a global currency. Some European politicians wish, and a number of economists expect, the euro in time to rival the US dollar in international asset portfolios. This would entail a switch of some \$860 billion between the two currencies (see chart above). Since the actual extent and timing of international demand for euro assets will be unpredictable and may not be matched closely at all times by increases in supply, euro asset prices and exchange rates could fluctuate widely. EMU might therefore result in growing pressure for multilateral exchange rate co-ordination.

FURTHER DISCUSSION OF THESE ISSUES MAY BE FOUND IN PAPERS BY JOHN ARROWSMITH, RAY BARRELL AND CHRISTOPHER TAYLOR (SEE PAGES 23-7). THE EUROPEAN FINANCIAL MARKETS PROGRAMME IS SUPPORTED BY THE BANK OF ENGLAND, BARCLAYS BANK, THE CORPORATION OF LONDON, THE EUROPEAN CENTRAL BANK, THE EUROPEAN COMMISSION, THE FOREIGN OFFICE, ICI, THE ROYAL BANK OF SCOTLAND AND HM TREASURY.

EXPORT PERFORMANCE: THE CASE OF MEDICAL EQUIPMENT

Skill levels play a vital role in determining export performance, according to a new study. The findings were based on detailed company interviews in the British and German medical equipment industries. Emphasis was also placed on the role of product quality, innovation and competition from low-wage countries. Here we only describe our results for surgical equipment products, but the full report also includes an analysis of diagnostic, monitoring and therapy equipment.

Whilst medical equipment may be regarded as a high-tech sector, it includes many products with varying degrees of sophistication.

In recent years the lower-tech medical equipment export markets have become increasingly subject to growing competition from emerging newly-industrialising economies. Pakistan, Malaysia and Indonesia now account for a significant proportion of EU imports of medical products such as surgical instruments, needles, catheters and transfusion apparatus. Other notable countries active in these areas are India, Brazil, Singapore and south Korea.

Hence, our interviews with firms manufacturing *surgical* products provided useful illustrations of differences in the way that low-wage country competition affect export performance. Whilst emerging economies were frequently cited as major competitors by UK firms, however, German companies operating in this field stated that they were not in direct competition, since low-wage countries occupied a 'much lower quality segment of the market'. The presence of such competition had made price competition 'very fierce' for UK manufacturers, but concerned German firms less, given their strategy of achieving a consistently high quality whilst moving into more sophisticated products. A striking distinction between the countries became clear, with many UK firms content to continue to produce more standardised products

(eg, simple blades and scalpels) which have changed little over the last decade, whilst German product ranges appeared to be constantly under review and are often substantially modified even within a five-year period.

Capital investment and labour force skills stood out as the two major reasons behind differences in the ability of firms in the two countries to innovate or upgrade production to higher quality levels. For example, the UK firms tended to invest more in traditional forms of mechanical equipment whereas the German factories appeared to concentrate on recent investments in CNC technology (the use of which had been established for many years). The low profit rates generated by the majority of the UK surgical equipment manufacturers were cited as one disincentive to investment in new technology or sophisticated machinery.

The major disincentive to both investment and product quality improvements in the UK, however, was undoubtedly skill deficiencies amongst the employed workforce. As one UK production manager told us, 'staff skill limitations and [the staff's] inability to cope with new machinery restricts the scope for investment in new technology' and 'the range of products manufactured have to be developed *within the limits of staff skills*'.

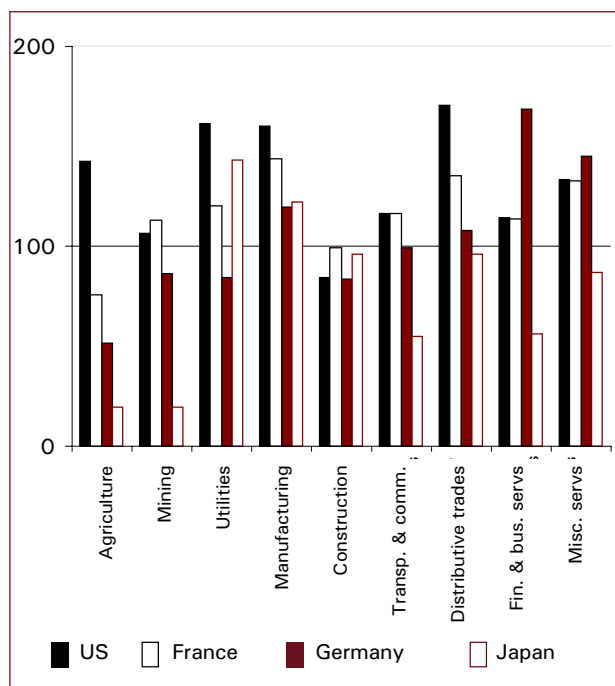
THIS PROJECT WAS UNDERTAKEN BY BOB ANDERTON, IN COLLABORATION WITH SIEGFRIED SCHULTZ OF THE BERLIN-BASED DEUTSCHE INSTITUT FÜR WIRTSCHAFTSFORSCHUNG, AND INVOLVED VISITS TO TWENTY-TWO COMPANIES. FINANCIAL SUPPORT WAS PROVIDED BY THE ANGLO-GERMAN FOUNDATION, WHO EXPECT TO PUBLISH DETAILED RESULTS IN 1999.

BRITAIN'S RELATIVE PRODUCTIVITY PERFORMANCE

The 1998 White Paper on Competitiveness, like its predecessors of 1995 and 1996, cites several Institute projects which have sought to measure and explain Britain's productivity record. This rich tradition of work was further advanced during the year through completion of a new study which examines Britain's performance, relative to that of Japan, the United States, France and Germany, over the entire postwar period.

In 1996 British levels of output per worker-hour were about 20–30 per cent below those in the United States, France and Germany, though slightly greater than in Japan. This poor relative performance was a feature of both the total economy and the 'market economy', that is, excluding government, health and education. Labour productivity levels in Britain fell behind those in the US, France and Germany in most sectors, in particular in manufacturing and services (see figure). In contrast, in the 1950s labour productivity levels in most sectors in Britain were above those in France and Germany, though well below those in the United States. Since 1979, however, Britain's relative position has not deteriorated significantly.

Relative levels of labour productivity, 1996 (UK = 100)



Britain falls behind her competitors in levels of capital intensity, about 25–35 per cent less for the total economy, with a somewhat lower gap in the market economy; this capital intensity deficit is apparent in all sectors. Britain also has serious shortcomings in labour force skills, lagging the United States in degree level qualifications and Germany in intermediate vocational skills.

Adjusting for the differences in capital intensity and labour force skills improves Britain's relative position so that the total factor productivity gap between Britain and other industrial nations is now relatively small. Thus Britain's poor labour productivity position owes much to decades of underinvestment, so that reversing Britain's relative decline is likely to be a long process for which there are no quick and easy policy solutions. In sectors where there has been considerable deregulation – utilities and transport & communications – Britain's relative position in terms of both labour productivity and capital intensity has improved substantially since the mid-1980s.

Britain does appear in a positive light relative to France and Germany in terms of unit labour costs. In the market economy in 1995, unit labour costs in France, Germany and Japan were, respectively, 40, 30 and 95 per cent above those in Britain, though levels in the US were about 10 per cent lower. Since 1995, movements in the sterling exchange rates relative to the two European countries will have lowered, but not eliminated, Britain's competitive advantage. Relatively low unit labour costs in Britain in 1995 were a feature of most sectors, most notably in manufacturing, relative to Germany.

THE STUDY OF BRITAIN'S RELATIVE COMPETITIVE PERFORMANCE WAS COMPLETED BY MARY O'MAHONY, WITH THE SUPPORT OF THE ECONOMIC AND SOCIAL RESEARCH COUNCIL. THE DETAILED FINDINGS WILL BE PUBLISHED IN A MAJOR INSTITUTE REPORT IN 1999 (SEE PAGE 21).

LABOUR MARKET INFORMATION FOR YOUNG PEOPLE

Careers advisers, teachers and other 'mediators' have a critical role to play in ensuring the success of new initiatives to promote labour market responsiveness among young people, according to recent research carried out at the Institute.

The research, which is being conducted for the DfEE, aims to identify effective ways of raising young peoples' awareness and knowledge of the labour market to inform their career decisions through an evaluation of four pilot projects.

According to background research conducted by the pilot project managers, current provision of Labour Market Information (LMI) to young people, to those who influence them and to opportunity providers, is inadequate and levels of understanding about LMI are low. The research therefore recommends that LMI products initially aim to deliver fairly clear messages in an accessible format. This includes, for example, expanding and declining industries and occupations, changing skill requirements and how to access information about the labour market.

The pilot projects in the evaluation have produced a range of high-quality LMI materials for use with a number of target groups. These include:

- leaflets for parents and pupils;
- teaching resources and supporting materials for use by careers advisers, careers co-ordinators and teachers;
- a resource pack of presentation materials for careers staff, teachers and governors;
- materials for pupils with special needs;
- curriculum materials for use in 12 subjects;
- an Internet website;
- a Theatre in Education production and video.

Some of the materials and products developed in the pilots could be adapted for use in other areas of the country.

The materials include a range of information about local and national labour markets, but the projects sought to do more than provide information; they aimed to increase the confidence of 'mediators' of LMI, for example careers advisers and teachers, in using LMI in careers education and guidance or in subject teaching so that they can deliver it more effectively. Moreover, the emphasis in materials to young people is on developing skills in accessing and interpreting LMI to make career decisions. This represents a new approach to the use of LMI which is likely to have lasting benefits to professionals and young people.

It is important that careers advisers and teachers, including careers co-ordinators, are convinced of the need for LMI materials if they are to be used in careers education and guidance or elsewhere in the curriculum. The pilot projects show the importance of fully involving these and other 'mediators' of LMI to young people, which can be achieved through training, other forms of preparation, and support in their use. At the same time, there is a need for a continuing policy emphasis at national and regional level on the role of LMI in encouraging young people and providers to be more responsive to the labour market. This message can be mediated through organisations including Government Offices, TECs, Careers Services and Local Education Authorities.

In 1999 the National Institute will examine the impact of the customised labour market information on target groups of young people. The research findings will be published in a DfEE report.

THE EVALUATION OF LABOUR MARKET INFORMATION PROJECTS WAS CONDUCTED BY HEATHER ROLFE, WITH SUPPORT FROM THE DEPARTMENT FOR EMPLOYMENT AND EDUCATION. FINDINGS WILL BE PUBLISHED BY THE DfEE IN 1999.

IMPROVING MATHEMATICAL STANDARDS

1998 was an eventful year in the Government's drive to improve numeracy standards. The National Numeracy Task Force (NNTF) broadened its focus to include a new framework for teaching mathematics, funding for numeracy consultants, more in-service training and special support for 'weak' schools. Such initiatives are welcome, but it would be naïve to expect that significant improvements can be effected quickly.



Primary school pupils using the new IPM materials

The collaboration between Institute researchers and the London Borough of Barking and Dagenham on Improving Primary Mathematics (IPM) reached new heights in 1998. The project now involves some 10,000 pupils in 68 schools, and has been extended to schools in Rochdale, Clackmannanshire, Leeds and Kirklees. Visits from Secretary of State David Blunkett, HM Chief Inspector Chris Woodhead and special adviser Professor Michael Barber demonstrated the national impact of the work. In June a party of MPs visited Switzerland to observe the classroom practice on which the project is based.

The programme suggests two essential ingredients for raising standards – the provision of lesson-by-lesson teaching materials (supported by teachers' manuals) and highly specific regular in-service training on their use. This approach differs from the national numeracy strategy, which provides a framework for which teachers develop their own materials. The IPM initiative allows teachers gradually to develop greater pedagogical understanding and awareness of the ways in which pupils can be helped. The greater appreciation of the need for a sequential, step-by-step approach has enabled teachers to focus on a specific lesson objective, and to develop higher levels of teacher–pupil and pupil–pupil interaction. At a time when severe teacher shortages are being predicted, in-service training which raises standards of pedagogy becomes increasingly important.

The project also suggests that the broadening of the NNTF's remit to the whole of the mathematics curriculum, rather than retaining its original focus on numeracy, may not be in the best interests of children of primary school age. The new framework provides for a significant amount of lesson time, perhaps about one-third, to be spent on non-number work. Yet much of the failure of English pupils to reach acceptable standards is attributable to their lack of understanding of basic number structure. This needs to be firmly established during the primary school years – especially during the crucial years of Key Stage 1. Learning in other mathematical topics could be left to a later stage of schooling when understanding of number structure is secure.

Pupils participating in the IPM project will transfer to secondary school in 2001. Lesson materials for pupils at this level are already being developed and trialled, whilst regular monitoring of the project, through testing and classroom observation, points to its continuing success.

THE IMPROVING PRIMARY MATHEMATICS PROJECT WAS ESTABLISHED IN 1996, BUILDING ON EARLIER FUNDING FROM THE GATSBY CHARITABLE TRUST. THE INSTITUTE TEAM COMPRISES PROFESSOR SIG PRAIS, JULIA WHITBURN AND FIONA THIRLWELL.

EMPLOYMENT PROTECTION AND DEMAND FOR LABOUR

Britain has the lowest job security of ten European countries covered in a new index developed at the Institute. The same study confirms, however, that job security legislation and practices have only limited effects on the demand for labour.

Many explanations have been advanced for the rise in European unemployment over the last twenty-five years. In particular there has been a considerable volume of research into the effects of employment security and its effects on hiring and firing, and hence on the level of employment. However work in the area has been hampered by a paucity of measures of such security.

Recent work at the Institute has addressed this issue by developing a measure of employment security for ten European countries, based on survey evidence provided by European employers. The project then went on to utilise our measure of employment security and to analyse its impact on labour demand at the industry level. Results indicate that in nearly all of the industries studied employment security can have significant effects in slowing down the dynamic adjustment of labour demand, particularly in response to changes in output.

As significant differences in the effects of employment security can be seen across industries it is important to ask what is driving them. The researchers suggest that industries facing greater volatility in patterns of demand may be more adversely affected by employment security than those that have more stable patterns of demand. However, it is difficult to find evidence for any long-run effects from employment security. Overall it is concluded that there is little direct support for the presumed deleterious effects of employment security. However, it is reasonably clear that such security is unlikely to raise employment, and will probably reduce it.



The indices suggest that employment security in industry is lowest in the UK and highest in Greece. The measures also give an indication of how employment security has been reduced by reforms in the UK and Italy, for instance. There do appear to be notable differences between countries, across the industrial and retail sectors and significant developments over time.

Within industry, the attitude-based measure of employment security is now broadly similar for Germany, France, Italy, Netherlands and Belgium with the UK standing out with a much lower score. However in the retail sector there is a much greater divergence in our estimates of security. The UK has the lowest score, but Italy also is relatively low, reflecting the high level of self-employment amongst Italian retailers.

THIS RESEARCH WAS UNDERTAKEN BY RAY BARRELL, JULIAN MORGAN, VERONIQUE GENRE AND CAROLINE WILSON, WITH FINANCIAL SUPPORT FROM THE LEVERHULME TRUST. FURTHER DETAILS CAN BE FOUND IN DISCUSSION PAPER 142 (SEE PAGE 27).

THE CHANGING INFLUENCE OF UNIONS

1998 saw the publication of government proposals to support trade union recognition and introduce the National Minimum Wage. Recent work by Institute staff, which describes a continuing decline in employee representation by trades unions, has been used in formulating these initiatives.

The decline in union representation is one of many findings to emerge from the latest national survey of employment relations, in which the Institute is now a major collaborator.

The Government's White Paper *Fairness at Work* provides for compulsory recognition of trade unions by employers where a majority of the relevant workforce wishes it. Data from the new survey and its predecessors show that the number of workplaces with trade union recognition has dropped from 66 per cent in 1984 to 53 per cent in 1990 and 45 per cent in 1998. The lack of recognition in newer workplaces in the private sector is again suggested as a major source of the continuing decline. Management hostility is part of the explanation: fewer than one in ten workplaces where management was generally not in favour of trade union membership had a recognised union for any employees, whereas recognition was almost universal where management was in favour of membership.

The declining ability of trades unions to impose a demonstrable wage premium on employers has been an important finding from the Workplace

THE INSTITUTE'S PARTICIPATION IN THE WORKPLACE INDUSTRIAL RELATIONS SURVEY IS LED BY NEIL MILLWARD AND JOHN FORTH, AND SUPPORTED BY THE LEVERHULME TRUST. OTHER ORGANISATIONS PARTICIPATING IN THE WORK INCLUDE THE DTI, ACAS, ESRC AND POLICY STUDIES INSTITUTE. FURTHER FINDINGS WILL BE AVAILABLE IN A BOOK – *ALL CHANGE AT WORK?* – TO BE PUBLISHED BY ROUTLEDGE IN 1999.

Industrial Relations Survey series. The surveys' evidence, together with falling union membership and recognition, was influential in the formulation of the both the minimum wage and statutory recognition proposals. The new survey sheds further light on the association between low pay and union representation. Workplaces were eight times more likely to have at least a quarter of their employees earning less than £3.50 per hour if pay was not negotiated with unions.

While unions can no longer be seen as a source of inflationary wage-setting in Britain, their role as a drag on labour productivity growth may also have vanished. Managers in unionised workplaces were at least as likely to report high growth in labour productivity over the past five years as their counterparts in non-union workplaces. Unions continued to have a central role in the rare instances of industrial action, but were strongly associated with fewer claims to industrial tribunals.

Workplace outcomes and union recognition, 1998

Type of union presence	Low paying workplace ^{a, b}	High productivity growth ^b	Industrial action in last year ^b	Rate of IT claims in last year ^c
No union members at workplace	16	36	0	2.1
Members present, but no recognition	9	44	1	3.1
Unions recognised	2	41	4	1.7
All workplaces	9	41	2	1.9

^aWorkplaces with 25 per cent or more employees earning less than £3.50 per hour. ^bPer cent of workplaces. ^cMean rate per 1,000 employees.

EXPLOITING UNIVERSITY RESEARCH

Investment in university–industry research collaboration has risen dramatically in recent years. Yet governments of both parties have expressed concern at the extent to which the results of this work are exploited by industry. A recent study at the Institute examined both the content of collaborative agreements and the structures employed by both parties to negotiate them.

The tangible results of university–industry collaboration are difficult to define. Surveys by the Higher Education Funding Council for England and Department of Trade and Industry suggest that the average university derives £200–300,000 from licensing its research. Whilst this figure is supplemented by other exploitation routes, a return below 1 per cent of research spend is at first sight disappointing. However, the problem is not exclusively British. Recent figures for the United States, for example, suggest a broadly similar profile.

In a recent project, the Institute examined several hundred ‘live’ research contracts, to seek any areas of uncertainty that might exacerbate the problem. Five such areas were identified. These included a lack of mechanisms (in both universities and industry) for tracking later use of university generated intellectual property, unsuitable measures to trigger licence payments and unclear arrangements to define ownership of background intellectual property. Agreements were often ambiguous in defining the circumstances in

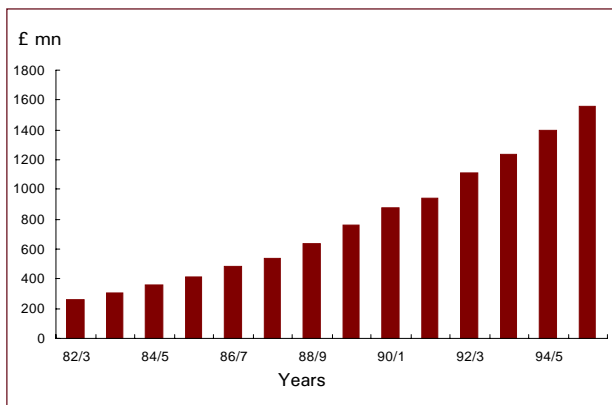
which the university could use emerging results (for example in the use of terms such as ‘non-commercial research’), and there was some doubt as to whether terms on confidentiality were always adhered to in reality.

From a narrowly contractual perspective, each of these areas might present serious problems. In practice, such dangers can be exaggerated. There has been little history of litigation to enforce contracts in the field. Moreover, to ensure complete clarity in each agreement would require considerably more individual negotiation and recourse to external legal advice, which both parties are anxious to avoid.

Overall, our evidence suggested that the contractual issues were not the major factor in hindering exploitation. The development of long-term relationships between scientists and R&D staff, mutual understanding about the long-term development and costs of bringing ideas to market and appropriate incentives were cited as being of much more importance.

It is also possible that the available measures underestimate the wider value of collaboration. Our interviews suggest that many companies sought wider access to ideas, expertise and manpower as well as specific outcomes. Analysis of the returns from collaborative research needs to account for these facts, as well as short-term improvements to products and processes.

Externally-funded research in UK universities



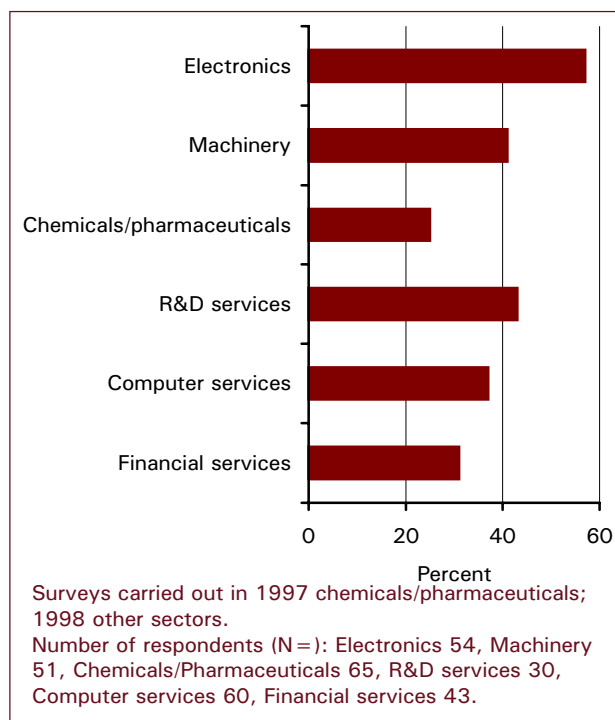
THIS RESEARCH WAS UNDERTAKEN AS PART OF A PROJECT LOOKING AT THE DETERMINANTS OF INTELLECTUAL PROPERTY STRATEGY IN UK COMPANIES, WITH SUPPORT FROM ESRC, DTI AND THE INTELLECTUAL PROPERTY INSTITUTE. PROJECT STAFF COMPRISED DUNCAN MATTHEWS, CAROLINE WILSON, JOHN PICKERING AND JOHN KIRKLAND. FURTHER INFORMATION CAN BE FOUND IN DISCUSSION PAPER 129 (SEE PAGE 27), OR THE PUBLICATION BY KIRKLAND *ET AL.* IN *INDUSTRY & HIGHER EDUCATION* (PAGE 24).

GRADUATE RECRUITMENT: QUALITY AND QUANTITY

Most technical subject areas have shared in the expansion of UK higher education which began in the late 1980s. Hence, it is disconcerting to find that there are still widespread reports of shortages of graduate engineers and scientists. New work at the Institute has examined the reasons for this, and identified particular problem areas.

Recent surveys of employers carried out at NIESR have found that sizeable proportions of graduate recruiters – ranging from a quarter of companies in chemicals and financial services to over half of recruiting companies in electronics – experience difficulties in meeting their graduate recruitment targets (see figure).

Percentage of employers reporting that they had found it 'very difficult' or 'quite difficult' to meet their recruitment targets for graduates in the previous three years



In most technical disciplines, these problems have more to do with the 'quality' of graduates than any quantitative shortfall. The main quality concerns are about graduates' lack of work experience and/or deficiencies in communication skills and commercial understanding, together with apparent shortcomings in some job candi-

dates' subject knowledge and understanding. Two main reasons were identified to suggest that these qualitative mismatches between supply and demand of technical graduates may be increasing:

- On the one hand, performance standards now expected of graduates have risen by comparison with earlier generations. In most product/service areas day-to-day workplace pressures have intensified due to increased market competition and changes in work organisation and new graduates are typically expected to take on early responsibilities and work with very little supervision.
- On the other hand, university departments are now struggling to maintain academic standards while coping with ever-wider variability in student academic backgrounds and the impact of a sharp decline in the real value of public funding per student in recent years.

The one technical discipline where there appears to be a quantitative shortfall as well as perceived quality shortcomings is electronic engineering. In the last ten years the total number of university entrants in electronic and electrical engineering areas has hardly grown at all even while overall higher education participation rates have more than doubled.

The relatively slow growth in students studying electronics appears to reflect (i) deep-rooted problems in physics and maths teaching in schools and (ii) the rival attractions of computer science/IT degree courses for those school-leavers who might otherwise consider studying electronics. In addition, subsequent to graduation, many electronics graduates are absorbed into IT and other jobs for which electronics is not a specific requirement.

THESE STUDIES WERE CARRIED OUT BY GEOFF MASON WITH SUPPORT FROM THE ROYAL SOCIETY OF CHEMISTRY, THE COUNCIL FOR INDUSTRY AND HIGHER EDUCATION AND THE DEPARTMENT FOR EDUCATION AND EMPLOYMENT. FOR PUBLICATION DETAILS SEE UNDER MASON PAGE 24.

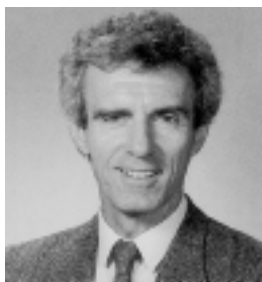
EVENTS DURING 1998

The Institute's programme of seminars and conferences is a means of ensuring that our work is widely disseminated and of encouraging external input to work in progress. In our sixtieth anniversary year, several events were of national and international importance.

MACROECONOMIC MODELLING AND ECONOMIC POLICY

The international reputation of British macro-economic modelling was confirmed in January, when delegates from no fewer than 18 countries were amongst the 180 attending a major conference under the above title.

The event, organised in conjunction with Cambridge University and the ESRC, brought together Britain's eight leading academic modelling teams. The Institute's contribution included a paper from Andrew Blake, Martin Weale and Garry Young on *Optimal Monetary Policy*, whilst Ray Barrell acted as discussant to a paper from Paul Masson, of the IMF. Additional US input came from Professor Ray Fair (above), of Yale University, who spoke on the *Estimated Stabilization Costs of EMU*.



UK participation included contributions from the Bank of England and HM Treasury, journalists, politicians and business representatives. A total of seven government departments was represented.

PRODUCTIVITY AND COMPETITIVENESS

A rare UK appearance from Harvard Professor Zvi Griliches was the highlight of this two-day conference, supported by the ESRC. Professor Griliches' keynote paper dealt with the subject of *R&D and Productivity Growth*. The main conference themes were *Service Sector Productivity, Industrial Innovation and Economic*

Performance and Productivity and Competitiveness at Enterprise Level. The former section dealt both with issues of measurement and explanation and included a presentation by Geoff Mason, of the Institute, of findings from a study of commercial banking in the US, Britain and Germany. Other papers came from Christine Greenhalgh and Mary Gregory (Oxford University), Steve Broadberry (Warwick University) and Michelle Haynes and Steve Thompson (Nottingham University).

Contributors to the later sessions included Bronwyn Hall (Universities of Oxford and California, Berkeley), Paul Geroski (London Business School), Steve Nickell (Oxford), Pari Patel and Keith Pavitt (Science Policy Research Unit, Sussex), Steve Bond and Richard Blundell (University College London and Institute of Fiscal Studies). Paul Stoneman and MJ Kwon (Warwick University) and Gavin Cameron, James Proudman and Stephen Redding (Oxford University).

FISCAL POLICY AND MONETARY UNION

As the debate over European monetary union reached its height, an Institute seminar gave supporters an ideal opportunity to question leading European officials at first hand, with presentations from Marco Buti and Hedwig Ongaena, of DGII in the European Commission. Discussion was led by Professor Willem Buiter (Cambridge University) and Martin Weale.

The Institute's Anniversary Reception, in June, drew together supporters from across the political spectrum. Seen here are Giles Radice MP (Labour Chairman of the Treasury Select Committee), Lord Higgins (Conservative Spokesman on Social Services in the House of Lords) and David Lea (Deputy General-Secretary, TUC).





Frank Field, MP, keynote speaker at an Institute conference in December

INTELLECTUAL PROPERTY & THE SMALL FIRM

This conference was organised by the Institute as part of a major national programme of research, funded by the Economic and Social Research Council, the Department of Trade and Industry and the Intellectual Property Institute. Focussing particularly on small companies, issues discussed included the financial and other barriers faced in identifying, protecting and defending intellectual property, the value of legal protection in the context of the small firm and the role of intellectual property in university–industry collaboration.

TECHNOLOGY AND GROWTH

The diffusion of technology in Europe, and its effect on growth, was the subject of a seminar organised by the Institute at the 1998 Royal Economic Society conference. Contributors included Luisa Farinha and Jose Mata (Bank of Portugal) on the *Impact of FDI on the Portuguese Economy*, Tamin Bayoumi, David Coe and Douglas Loxton (IMF) on *Innovation in a Multicountry Econometric Model* and Steve Broadberry (Warwick University) on *Technology and Productivity in Manufacturing*. The Institute's paper, from Nigel Pain and Dawn Holland, reported new analysis of factors affecting *FDI in Eastern Europe and the Baltic States*. Methods of privatisation, extent of trade linkages with advanced economies and proximity to the EU were highlighted as particularly significant.

PUBLIC SECTOR INVESTMENT

As part of a major project to compare Treasury rules towards public investment in several countries, a high level seminar was held at the Institute in May attended by senior representatives of policymaking bodies and industry including the Treasury, DETR, the Post Office, Shell International and the LCCI Education Trust, who supported the event and the related research project.

PAYING FOR THE WELFARE STATE

Key presentations from Frank Field, MP (top left), and Professor Larry Kotlikoff (right), the leading US authority, from Boston University, were highlights of this conference in December, which also provided the first



public discussion of new research at the Institute to produce Britain's first set of intergenerational accounts (see page 5). Other contributors included Richard Disney and James Banks (IFS), Tony Harrison (King's Fund), Professor Charles Bean and Howard Glennester (LSE).

GOVERNORS SEMINARS

The well established series of seminars by Institute Governors continued with talks by Frances Cairncross on *The Death of Distance*, Professor Partha Dasgupta, who spoke on *Resource Economics and Poverty*, and Professor Charles Bean, on *Holding the Bank of England to Account*. Another Governor, Professor Richard Blundell, launched our 1998–9 Staff Seminar series with a paper on *What can we really learn from natural experiments? Evidence from the tax reform and labour supply debate*. The Institute would like to express its gratitude to each of these, together with all of the other contributors mentioned above.

BOOKS AND MAJOR REPORTS

Thinking the unthinkable about EMU: coping with turbulence between 1998 and 2002

Edited by John Arrowsmith

Occasional Paper no. 51. ISBN 0 952 6213 4 7 paperback. Price £15.00 Published by NIESR.

The chances that the initial stages of monetary union might be disrupted at some point by economic or political events may be small but, because the consequences for Europe of such a setback could be grave, they should not be ignored. This collection of papers examines potential weaknesses in the Maastricht blueprint, the kinds of risk to which the EMU project may be exposed and what steps might be taken to reduce the risks or contain the adverse consequences. These questions, for long considered taboo, are addressed by experts from European universities and a panel of leading City economists.

Innovation, investment and the diffusion of technology in Europe. German direct investment and economic growth in postwar Europe

Edited by Ray Barrell and Nigel Pain

ISBN 0 521 62087 2 hardback. Published by Cambridge University Press

The globalisation of the world economy has raised many fears for employment and growth in the advanced economies. Foreign investment has been one of the major factors driving globalisation. The papers in this volume address the role of German foreign investment in the European growth process. The implications for the home economy are addressed, as are the determinants of outflows. The effects of foreign investment in host countries are also assessed, and the editors draw conclusions for future economic development in the European Union.

Sixty years of economic research. A brief history of the National Institute of Economic and Social Research 1938–98

by Kit Jones

Occasional Paper no. 52. ISBN 0 952 6213 3 9 paperback. Price £10.00. Published by NIESR.

This history traces the origins of the National Institute of Economic and Social Research and outlines the vast amount of research which has taken place during its sixty years' existence. It describes some of the difficulties it has faced and attempts to assess its contribution to our understanding of the workings of the economy. Finally it considers the Institute's influence and educational role.

Major Recessions. Britain and the world 1920–1995

By the late Christopher Dow

ISBN 0 19 828858 1 hardback. Price £55.00

Published by Oxford University Press

Major Recessions provides a comprehensive account of all five major recessions of the 20th century and contains advice for the future as well as lessons from the past. The book focuses on events in the UK, but sets them in their international context and makes frequent comparisons with other countries. It concludes that major recessions reflect abrupt fallings off in demand, not supply: that they are due to identifiable demand shocks and to swings in consumer and business confidence which amplify the direct effects of demand shock: and that major recessions are not predictable. In the final chapter, Dow argues that to avoid future severe recessions action must be taken to control booms, which if uncontrolled will lead to a period of bust. Once a major recession has begun, fiscal and monetary policy must be adjusted to mitigate the downturn. Often unpopular with economists, this is the line taken by many governments and central banks.

Forthcoming publications

Britain's relative productivity performance 1950–1996. An international study

By Mary O'Mahony

To be published by NIESR, Spring 1999

The author examines Britain's productivity performance in the postwar period relative to four industrial countries – the US, Germany, France and Japan – considering both growth rates and relative levels of labour productivity, physical capital, total factor productivity, human capital and unit labour costs. The aggregate economy is divided into ten broad sectors comprising agriculture, four production sectors, four market service sectors and non-market services. The book contains annual data series on the variables considered in the sectoral analysis, and some additional detail for sub-sectors, together with the sources and methods employed in constructing the data series.

Econometric modelling: techniques and applications

Edited by Sean Holly and Martin Weale

To be published by Cambridge University Press

The book combines descriptions of the latest techniques used in modelling the economy and accounts of the way that models can be used for purposes of policy analysis. Papers are based on presentations given to a major Institute conference in January 1998 (see page 18).

Productivity, innovation and economic performance

Edited by Ray Barrell, Geoff Mason and Mary O'Mahony

To be published by Cambridge University Press

This book presents papers delivered at the joint NIESR/ESRC sponsored conference on Productivity and Competitiveness (see page 18).

NATIONAL INSTITUTE ECONOMETRIC MODELS

Much of the Institute's research and analysis is based on our two in-house econometric models. In 1998, these were used more widely than ever, with licensees in four continents.

The global model – NiGEM – is widely regarded as one of the world's leading models. It is the only UK based world model to take part in comparative exercises organised by the US Federal Reserve and the Brookings Institute in Washington, the EU financed SPES model comparison exercise and recent programmes under the direction of the OECD. Its users embrace both public and private sectors, and include no fewer than twelve European central banks and finance ministries, in addition to prestigious international organisations such as the World Bank and the new European Central Bank.

The 1,000 equation model is divided into 18 detailed country sectors, embracing all major world economies, and is designed to give users the freedom to produce their own forecasts and simulations. Where necessary, training and support is provided from the Institute, both individually and at regular users' meetings.

The domestic model – NIDEM – has over 400 variables which provide an unusually rich description of the workings of the UK economy. A major use within the Institute is to drive the quarterly economic forecast produced in the *Review*, but it is also used by outside organisations for a wide variety of forecasting purposes.

Trial copies of both models, and further information, can be obtained from the contacts listed on the inside back cover.

The uncertain economic climate which prevailed in 1998 made the need for expert analysis all the greater. Against this background, the Institute's quarterly Economic Review continued to provide a unique combination of analysis, forecasts and research results. Each issue 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. A recent innovation has been the introduction of a twice-yearly Fiscal Report, examining the state of the public finances.

Articles which appeared during the year were as follows:

No. 163 (January)

The implications of switching from unfunded to funded pension systems

David Miles

The stability pact: safeguarding the credibility of the European Central Bank

Michael Artis and Bernhard Winkler

The internationalisation of German companies' R&D

John Cantwell and Rebecca Harding

No. 164 (April) Themed issue on forecasting and uncertainty introduced by Sean Holly and Martin Weale

The treasury forecasting record: some new results

Chris Melliss and Rod Whittaker

Technical progress and the natural rate in models of the UK economy

Keith B. Church, Peter R. Mitchell, Joanne E. Sault and Kenneth F. Wallis

Estimated stabilization costs of the EMU

Ray C. Fair

Optimal monetary policy

Andrew P. Blake, Martin Weale and Garry Young

No. 165 (July)

Financial crisis in East Asia: bank runs, asset bubbles and antidotes

Marcus Miller and Pongsak Luangaram

Raising schooling attainments by grouping pupils within each class

S.J. Prais

The implications of the Boskin Report

Nicholas Oulton

Labour costs and employment policy

Robert A. Hart and Robin J. Ruffell

Large-scale EMU: the May council decisions and implications for monetary policy

John Arrowsmith

No. 166 (November) Themed issue on inequality and the labour market

The working families tax credit

Pamela Meadows

The dollar, trade, technology and inequality in the USA

Bob Anderton and Paul

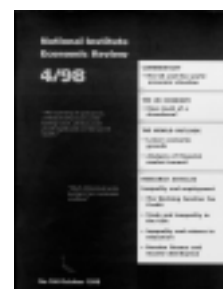
Brenton

Recent shifts in wage inequality and the wage returns to education in Britain

Stephen Machin

Pension finance in a calibrated model of saving and income distribution for the UK

James Sefton, Jayasri Dutta and Martin Weale



ANNUAL SUBSCRIPTIONS TO THE REVIEW ARE £99 OR £180 FOR TWO YEARS (UK AND EU SUBSCRIBERS) AND £110 OVERSEAS. SPECIAL RATES ARE AVAILABLE FOR STUDENTS, TEACHERS AND INDIVIDUAL ACADEMICS. FOR FURTHER DETAILS PLEASE CONTACT ANNE STEWART AT THE NATIONAL INSTITUTE (0171 654 1923).

OTHER PUBLISHED ARTICLES AND PAPERS PRESENTED

- Anderton, R., 'Innovation, product quality, variety, and trade performance: an empirical analysis of Germany and the UK', *Oxford Economic Papers*, 51.
- , 'Policy regimes and the persistence of wage inflation and unemployment', *The Manchester School*, 66/4, September.
- and Brenton, P., 'Did outsourcing to low-wage countries hurt less-skilled workers in the UK?', and 'Trade with the NICs and wage inequality: evidence from the UK and Germany', in Brenton, P. and Pelkmans, J. (eds), *Global Trade and European Workers*, Macmillan.
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- , 'The slow bird must start out early: a key to success in Japanese mathematical attainment?', *Oxford Studies in Comparative Education*, Special Issue on *Comparing Educational Standards Internationally: Research and Practice in Mathematics and Beyond*.
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- , 'The influence of foreign factor prices and international taxation on fixed investment in the UK', *Oxford Economic Papers*, forthcoming.
- Papers presented at conferences*
- Anderton, R. and Brenton, P., 'Did outsourcing to low-wage countries hurt less-skilled workers in the UK?', Royal Economic Society Annual Conference, Warwick.
- Anderton, R., Brenton, P., Horsewood, N., Muckle, N. and Sinclair, P., 'Exports, prices, technology and hysteresis: a preliminary study', International Economic Study Group LSE Meeting, November.
- Arrowsmith, J., 'The formation of EMU and its implications for the UK', BBC Research Seminar, London, April.
- , 'The composition of EU countries' official reserve holdings: will EMU leave a reserve overhang?' The Reserve Assets Study Group, London, May.
- , 'The role of the European Central Bank', IBC Conference on Capital Markets in the New Euro Environment, London, July.
- Barrell, R., 'Employment policies for Europe', Conference of the Workers Group of Christian Democrat MEPs, Edinburgh, July.
- , 'Euroland: the transition and the prospects for the medium term', University of Bologna, Prometeia Conference, July.
- , 'Financial market contagion and the effects of the crises in East Asia, Russia and Latin America on the European Economy', Bank Austria Finance Ministers Meeting Conference on Prospects for EMU, Vienna, September.
- , 'Financial market contagion: the butterfly has landed', Bank of England International Division and MPC Seminar, September and UN Project LINK Conference, Rio de Janeiro, September.
- , Dury, K and Pain, N., 'The implications of the crisis in East Asia: working under different rules', Helsinki, June.
- , Dury, K and Pain, N., 'Working under different rules: the implications of the crisis in East Asia', ESRC Macromodelling Bureau Conference, Warwick, July; World Bank Seminar, Washington, July.
- , Dury, K and Pain, N., 'Working under different rules: the effects of different monetary policy feedback rules.' Money, Macro and Finance Research Group Annual Conference, Imperial College, September.
- and Morgan, J., 'Employment security and European labour demand: a panel study across 16 industries', European Economic Association Conference, Berlin, September.
- and Pain N., 'Choosing the rate again: the UK's entry into monetary union', Project LINK conference at the United Nations, New York, March.
- and Pain, N., 'The implications of the crisis in East Asia', Money, Macro and Finance Research Group Seminar, March.
- and Pain, N., 'European growth and integration: domestic institutions, agglomerations and foreign direct investment in Europe', European Economic Association Conference, Berlin, September.
- and Pain, N., 'Working under different rules: the implications of the crisis in East Asia', Project LINK conference at the United Nations, New York, March and CEPR seminar, March.
- and Pain, N., 'Real exchange rates, agglomerations and irreversibilities: FDI and macro policy in EMU', UN Project LINK Conference, Rio de Janeiro, September.
- and Pain, N., 'The implications of the crisis in East



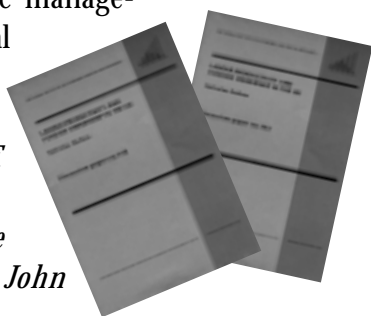
Richard Kneller (left) and George Kapetanios, who submitted their PhD theses during the year at Nottingham University and Cambridge University respectively.

- Asia', Bank of England Seminar, January.
- , Pain, N., and Riley, R., 'European integration, European unemployment and European monetary union', presented at European University Institute, Florence, March.
- Blake, A.P., Camba-Mendez, G. and Weale, M.R., 'UK consumption in the long run: the determinants of consumer spending 1925–1995', Econometric Society European Meeting Conference, Berlin, August, and ESRC Econometric Study Group Conference, Bristol, July.
- Blake, A.P. and Young, G., 'UK economic policy and EMU', ESRC Macroeconomic Modelling Conference, Warwick, July.
- Camba-Mendez, G., Smith, R.J. and Weale, M.R., 'An automatic leading indicator of economic activity. Forecasting US GNP and UK GDP', 9th European Conference of the Econometrics Community, Stockholm, December.
- Forth, J., 'Unemployment, flexible work and family income', Work, Employment and Society Conference, University of Cambridge, September.
- and Millward, N., 'The 1998 Workplace Employee Relations Survey', British Universities Industrial Relations Association, November.
- Holland, D. and Pain, N., 'International trade in services: putting UK export performance into perspective', Money, Macro and Finance Research Group Annual Conference, Imperial College, September.
- , 'The determinants and impact of foreign direct investment in the transition economies: a panel data analysis', ACE project workshop, Budapest, February and 4th Annual Conference, Centre for Research into East European Business, University of Buckingham, June.
- , 'The diffusion of innovations in Central and Eastern Europe: a study of the determinants and impact of foreign direct investment', European Economic Association Conference, Berlin and Royal Economic Society Conference, Warwick.
- Hubert, F. and Pain, N., 'Innovation and the regional and industrial pattern of German foreign direct investment', Institute for German Studies, Birmingham University.
- Mason, G., 'Graduate utilisation in British industry: quantity and quality issues', Conference on Higher Education and Employability, Society for Research into Higher Education/Committee of Vice-Chancellors and Principals, London, July
- and Wagner, K., 'High-level skills, knowledge transfer and industrial performance: electronics in Britain and Germany', Conference on Innovation Systems and Industrial Performance, Wissenschaftszentrum Berlin für Sozialforschung, Berlin, October 1998; Conference on National Innovation Systems, Université de Technologie de Compiègne, France, January.
- O'Mahony, M., 'The comparative competitiveness of the EU chemicals and rubber and plastics industries', conference on The Chemicals Industry in Europe, European Commission, Brussels, October.
- Pain, N., 'Globalisation and policy implications for the industrialised economies', Joint Schools Economics Conference, London, November.
- , 'Institutions, agglomerations and the location of US FDI in Europe', Leverhulme workshop, University of Nottingham, September.
- , Holland, D. and te Velde, D., 'On the road to the market: modelling growth prospects in Central Europe', 23rd Annual Conference on Medium-Term Economic Assessment, Danish Ministry of Finance, Copenhagen.
- Sheldon, M. and Young, G., 'Estimating cointegrating relationships when there is uncertainty about the time series properties of the data', Royal Economic Society Conference, University of Warwick.
- Taylor, C., 'Long-run exchange-rate instability among major currencies: some unsophisticated estimates', European Financial Markets Advisory Panel, March.
- , Arrowsmith, J. and Barrell, R., 'Managing the euro in a tripolar world', 21st colloquium of the Société Universitaire Européenne de Recherches Financières, Frankfurt, October.
- te Velde, D.W., 'The UK economy' (from NIER, 165, by Garry Young), 58th Kieler Konjunkturgespräch, Kiel.
- Weale, M.R., 'Monetary and fiscal policy in Euroland', Journal of Common Market Studies Lecture, Lincoln, September.
- Whitburn, J., 'Issues in early childhood education: too much too soon?', National Association for Primary Education, University of Greenwich, October.
- , 'Standards in numeracy', Barnet Inspection and Advisory Conference, Brighton, March.
- Young, G., 'The fiscal implications of EMU', Oxford University postgraduate seminar, February.
- , 'Unemployment and aggregate demand in the UK', presented at In Search of Work Conference organised by the Employment Policy Institute.

National Institute Discussion Papers exist to foster early discussion of Institute research. 1998 papers are listed below. All discussion papers are available at £4.00 each or on subscription at £30.00 for 10 consecutive papers.

128. Can real equilibrium models account for the fluctuations of the UK business cycle? *Gonzalo Camba-Mendez and Joseph Pearlman*

129. The strategic management of intellectual property: review of the interview programme *John F. Pickering, Duncan Matthews, Caroline Wilson and John Kirkland*



130. Filtered least squares and measurement error *Andrew P. Blake and Gonzalo Camba-Mendez*

131. Export performance and the role of foreign direct investment *Nigel Pain and Katharine Wakelin*

132. Interpolation and measurement error: an assessment of monthly data in a VAR model *Eduardo L. Salazar and Martin R. Weale*

133. Costs of separating budgetary policy from control of inflation: a neglected aspect of central bank independence *Andrew P. Blake and Martin R. Weale*

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Corporate members play a critical role in underpinning new and emerging areas of Institute work, where funding is often difficult to obtain in the absence of core support from government. Many also contribute directly to our research agenda, both through individual contact with staff and through discussions at quarterly meetings of the 'Members Forum', at which Institute staff describe emerging findings to a unique network of senior company officials and influential guests from government, media and academic circles. Meetings of the Forum have the benefit of being small, informal and 'off the record', whilst providing valuable insights for all concerned.



The *Economic Agenda*, the newsletter of the Members Forum, keeps members up to date with our research and events programmes.

Members Forum meetings in 1998 were as follows:

18 February • Crisis in the East: implications for the UK

Discussion led by Ray Barrell
Guest: Dr Jim Rollo, Chief Economic Adviser, Foreign & Commonwealth Office

19 May • The May Council Decisions: is EMU now home and dry?

Discussion led by John Arrowsmith
Guests: Flemming Larsen(right), Deputy Director of the Research Department and Graham Hacche (left), Assistant Director of the World Economic Studies Division, International Monetary Fund, Washington. Chaired by Sir Brian Corby, Institute President and former Chairman of the CBI.



22 July • Another 50 Years of the Welfare State: will our children be able to afford it?

Discussion led by James Sefton and Martin Weale
Guests: Robert Chote, Financial Times, Christopher Daykin, Government Actuary, Joe Grice, HM Treasury.

22 October • Economic Effects of the New Deal

Discussion led by Garry Young
Guests: Mike Bielby, Department for Education and Employment, Dr John Philpott, Employment Policy Institute and Professor Richard Jackman, London School of Economics.
Followed by Corporate Members Annual Dinner, Athenaeum Club.

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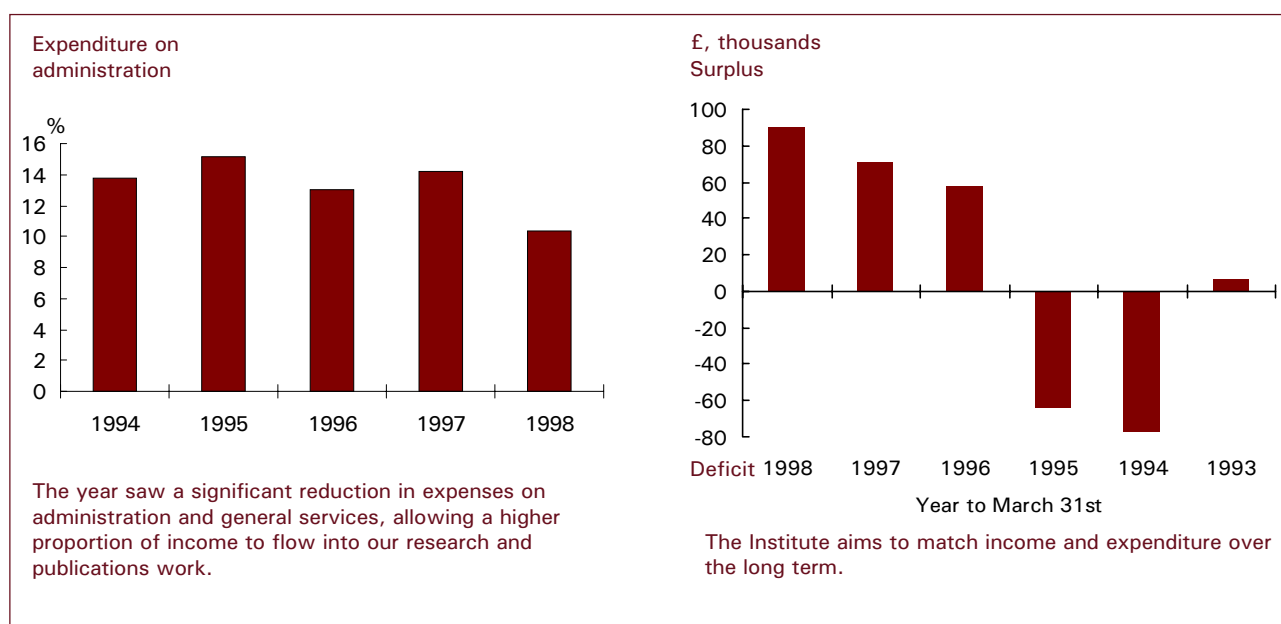
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	1997-98	1996-97	1995-96	1994-95
	£	£	£	£
INCOME				
Research	1,098,949	1,114,504	1,138,753	966,659
Publications	412,004	384,971	414,886	363,436
Corporate supporters	123,415	142,558	127,294	135,828
Investments and interest	<u>152,503</u>	<u>142,910</u>	<u>129,417</u>	<u>113,464</u>
Total income	<u>1,786,871</u>	<u>1,784,935</u>	<u>1,810,350</u>	<u>1,579,387</u>
EXPENDITURE				
Research	1,190,856	1,194,084	1,221,795	1,101,807
Publications	249,937	220,227	241,071	219,675
Premises	79,117	55,794	61,490	74,079
Administration and general services	<u>176,936</u>	<u>244,002</u>	<u>228,487</u>	<u>247,642</u>
Total expenditure	<u>1,696,846</u>	<u>1,714,107</u>	<u>1,752,843</u>	<u>1,643,203</u>
OPERATING SURPLUS/(DEFICIT)	90,025	70,828	57,507	(63,816)



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