NATIONAL INSTITUTE OF ECONOMIC AND SOCIAL RESEARCH

'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'

55TH ANNUAL REPORT 1997

NATIONAL INSTITUTE OF ECONOMIC AND SOCIAL RESEARCH

The Institute is an independent non-profit-making body, incorporated under the Companies Act 1929, limited by guarantee and registered under the Charities Act 1960 (Registered Charity Number 306083).

Contents

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 INSTITUTE IN 1997

1997 was an eventful year for economists and politicians. The Institute maintained its reputation for quality, relevance and independence with a number of high profile studies.

In February, our UK economy team won the 'Golden Guru' award of the *Independent* newspaper for the second consecutive year, to supplement another award from the *Sunday Times* the previous December – also the second in a row.

'To come top once in a field of 45 forecasters is a triumph. To do so twice, and in successive years, is close to a miracle.'
Sunday Times

The Institute's location at the heart of Westminster makes it an excellent base for debate between policymakers and business.

Institute studies were widely quoted during the election campaign. Britain's record in attracting overseas investment was critically examined as also were the likely effects of Labour's 'new deal' on job creation. An analysis of long-term prospects for the public finances also received widespread attention.

'A more modest hope is that the Treasury and the next Chancellor will read the Review, *and that the next Red Book contains at least a mention of the public sector balance sheet.'*
The Times

Education became even more prominent during the year. The Institute's long-standing concern with identifying areas of underperformance and practical solutions led to a new analysis of international statistics. The continuing effects of skill levels on business were also evident from new studies of insurance and engineering.

'Professor Prais' studies were the first to highlight the underachievement in British schools compared with those of other countries.'
Daily Telegraph

The relevance of Institute work to policy ensured that several other projects received widespread attention. Examples included work on the potential obstacles to European Monetary Union, possible defects in the calculation of economic statistics and the practical effects of labour market reform on economic performance.

'The NIESR does preserve the rare virtue of explaining clearly the logic behind its findings, and not just throwing a set of numbers at readers on a take-it-or-leave-it basis.'
Financial Times

DIRECTOR'S PREFACE

1998 marks the 60th anniversary of the Institute's founding. Whilst this is, in itself, a cause for celebration, we are determined to use the occasion primarily to look forward – to evaluate the role of independent research institutions in modern society, and identify the contribution we can best make in future.

The survival of independent research institutes can never be taken for granted. Unlike universities we receive no core funding from the government. But our research is academic in character, unlike the work of commercial consultancies. The Institute is committed to enhancing the base of public knowledge and does not undertake work which is unlikely to enter the public domain. We have no party political bias and therefore no political benefactors. Our distinctive role is to carry out research which, while academic in character and quality, also directly addresses the needs of business and policy makers.

To achieve this we need to maintain excellent links in all three sectors. This has been a priority in 1997. We now have joint bilateral projects with five universities, visiting fellows and consultants from eleven, and thirty have been represented at our growing programme of conferences and seminars. Two of our junior staff recently completed PhDs at Birmingham and Warwick Universities and another is shortly expected to complete in Cambridge. A fourth has just embarked on a thesis at Imperial College. And I am glad to congratulate Ray Barrell on becoming a Visiting Professor at Imperial.

Links with business and government have also been enhanced. In election year our work was widely quoted by both large political parties. The campaign and subsequent developments such as the increased role of the Bank of England and the House of Commons Select Committee in monitoring it, suggest that there is a continuing need for analysis of the state of the economy. There has been increased attendance from both government and business at our events, and some seminars have been specially targeted at a business audience, such as a pre-budget briefing which was staged for the first time jointly with London Economics. There has also been a strengthening of policy and business interests on the Institute's Council of Management and among its Governors.

NEW STAFF IN 1997: VERONIQUE GENRE, KAREN DURY, ROBERTO CARDARELLI AND REBECCA RILEY WITH INSTITUTE DIRECTOR MARTIN WEALE.

This Report describes some of our work in 1997 and shows that we have an excellent base from which to develop these relationships further. Once again our work falls into three groups: **Economic Modelling and Macroeconomic Analysis, Productivity, Education and Economic Performance** and the **International Economy.**

In the period before the election our analysis of the fiscal position led to the conclusion that taxes would need to rise fairly soon – a fact the Chancellor subsequently acknowledged in the July Budget. Other modelling work has taken us into quite a new area – linking income distribution to the macroeconomy. This allows us to bring together the effects of social security changes such as 'affluence testing' of pensions on income distribution and at the same time look at the impact on overall saving. Finally a study of aggregate saving behaviour has shown that the factors influencing it have not changed perceptibly in the last 70 years.

Our work on education continues to stress the problems caused by poor maths performance, and suggests practical remedies. But an international study of determinants of productivity growth suggested that, while investment in education helps economic growth, there is no externality and casts doubt on the empirical relevance of endogenous growth theory.

A key finding of our work on the international economy has been a link between the inflow of foreign investment into the United Kingdom and growth in productivity in the manufacturing sector. The current high level of the exchange rate is likely to discourage this inflow and may have an adverse effect on productivity. Another study has shown that, despite the Single Market Programme, there are still substantial barriers to capital mobility between European countries. These arise mainly from exchange rate uncertainty and are likely to disappear with monetary union.

Of course none of this could have been possible without the support of our research sponsors and corporate donors. Their support is acknowledged elsewhere, but I would like to add my own thanks for their continuing involvement. Without them it would not be possible for independent research institutes, like the National Institute, to function.

What follows is not a comprehensive account of the year, but some highlights which may be of particular interest. I hope that they will provoke you to develop further your interest in our work by reading our publications, attending seminars and, where possible, developing more active forms of collaboration.

Martin Weale
February 1998

THE INSTITUTE'S LINKS WITH POLICYMAKING AND BUSINESS WERE ENHANCED BY THE APPOINTMENT OF TWO NEW COUNCIL MEMBERS DURING THE YEAR – RUTH KELLY, MP (ABOVE) AND CHRISTOPHER HASKINS (BELOW). A FULL LIST OF COUNCIL MEMBERS CAN BE FOUND ON THE INSIDE COVER.

LOW INFLATION: THE LONG-TERM BENEFITS

Economists and politicians agree on the desirability of low inflation. But there is relatively little debate on precisely how low the target should be, and the costs of not meeting it.

The new government has made a number of institutional changes designed to consolidate the good recent performance of inflation in the UK economy. It has set a target for the inflation rate of 2½% and established an independent monetary policy committee at the Bank of England with the responsibility for achieving it.

Recent research by Professor Feldstein of Harvard University suggests that even low rates of inflation can be very costly. He suggests that the distortions arising from the interaction of inflation and capital taxes are such that the annual deadweight loss of a 2% inflation rate is 1% of GDP. Discounting this permanent, growing gain to the present indicates that the cost of low inflation is substantial. The Bank of England has calculated that the annual benefits of a similar reduction in inflation in the UK are smaller at 0.2% of GDP, but nevertheless substantial.

Neither of these calculations takes account of the wider macroeconomic effects of different rates of inflation. Such an exercise has been carried out using the National Institute's model of the UK economy, estimated through a period of varying inflation rates. This incorporates a number of areas where inflation might influence real outcomes, including effects on the real returns to saving and the real cost of investment due to non indexation. But the main effect arises because of behavioural non neutralities where real consumption and investment are reduced by higher inflation. The effect on consumers' expenditure is due to the adverse influence of higher nominal interest rates on household cash flows. This adverse, short-term demand effect is intensified by a long-term effect on investment and the capital stock. This arises as higher inflation raises the rate of return required from companies by equity investors. Our analysis suggests that a *rise* in the inflation rate of 1 percentage point permanently *reduces* the capital stock by around 1½% and national output by about ½%. Consumption, a better indicator of welfare, falls by around a third of a per cent.

This does not necessarily mean that the government should aim for a still lower rate of inflation. This is because there is believed to be downward inflexibility in price adjustment which could become problematic at very low rates of general price inflation. But it does support the case for targeting a low rate of inflation of around 2½%.

When inflation is high there are short-run costs of reducing inflation to be set against the long-term gains. But when inflation has been reduced at some cost, as in the case of the UK, there is a strong case for consolidating the improvement. Model simulations show that reductions in inflation which are believed to be temporary involve a large cost, contrasting with those that are considered to be permanent. This is because prices, wages and interest rates do not adjust as fully as they would for a permanent change. The model suggests that a temporary reduction in inflation of 1 percentage point is associated with a *loss* of output of about ½%.

The full gains of a lower rate of inflation are only obtained if they are seen to be permanent. In this way price expectations are reduced, enabling the monetary authorities to cut interest rates, passing on the benefits of a change in inflation psychology.

RESULTS REPORTED ON PAGES 5 AND 6 ARE GENERATED USING THE INSTITUTE'S DOMESTIC ECONOMIC MODEL WHICH IS MAINTAINED THROUGH A GRANT FROM THE ESRC MACROECONOMIC MODELLING PROGRAMME.

WHAT IS GAINED BY CUTTING THE RATE OF CORPORATION TAX?

Cuts in corporate taxation are increasingly being employed to stimulate investment. Recent analysis at the Institute, however, suggests that the effects of this policy will be broadly neutral.

Corporation tax is planned to reduce from 33% to 31% this year, and to 30% in 1999. These reductions have been introduced in tandem with other measures that raise revenue for the government, in particular the abolition of dividend tax credits for pension funds and the replacement of advance corporation tax with a quarterly collection system. But, of themselves, the tax cuts are estimated to cost about £3 billion per year when fully operational.

To what extent will these cuts aid investment incentives? The traditional way of answering this question would involve calculating the effect of the changes in the tax rate on the user cost of capital, the rate of discount firms need to earn before company taxes and depreciation to generate the rate of return required by their shareholders. This summarises the effect of the corporate tax system on the incentive to invest. The effect on investment then depends on how sensitive is the investment rate to the user cost of capital.

The corporate tax rate has two offsetting effects on the incentive to invest. Since investment expenditure is entitled to capital allowances which reduce corporate tax payments and hence the net cost of investment, a lower tax rate reduces allowances and hence lowers the incentive to invest. However, a lower tax rate increases the net return to investment and hence raises incentives. The overall effect on investment is generally positive, but the effect is quantitatively small when the present value of capital allowances is close to the tax rate. This is currently the case as nominal interest rates are relatively low, thus raising the present value of the tax allowances available on new capital spending.

Thus the effect of this year's announced cuts in the corporate tax rate on the user cost of capital is very small, reducing the user cost by at most a quarter of a percentage point or slightly over 1%. In itself this would raise aggregate investment by about ½%, or around £500 million per annum at today's prices, a relatively small return in comparison with the revenue given up by the tax cuts.

However, there is growing evidence to suggest that the effect of corporate tax changes on the incentive to invest is much greater than simple user cost calculations would imply. This is because this approach is mainly concerned with the effects of tax changes on the *marginal* investment decision and makes no allowance for the effects on more profitable investments. This is particularly relevant to investment by international companies, with considerable choice in the location of investment. Reductions in the corporate tax rate could have a powerful influence on the amount of such investment in the UK.

Recent research on the effects of tax competition on foreign direct investment by UK and German firms finds sizeable effects of tax changes especially by UK firms. A 1% cut in the corporation tax rate relative to that in foreign countries is estimated to reduce outward FDI by around 2½%. The overall effect on investment in the UK depends on the actions of overseas firms attracted into the UK, UK firms who decide to invest at home rather than abroad, as well as the behaviour of purely national firms. It is estimated that for manufacturing the effect of a 1% cut in the corporate tax rate raises fixed investment by approximately 1%. This would suggest that the cuts in the corporate tax rate announced this year will eventually raise investment in UK manufacturing industry by about 3%. If similar effects were to be observed in the whole economy, then extra investment of about £3 billion would be generated, the same as the revenue cost of the cuts.

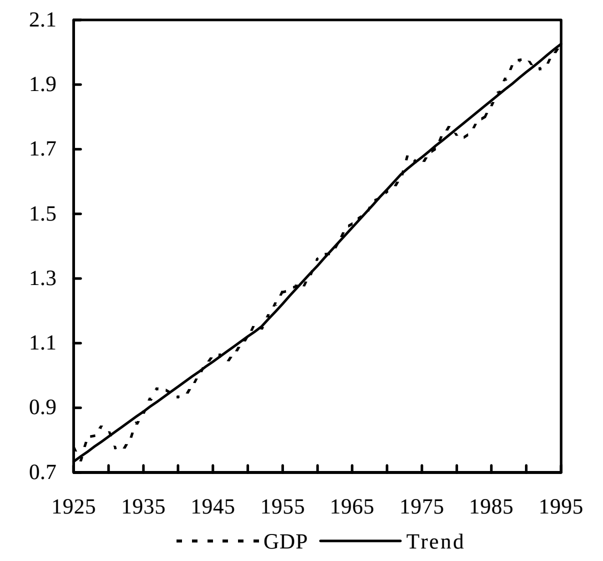
THE ILLUSION OF THE THATCHER MIRACLE

As part of a recent project looking at long-term influences on consumption behaviour, Institute staff have developed tests which help establish how far economic growth patterns follow a clear trend.

How best can we summarise the growth path of the economy? Is it a random walk, in which a period of fast growth need not imply a future recession and, conversely, a recession does not imply a permanent loss of output? Or is there a clear trend which the economy tends to depart from and then return to? Our new test distinguishes between these two views of economic time-series, taking account of the possibility that, if any series shows a deterministic trend, that trend may change from time to time.

The test has been applied to the series for UK GDP per capita, for the period since 1925, taking account of a fully-coherent data set for the period 1920–95. We have accounted for the practical problem caused by the surge in output in the Second World War and the subsequent fall after the war by developing further tests which show that the behaviour of output from 1939–45 was different from normal peacetime experience; we replaced the actual data with synthetic data which preserve the time-series properties of the peacetime series.

UK GDP per capita 1925–95 (log units)



Having removed the effects of the war we can test to see whether the series for GDP per capita is a ‘random walk’ or a deterministic trend with breaks in the trend growth rate.

Our analysis suggests the latter. From 1925–52 the trend rate of GDP growth per capita was 1.5% p.a. It then accelerated to 2.3% p.a. This acceleration in the trend fits the view that the postwar years were more successful than the prewar, but it is interesting to note that we place the acceleration during the period of decontrol rather than the earlier period of economic recovery from the war. In 1972 we detected a reduction in the rate of growth to 1.75% p.a. By 1995 output had recovered to this trend line.

Our method is intended to identify changes in the long-term growth rate rather than cyclical fluctuations. Had the slowdown in the 1970s been purely cyclical, we would not have identified it at all. The fact that we have leads to the interpretation that the ‘Thatcher miracle’ was a long period of recovery from the 1980–81 recession rather than a change in Britain’s fundamental economic performance.

The method, equally, cannot be expected to identify whether there has been a change to Britain’s long-term growth prospects in the 1990s. It is, however, possible that the sort of fluctuations we identify are in fact Kondratieff cycles in which periods of slow and fast growth alternate, with each period lasting about 20–30 years. If that is the case and this particular cyclical pattern persists, then there are grounds for thinking that Britain is again embarking on a period of faster economic growth.

THIS PROJECT WAS UNDERTAKEN BY MARTN WEALE, ANDY BLAKE AND GONZALO CAMBA-MENDEZ WITH SUPPORT FROM THE ESRC. THE DATA SET DREW ON SEFTON AND WEALE, *RECONCILIATION OF NATIONAL INCOME AND EXPENDITURE*, CAMBRIDGE UNIVERSITY PRESS, 1995.

MATHEMATICS IN ENGLISH AND CONTINENTAL SCHOOLS

1997 saw publication of the extensive survey of pupils' mathematical attainments in over 40 countries at ages 8–9 and 13–14, carried out two years ago by the International Educational Association (the TIMSS survey). A critical appraisal of the results by Institute staff produced evidence of continuing problems in the English system. It concluded that:

- English schooling attainments in mathematics overall remain mediocre. Important Western European neighbouring countries with distinctly higher attainments include Austria, Belgium, France, The Netherlands and Switzerland.

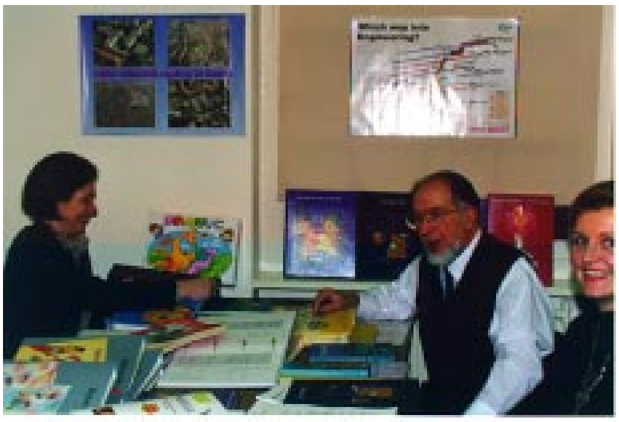
- English pupils' deficiencies were particularly marked in basic arithmetic. An example (taken from TIMSS questions) is the subtraction sum 6000–2369 = ? This was answered correctly at age 13 by 92% of pupils in the five Western European countries just mentioned, but by only 59% in England. The true contrast is greater than these proportions indicate since the question was 'multiple choice', requiring only the ticking of one of four possible answers: random ticking would provide a basic 25% apparently correct. Improvements in English pupils' attainments on this question between ages 13 and 14 were small; the findings imply that even by the time English pupils reach school-leaving age we have to expect about a third of them would be unable to carry out such a basic computation (set as an 'open question'), compared with under one in ten in Western Europe.

- This level of basic arithmetic is taught essentially at primary school. That same subtraction question at age 9 was answered correctly in the associated TIMSS primary survey by 90% of pupils in The Netherlands and Austria (other European countries mentioned above did not participate in the primary survey), but by only 36% in England. The TIMSS survey thus confirms that it is at these younger ages that the source of English school-leavers' arithmetical deficiencies has to be sought.

- English pupils' relative deficiencies compared with the Continent are more severe in the lower half of the attainment range. For example, mathematics scores as low as those attained by the bottom 20% of English 14 year-old pupils were attained only by the bottom 10% of Swiss pupils; in that sense, the tail of low-achieving pupils can be said to be twice as long in England as in Switzerland.

- Previous international tests of this type, even as recently as the 1991 mathematics survey by the IAEP, consistently indicated that England's top pupils scored as well as – and perhaps better than – top pupils elsewhere. But this was no longer so in this latest 1995 survey, where all the five Western European countries mentioned above showed higher scores for their top 5% of pupils than England.

These findings have an obvious bearing on many questions raised in the Government's recent White Paper on *Excellence in Schools.*



The Institute's education study team (left to right, Julia Whitburn, Sig Prais and Astrid Johnen) with some of the new study material for schools.

THE FULL ARTICLE ON THE 1995 INTERNATIONAL COMPARISONS OF MATHEMATICS CAN BE FOUND IN THE *NATIONAL INSTITUTE ECONOMIC REVIEW* (JULY 1997). AN EXTENDED VERSION WILL APPEAR IN *OXFORD STUDIES IN COMPARATIVE EDUCATION*, 1998.

Notwithstanding the wide scope of that document, the National Institute's teams' observations of Continental classes suggest that more attention needs in future to be given in England to didactic and pedagogic improvements.

Didactic improvements include: the provision of better pupils' textbooks and accompanying teacher's manuals; more guidance on the distribution of teaching time, on sequencing and degree of consolidation of successive topics in mathematics; greater focus in the mathematics curriculum on arithmetic; a later age for the introduction of calculators.

Pedagogic improvements needing more attention include: measures to make the school emotionally more supportive, especially important for pupils from 'problem homes' and low-attaining pupils generally (smaller schools, with a single form teacher teaching a greater part of the curriculum, more teaching in the pupils' fixed form-room); linking class composition less rigidly to age, with less setting by attainment in each subject (reducing the discouraging effect of being in a low set), and greater priority to oral–mental teaching over written work.

The analysis on these pages was produced by Institute staff who are engaged in a long-term project to identify and implement improvements in mathematics teaching in UK schools.

The programme commenced in 1994. It has enjoyed substantial support from the Gatsby Charitable Trust, and the active cooperation of teachers and inspectors in the London Borough of Barking and Dagenham. By 1997, forty primary schools in the borough were using new methods and materials produced after careful analysis of Swiss methods. The range of materials is constantly expanding to keep pace with the age cohort, which has just reached secondary school age. During the past year the work has extended outside Barking, with twenty schools in Leeds now participating.

The findings of the programme have received widespread attention, including visits from both the current Secretary of State, David Blunkett, and his predecessor, Gillian Shephard. The borough has also received earmarked grants from the Department for Education and Employment to support its participation. Media coverage has included a full length BBC Panorama programme.

The project team is keen to disseminate its findings as widely as possible. Several presentations have been made to local authorities, and a major seminar was held at the Department of Trade and Industry in February. To supplement the detailed analysis of mathematics text books in Britain and Switzerland published in 1996, two further discussion papers have been published during the past year.

THE INSTITUTE'S WORK ON MATHEMATICS EDUCATION IS SUPPORTED BY THE GATSBY CHARITABLE TRUST AND LONDON BOROUGH OF BARKING AND DAGENHAM. FURTHER INFORMATION CAN BE FOUND IN DISCUSSION PAPERS NOS 75, SCHOOLING AS A PREPARATION FOR LIFE AND WORK IN SWITZERLAND AND BRITAIN; 90, LAYING THE FOUNDATIONS OF NUMERACY: A COMPARISON OF PRIMARY SCHOOL TEXTBOOKS IN BRITAIN, GERMANY AND SWITZERLAND AND NOS 111 AND 112, WHICH ARE LISTED ON PAGE 24.

EMPLOYMENT, FLEXIBILITY AND EUROPEAN INTEGRATION

The Chancellor's Assessment *of the possibilities for joining EMU stresses the role of flexibility in the labour market. Unemployment has fallen to low levels in the UK whilst it remains high in Germany and France. The Institute has examined the evidence on increased flexibility in the UK, and has discussed policies to reduce unemployment in the UK and Europe.*

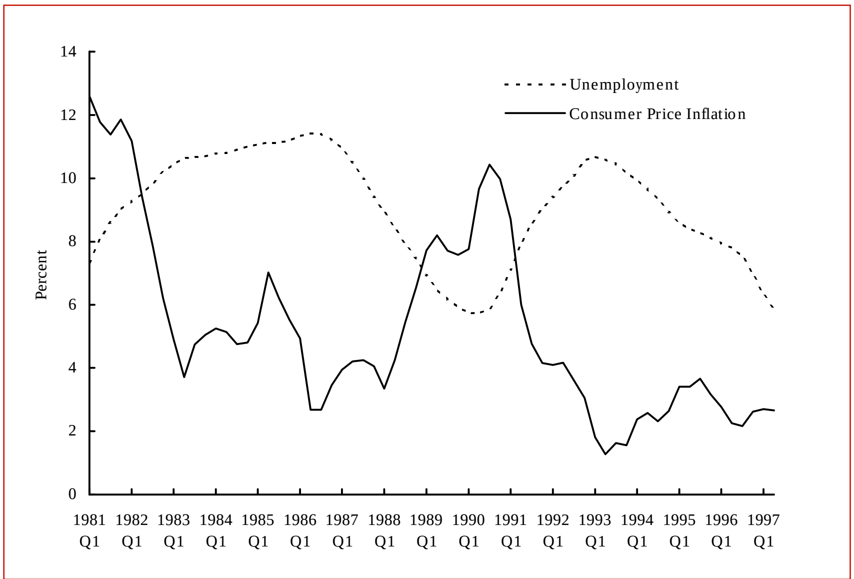
THIS RESEARCH WAS SUPPORTED BY THE DEPARTMENT FOR EDUCATION AND EMPLOYMENT AND BY THE ESRC. SOME DETAILS ARE GIVEN IN BARRELL *ET AL*. REPORT RS 47 (SEE PAGE 25). ASPECTS OF THE RESEARCH HAVE ALSO BEEN REPORTED IN *LABOUR MARKET TRENDS* AND THE *EMPLOYMENT AUDIT*, PUBLISHED BY THE EMPLOYMENT POLICY INSTITUTE (SEE ALSO PAGE 25).

Unemployment in the UK reached its lowest level for 18 years at the end of 1997, and no inflationary pressures were emerging in the economy. This is in strong contrast to the late 1980s, when a fall in unemployment was quickly followed by a rise in inflation. Some Institute research projects have been designed to explain why this has happened. Other projects have asked whether the UK is more flexible than its European neighbours and if we have anything to learn from the US.

The fall in unemployment does appear to be associated with an improvement in the functioning of the labour market. Changes in definitions and in benefit entitlement rules have meant that it is difficult to draw conclusions using registered claimant unemployment. The Labour Force Survey contains more consistent data, and Ray Barrell and Rebecca Riley have used these to investigate the fall in unemployment. In their paper in the *Employment Audit* they look at flows into and out of employment and unemployment in the 1990s, and they find some evidence to suggest that the sustainable level of unemployment has fallen by 2 percentage points in the UK since 1993. This is a significant improvement in the functioning of the labour market. It has been an important force behind low real wage growth in the last few years. It is important to understand why this has happened.

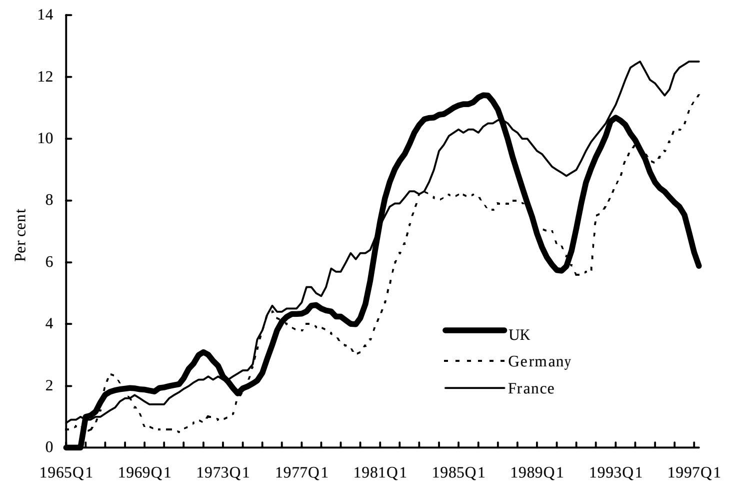
The labour market reforms of the 1980s and 1990s involved reductions in union powers, restrictions on benefits and curtailing of employment protection. These seem to have had little effect. However, in the mid-1980s, a number of serious training schemes for the unemployed and for others were started. In the early 1990s participation in higher education also began to rise. Improvements in the general training of the workforce and in the education system have increased the supply of skilled labour as compared to unskilled labour. This has made the workforce both more flexible and more employable.

The importance of education and training is clear when comparisons are made with the



US. Unemployment has not risen there, but the distribution of earned incomes has become more unequal over the last 25 years. Similar trends were visible in the UK until the very early 1990s. Other European economies have experienced much less of a rise in earnings inequality and more of an increase in unemployment. The rise in inequality has come from a fall in the earnings potential of the unskilled, and wages for the bottom 20% in the US are now below the minimum in Germany.

Unemployment in Europe



The US, and to a lesser extent, the UK, lacks as good a social safety net as is common elsewhere in Europe. In Continental Europe unemployment benefits are high and permanent, other forms of social insurance are good and universal. Long-term unemployment benefits and universal health insurance are absent in the US. In addition, the Institute's report for the DfEE stresses the importance of global as well as local events. The last 25 years has seen a trend to skill biased technical progress and increasing competition from low wage economies. Together these have contributed to the widening of the distribution of potential earnings everywhere in the advanced world. In the US this has led to inequality, in Europe to rising unemployment. Only increasing training and reskilling the workforce can combat these forces. The UK has seen not only a fall in unemployment in the last five years, earnings inequality has also been reduced. Improvements in the supply of labour and in the mix of skills will have played a role.

Improvements in the performance of the UK do not necessarily mean that its labour market is 'better' than our European partners. The DfEE Report stresses that there are a number of forms of flexibility. US and UK systems have a lot of external (to the firm) flexibility, with high rates of turnover, and large flows through the pool of unemployed. German labour markets exhibit lower external turnover, but more internal flexibility. Hours per person vary more over the business cycle in Germany than they do in the UK, and real wages per person hour are also more flexible there. These forms of 'internal' flexibility encourage longer-term attachments to firms and hence a larger accumulation of skills in the workforce. A system with external flexibility may be better equipped to deal with large structural changes, whereas a system with internal flexibility may reconcile growth and the business cycle more efficiently. In labour market matters we have much to learn from the Germans and the Americans.

COMPARATIVE PRODUCTIVITY: THE CASE OF INSURANCE

The Institute has a long tradition of international productivity comparisons, most recently in the under-researched service sector. The latest study focusses on the insurance industry.

Based on direct observations from some two dozen representative branches providing 'home' (domestic buildings and contents) insurance in Britain and Germany, the study found evidence of a substantial German productivity advantage, with the average German insurance clerk typically maintaining around 40 per cent more household policies per year than his British counterpart. The two main factors which contribute particularly to that advantage were: the longer average life of household policies in Germany (typically issued for a five-year term compared to the normal annual policy in Britain); and the lower need for ancillary ('indirect') staff in German branches.

Differences in the average terms of insurance coverage in the two countries have important implications for the average *quality* of products typically offered in that both insured and insurer pay greater attention to ensuring the correct level of coverage is specified. This greater emphasis on risk evaluation in Germany in turn requires, and is made possible by, the considerably higher proportions of clerks who are vocationally qualified, and thus better equipped to customise semi-standard schedules to individual customers' needs. The greater reliance in Britain on unskilled clerical workers has led instead to a higher degree of standardisation, and a heavier reliance on automated risk assessment and policy generation in the home insurance market.

Some 80 per cent of insurance employees in Germany hold vocational qualifications, compared to less than 10 per cent in Britain. The contrast is similar throughout the hierarchy of responsibility, from office manager to insurance clerk. The benefits of a vocationally qualified staff in Germany show themselves in a number of important efficiency gains: from higher productivity and increased customisation of policies, to a greater degree of inter-departmental and functional flexibility among insurance clerks. Germany has, in consequence, greater potential for delegation of responsibility. German supervisors are, on average, in charge of 15 clerks, compared with 11 in Britain; and the German departmental manager is able to concern himself with issues of organisational efficiency, rather than routine processing.

THIS PROJECT WAS UNDERTAKEN BY VALERIE JARVIS, WITH SUPPORT FROM THE LEVERHULME TRUST. DETAILED RESULTS WILL BE AVAILABLE DURING 1998.

Productivity estimates for insurance in Britain and Germany

	Britain	Germany	Germany as % UK
Policies in force per branch employee (fte)	1995	2770	139
New policies issued p.a. per underwriting-fte	1095	931	85
Underwriting productivity adjusted for average length of policy-term	4380	5214	119
Claims p.a. per claims-fte	1240	1163	94
Average of underwriting and claims productivity			115
Indirect staff as proportion of total	26%	9%	
Average productivity after allowance for difference in proportions of indirect staff			133

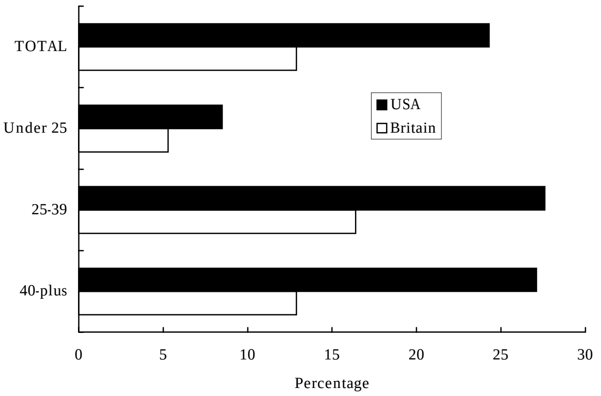
GRADUATE UTILISATION IN BRITAIN AND THE UNITED STATES

In spite of the recent development of a 'mass higher education' system in Britain, the current stocks of university graduates and annual flows of new graduates still fall short of US levels as a proportion of the workforce. Two recent studies at the Institute have compared the way in which graduates are used in different sectors of the British and US economies.

In a recent cross-country comparison of supervisory skills and training in samples of engineering plants carried out for the United States Department of Labor, some 20% of all production supervisors in British plants were found to be graduates as compared to 35% in the US where deployment of graduates in this role has been widely practised for many years. British managers reported several advantages from employing graduate engineers alongside traditional shopfloor-trained supervisors, for example:

- the greater ability of graduates to improve and develop computer systems in use on the shopfloor and keep up to date with technical developments elsewhere
- their key role in some plants in planning and implementing new cellular work systems in conjunction with other highly-qualified staff in production engineering departments

Graduates as percentage of economically active population, USA and Britain



Sources: UK Labour Force Survey, 1993; US Current Population Survey, 1994.

THIS RESEARCH WAS FUNDED BY THE US DEPARTMENT OF LABOR AND THE LEVERHULME TRUST. FURTHER DETAILS MAY BE FOUND IN DISCUSSION PAPER NO. 120 (SEE PAGE 24) AND IN THE ARTICLE IN THE OCTOBER REVIEW BY GEOFF MASON AND DAVID FINEGOLD (SEE PAGE 23).

- their ability to combine the previously separate roles of manufacturing manager (hitherto office-based away from the shopfloor) and production supervisor.

In both Britain and the US the deployment of graduates as supervisors appears to be one of the few viable ways available to compensate for the lack of a high-grade system for training specialist supervisors akin to the much-praised *Meister* in Germany. The proportion of British engineering supervisors holding degrees looks set to continue growing rapidly as companies take advantage of the recent growth in graduate supply in order to cope with increasing competitive pressures to improve production efficiency.

Yet to the extent that graduates are *merely* substituting for scarce intermediate skills—for example, in technician-level jobs as well as supervisory positions—then expansion of higher education is (in social terms at least) a relatively expensive means of developing the required competences. Other US-UK comparisons carried out by Geoff Mason in conjunction with foreign colleagues have found evidence on both sides of the Atlantic that most employers' skill needs would best be met by employing a *mix* of graduates from full-time educational courses and individuals who have gained their skills through structured employment-based training combined with part-time attendance on college courses. At present full-time higher education students in Britain receive substantially more support from government than do over-18 year olds taking vocational courses in further education colleges. Overall, our studies suggest that there is a strong economic case for this disparity to be rectified.

The conventional view is that investment in measurable inputs like physical and human capital can account for only a minor part of the growth of output per worker. The residual, labelled total factor productivity growth (TFPG), is believed to show the effect of externalities such as the costless spread of scientific and technical knowledge. Recent work at the Institute questions this view.

THIS WORK WAS CARRIED OUT BY NICHOLAS OULTON. MORE DETAIL IS GIVEN IN HIS ARTICLE IN THE OCTOBER *NATIONAL INSTITUTE ECONOMIC REVIEW*, SEE PAGE 23.

The main conclusions of this study were:

- In recent decades and all over the world, the greater part of economic growth can indeed be accounted for by a combination of increases in physical capital (machinery, buildings and infrastructure) and increases in human capital (a better educated labour force).

- Statistical evidence for this conclusion comes from studying the growth of GDP and of capital and labour inputs in 53 countries, including 22 from the OECD and 5 from East Asia, over the period 1965 to 1990. In the East Asian countries, increases in inputs accounted for two thirds of the growth of labour productivity with only one third from TFPG. In the OECD countries, input growth accounted for four fifths of labour productivity growth (see the table below).

The policy implications are then as follows:

- If most growth is due to capital accumulation, then to raise the growth rate it is necessary to increase saving and investment. However, we should not be too starry-eyed as to the payoff even from a successful policy, since the rate of return to both physical and human investment is probably fairly low.

- The contrary view is that externalities are very important for growth. This implies that the way to increase growth is to identify the externalities and then intervene with taxes and subsidies to correct them. However the cross-country evidence on growth suggests that detailed intervention is unnecessary since externalities are quantitatively unimportant.

TFPG and its components, 53 countries, 1965–1990

Growth rates (per cent per annum), country group averages

Country group	*No of countries*	*Output per worker*	*Physical capital per worker*	*Human capital per worker*	*TFPG*
OECD	22	2.45	4.20	0.52	0.46
Latin America	13	0.95	2.70	0.66	-0.52
East Asia	5	4.63	6.33	0.84	1.60
Africa	6	0.50	1.58	0.45	-0.40
Other	7	2.24	3.26	0.66	0.53
ALL	53	2.04	3.61	0.60	0.24

Source: Penn World Table, version 5.6a. Human capital from Barro-Lee educational dataset (1996 version).

Note: TFPG is calculated as growth of output per worker *minus* [0.6 x growth of human capital per worker + 0.4 x growth of physical capital per worker].

INTERNATIONAL COMPARISONS OF CAPITAL INTENSITY

How much do sectoral capital intensities differ across countries? To answer this question it is necessary to compile estimates of capital stocks which are internationally comparable. Recent work at the Institute constructed measures of stocks of equipment and structures for five countries, the UK, the US, Germany, France and Japan.

The capital stocks were estimated using a common methodology in each country; for example, common service lives and depreciation assumptions were employed. Also the US hedonic price index for computers was replaced by an index which reflected European practice; the quality adjusted price of computers has been declining in all countries but the US hedonic index implies quality gains have been much larger in that country. The standard national accounts investment data were supplemented by other sources to ensure international comparability in industrial classification, thereby facilitating the construction of capital stocks for up to forty sectors.

In the aggregate economy Britain lags the other four countries in the amount of capital per person engaged. Relative capital intensity is greater in both Japan and Germany than in the United States which was traditionally seen as the world leader in this respect. The results for the aggregate economy mask considerable diversity at the sectoral level, as shown in the table below. There is no one sector where capital intensity in the US is highest of the five countries. In fact the US dominates all three European countries only in manufacturing, but here capital intensity is higher in Japan.

In many sectors capital intensity is low in Britain relative to other countries, in particular in manufacturing and the distributive trades. The exceptions to this are the financial and business services sector, agriculture and mining. Estimates for more disaggregated sectors show relative capital intensity to be very low in Britain in railways and communications.

THIS RESEARCH WAS CARRIED OUT BY MARY O'MAHONY, WITH SUPPORT FROM THE LEVERHULME TRUST. THE SECTORAL CAPITAL STOCK ESTIMATES WILL SHORTLY BE AVAILABLE FOR USE BY OTHER RESEARCHERS. SEE DISCUSSION PAPER NO 124, DETAILS ON PAGE 24.

Relative capital per person engaged, 1995, US = 100.

	UK	*Germany*	*France*	*Japan*
Agriculture, forestry & fishing	116	107	67	105
Mining & construction	100	43	64	49
Electricity, gas & water	55	47	101	107
Manufacturing	58	79	93	118
Transport & communications	70	115	107	67
Distributive trades	66	105	120	108
Finance, insurance, real estate & business services	135	132	88	94
Services & government	35	147	86	197
Total	63	116	96	132

INWARD INVESTMENT AND UK ECONOMIC GROWTH

Recent research at the Institute has investigated whether the increasing presence of foreign-owned firms affects the productivity and growth prospects of firms within the British economy.

New theories of economic growth emphasise the importance of international linkages in determining national productivity performance. One such linkage is provided by multinational companies who help to transmit innovations and ideas. For instance, inward investments in the automobile industry over time have been the conduit for the transmission of mass production and 'just-in-time' inventory techniques across nations. Such ideas have subsequently been used widely in many different industries.

Previous studies suggest that the expansion of firm-level knowledge-based assets affects decisions to invest overseas. Thus investments by foreign firms, particularly from developed economies, may alter the production possibilities of host economies by bringing new technologies and ideas as well as additional funding for capital.

The total stock of inward direct investment in the UK rose from 10½% of GDP in 1978 to 20¾% of GDP by the end of 1996. Around 1¼ million people were employed in the foreign affiliates of American, Japanese and German companies in the UK in 1995. In manufacturing foreign-owned firms now account for 25% of output, and 19% of employment – which demonstrates that the average level of labour productivity of foreign-owned manufacturing affiliates is higher than that of UK companies. An important policy question is whether the new ideas, quality standards and techniques brought by inward investment have been transferred from foreign investors to UK-owned companies, increasing production possibilities and the growth prospects of the economy.

These hypotheses were tested by econometric study of the factors determining aggregate labour demand in manufacturing and private services, with labour productivity allowed to vary with the level of inward investment. This approach captures inter-industry spillovers as well as intra-industry effects.

There is evidence that inward investments in manufacturing industries affect technical progress in that sector. We estimate that a 4% rise in the stock of inward investment raises the level of technical progress by 1%, and that the growth of inward investment since 1985 has raised manufacturing productivity by an average of 1.2% per annum. Around 30% of the growth in labour productivity in manufacturing since 1985 can thus be attributed to inward investment. By contrast it is difficult to identify significant benefits from inward investment outside manufacturing.

One possible explanation is that the benefits offered by inward investment are more apparent in sectors where domestic producers are at a comparative disadvantage and relatively less productive. Inward investment in manufacturing often reflects the technological advantages of investing firms, but investment in services may in part be motivated by the ability to benefit from agglomeration economies, such as in financial services in the City of London.

Our findings suggest that inward investment helps to raise long-term growth in the UK economy. Even though most inward investment occurs through mergers and acquisitions rather than through new 'greenfield' sites, the resulting reorganisation of existing capacity and introduction of new ideas may raise the rate of technical progress and hence economic growth, even if it does not add to final demand directly.

FOREIGN DIRECT INVESTMENT AND EXPORT PERFORMANCE

A related project investigated the time series relationship between manufacturing exports and FDI. A key issue is whether export performance, that is exports relative to foreign market size, is affected by FDI given the other relative characteristics of domestically produced goods.

THE RESEARCH REPORTED ON PAGES 16 AND 17 WAS FUNDED BY THE ESRC. FURTHER INFORMATION MAY BE FOUND IN PAPERS BY RAY BARRELL AND NIGEL PAIN IN THE ECONOMIC JOURNAL (SEE PAGE 25) AND NIGEL PAIN AND KATHARINE WAKELIN (SEE PAGE 26).

Focussing on both inward and outward investment recognises that most countries import and export capital simultaneously. Within sectors, export displacement from outward investment within one industry could be offset by inward investment in another. Inward investments may change the range and technological characteristics of indigenous products – factors widely thought to be important determinants of trade performance. Outward investment can complement exports by improving market access and sales facilities, or substitute for them if productive facilities are moved abroad.

INWARD INVESTMENT – WHAT DOES IT MEAN FOR THE UK?

Our results for both OECD and EU economies suggest that export performance is significantly affected by changes in the location of production, even after allowing for changes in relative prices and product quality on export demand. There is a small negative impact of outward investment on home country export performance, offset by a corresponding positive impact from inward investment on host country export performance. This pattern holds for the US, UK, France and Germany, but not Japan, where net outward investment appears to improve export performance. A unit demand elasticity is accepted by the data, implying that the inclusion of direct investment helps to solve the widely debated puzzle over the factors responsible for observed movements in the trade shares of many OECD countries.

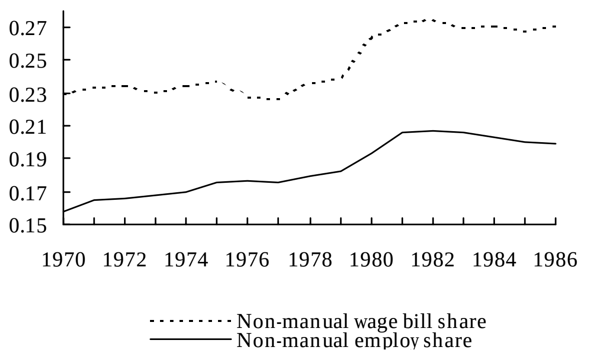
It also appears that the negative relationship between net outward investment and export performance has strengthened, particularly within Europe. In the 1960s and 1970s investment was often undertaken to bypass barriers to market entry, with little effect on exports of finished products. More recently barriers have been lowered by the single market; hence more investment reflects a deliberate decision to serve foreign markets from foreign production, at least in the tradable goods sector.

The results also demonstrate that a sole focus on trade statistics does not fully reflect the relative health of a country's tradable goods sector. If it is more profitable for domestic firms to locate overseas, national income may still rise as a result of profits earned abroad even if export performance is adversely affected.

International trade now takes place to a growing extent within the firm. Intra-firm transactions now account for almost half of all trade in goods between the US and the UK. This has implications for economic behaviour in the face of 'shocks' that are expected to be temporary. For example multinational firms may use internal accounting arrangements to absorb temporary exchange rate fluctuations. This may help explain why the recent appreciation of sterling and the dollar so far has only had a marginal impact on UK and US trade volumes.

Over the past two decades, the wages and employment of low-skilled workers in the UK deteriorated markedly relative to the higher-skilled. Part of the explanation for this increase in inequality in wage and employment opportunities seems to be a demand shift towards using more skilled workers. One explanation for such a shift may be that increased international trade with newly-industrialising, or emerging, countries – ie, nations with an abundant supply of low-skill and low-wage labour – has decreased the demand for low-skilled workers in the advanced industrialised countries.

The chart proxies the higher-skilled by non-manual workers and the low-skilled by manual workers and shows how the share of UK non-manuals in both the total wage bill and total employment significantly increased in the textiles sector in the early 1980s. Preliminary research on this issue at the Institute finds that the increasing substitution of UK domestic production by imports from low-wage countries may explain some of the deterioration in the relative wages and employment of manual workers in the UK textiles sector in the first half of the 1980s.



Our econometric estimates suggest that rising imports from low-wage countries may account for about 40 per cent of the rise in the wage bill share of higher-skilled workers, and approximately one-third of the increase in their employment share, in the UK textiles sector during the period 1970–83. We also provide some tentative support for the notion that the very rapid deterioration in the relative economic fortunes of the less-skilled during the early 1980s may be partly due to the substantial appreciation of sterling during this period.

Another mechanism by which increased trade with low-wage countries may affect the relative wages of the low-skilled is by putting downward pressure on the price of low-skill-intensive products relative to high-skill-intensive products. Our analysis of UK and German sectoral prices and wages found mixed evidence as to whether trade with low-wage countries has put downward pressure on the relative price of low-skill-intensive products. We found that the response of low-skill-intensive sector prices to increased trade with low-wage countries was not uniform across sectors and that movements in the relative price of low-skill products were frequently quite different in the UK and Germany.

However, we did find that the shift in the import bundle towards low-wage country suppliers did have a greater downward impact on import prices in the 1980s compared to the 1970s (which is again consistent with the rise in UK wage inequality over the 1980s). For example, in the UK clothing sector (which we define as low-skill-intensive), import prices would have been 6 percentage points higher in the 1970s and 12 percentage points higher in the 1980s if the share of imports from the low-wage countries had remained at their 1970 level.

THIS RESEARCH WAS PARTLY FINANCED BY THE BRITISH ACADEMY AND CARRIED OUT BY BOB ANDERTON IN COLLABORATION WITH THE CENTRE FOR EUROPEAN POLICY STUDIES AND OTHER EUROPEAN PARTNERS. FOR RELATED WORK SEE TWO CHAPTERS BY ANDERTON AND BRENTON IN A FORTHCOMING BOOK (DETAILS ON PAGE 25).

WHAT IF EMU FALTERS?

It is now widely expected that on 1 January 1999 up to 11 EU Member States will form a monetary union. But before that can happen there are difficult decisions to be agreed and domestic political hurdles to be surmounted. A further 3½ years must then elapse before the euro fully replaces national currencies in 2002. The risk of a major upset occurring may be small but the consequences could be grave. The Institute's European Financial Markets Programme has considered how to reduce the risk or contain the effects of a setback to the EMU process.

Interruption of the EMU timetable could take a number of different forms. The start of Stage 3 might be postponed, by mutual agreement, from 1 January 1999 to another fixed date a year or two later – for example, to allow more time for a key participant to meet the convergence criteria or to resolve an impasse over whether or not a country such as Italy should be admitted. Or delay might be disorderly, with Stage 3 postponed indefinitely – a breakdown in the relationship between France and Germany, perhaps, triggered by disagreement over the stance of monetary policy for the remainder of 1998 or over policy priorities for EMU.

If Stage 3 starts on time there could still be a need to extend beyond 2002 the transition to the single currency – for example if it takes longer to convert national tax or social security systems to a euro basis. It is even conceivable that economic, financial or political pressures might expose deficiencies in the Stage 3 policy framework, undermining the will of one or more governments to persevere with monetary union and inducing or forcing them to abandon the 'irrevocably' fixed exchange rates before 2002 while national currencies still exist.

A mutually agreed postponement of the start of Stage 3 or extension of the 3½-year transition to the single currency, if it is short and to a new fixed date, might well be manageable within the Maastricht framework (although not without risk) if the economic conjuncture is benign and markets are confident that governments will stick to the revised timetable. If, in less favourable circumstances, Stage 3 were indefinitely deferred or the transition to the single currency abandoned, the economic and political consequences could be very severe, even causing the integration already achieved within Europe to unravel.

To reduce the risk of such a disruption occurring, potential shortcomings in the Maastricht policy framework should urgently be addressed. Attention needs to be paid to provisions for the coordination, overall stance and mix of fiscal, monetary and exchange rate policies, the implications of the unconditional commitment to irrevocably fixed exchange rates, the accountability of the ECB and rigidities in the labour and goods markets.

If these issues are not tackled, the risk that EMU will suffer a setback cannot be ignored. To contain the damage that this might cause to European integration, agreement would be needed on an alternative framework for policy cooperation and an alternative route forward to monetary union at a later date. This might entail further modification of the ERM and some common ground rules for national monetary policies – and possibly management of the euro as a common, parallel, currency by the European Central Bank – and redesigned conditions for a future attempt at EMU.

FURTHER DISCUSSION ON THIS TOPIC CAN BE FOUND IN A NEW INSTITUTE BOOK EDITED BY JOHN ARROWSMITH (SEE PAGE 22). THE INSTITUTE'S EUROPEAN FINANCIAL MARKETS PROGRAMME IS SUPPORTED BY A CONSORTIUM OF PUBLIC AND PRIVATE SECTOR INTERESTS, INCLUDING HM TREASURY, THE BANK OF ENGLAND, THE EUROPEAN MONETARY INSTITUTE, BARCLAYS BANK, THE ROYAL BANK OF SCOTLAND, THE CORPORATION OF LONDON, THE FOREIGN & COMMONWEALTH OFFICE, ICI AND THE EUROPEAN COMMISSION.

EVENTS DURING 1997

The number and range of conferences and seminars organised by the Institute has increased markedly in recent years. This reflects our commitment to bring research findings to a wider audience, to encourage feedback from the academic community and to engage in discussion with potential users in business and government. Highlights of the 1997 programme were as follows.

MACROECONOMICS FOR BUSINESS

Thanks to support from the ESRC and City of London Corporation we were able to stage two seminars bringing Britain's leading academic macroeconomic modelling teams to the heart of the City. The events, held in the City Marketing Suite, included talks from Martin Weale (NIESR) on *What went wrong with our public finances?*; Patrick Minford (then Liverpool University) on *the Impact of EMU on the UK and Europe*; Andrew Sentance (LBS) on *Inflation risks in the UK economy*; and Simon Wren-Lewis (Exeter University) on *Reinventing counter-cyclical fiscal policy.*

TEACHING METHODS: SPREADING THE MESSAGE

In the fourth year of the Institute's programme comparing teaching methods in continental Europe with those of English primary schools, some 150 parents, teachers and education officials were given first hand accounts of the work by Sig Prais and Julia Whitburn (NIESR) and Roger Luxton and Graham Last (London Borough of Barking and Dagenham), together with a preview of a video describing the work in practice. The event was arranged in conjunction with the Department of Trade and Industry, and held at their London conference centre.

PRODUCTIVITY AND COMPETITIVENESS

The successful series of seminars under the above theme, supported by the ESRC, continued with two events. The first, coinciding with a special session organised by the Institute at the 1997 Royal Economic Society Conference, looked at foreign direct investment with papers from John Bradley and Frank Barry, UCD and ESRI, Dublin; Magnus Blomström, Funnar Fors and Bob Lipsey, Stockholm School of Economics, IUI Stockholm and NBER; and Ray Barrell and Nigel Pain from the Institute.

The second event, in June, comprised an afternoon seminar on Industrial Innovation and Economic Performance. Speakers included Bronwyn Hall, Universities of Oxford and California; Nicholas von Tunzelmann, University of Sussex; and John Cantwell, University of Reading.

EMU: STRATEGIES FOR TURBULENCE

Leading figures from UK business and top speakers from universities throughout Europe were attracted to a conference staged by the Institute's European Financial Markets Programme in November, which considered the topical question of how to develop a strategy for turbulence during the critical 1998-2002 period. Speakers included Michael Artis and Ramon Marimon from the European University Institute, Peter Bofinger of the University of Würzburg, Christian de Boissieu of the Sorbonne, Paul De Grauwe of the University of Leuven, Maxwell Fry of the University of Birmingham, and Mark Salmon of City University, together with John Arrowsmith and Christopher Taylor from the Institute.

PROFESSOR RAMON MARIMON ADDRESSING THE CONFERENCE ON 'THINKING THE UNTHINKABLE ABOUT EMU' HELD IN NOVEMBER.

INTELLECTUAL PROPERTY AND THE COMPANY

Emerging results from an Institute research project on the Determinants of Intellectual Property Strategy in UK Companies were presented to an invited audience of guests from business and government at a half day seminar in September. Papers produced by the NIESR team of Duncan Matthews, John Pickering, Caroline Wilson and John Kirkland looked at the strategy of science and engineering based companies and intellectual property negotiations between companies and universities. Results from the project, one of several financed under the ESRC/DTI/IPI Intellectual Property Programme, will be available in 1998.

GOVERNORS' SEMINARS

In this popular series Institute Governors present papers to an audience of fellow Governors, staff and guests. Speakers at the three events held during the year were Professor Mervyn King (Bank of England) on Monetary Policy and the Risks of Inflation, Andrew Britton (Churches Enquiry into Unemployment and the Future of Work) on Unemployment, and Sir Geoffrey Holland (Exeter University) on Education and Training – The Unfinished Agenda.

INVESTMENT AND GROWTH: THE CASE OF GERMANY

This conference, staged with support from the Anglo-German Foundation, assessed the role of German FDI in the postwar period, the effects of investment on host economies, and the implications for future economic development in the EU. Speakers included Jamuna Prasad Agarwal (Kiel Institute of World Economics), Ray Barrell, Florence Hubert and Nigel Pain (NIESR), Marian Beise (Centre for European Economic Research, Mannheim), Heike Belitz (German Institute for Economic Research, Berlin), Pontus Braunerhjelm and Karolina Ekholm (Research Institute of Industrial Economics, Stockholm), Holger Görg and Frances Ruane (Trinity College, Dublin), and Neil Hood, James Taggart and Stephen Young (Strathclyde University).

THE MACROECONOMICS OF INEQUALITY

The link between the macroeconomy and the experiences of individuals is a topic where there are important developments in both theoretical and empirical research. Better knowledge of the economic forces influencing inequality will lead to better understanding of social exclusion. This conference brought together leading international authorities on the topic. The speakers included Ed Prescott, Tim Kehoe and Hal Cole (University of Minnesota), Stephen Machin (UCL) and David Miles (Imperial College), Herakles Polemacharkis (CORE, Louvain-la-Neuve), Kjetil Storesletten (Stockholm University) and James Sefton (NIESR).


PROFESSOR MERVYN KING (LEFT) AND SIR GEOFFREY HOLLAND, WHO GAVE GOVERNOR'S SEMINARS IN 1997.

STAFF SEMINARS

The Institute would like to thank the following guest speakers, who presented papers to our vigorous programme of seminars for Institute staff during the year: Stephen Bond (Nuffield College Oxford); Karolina Ekholm (Research Institute of Industrial Economics, Stockholm); Sean Holly (University of Cambridge); Larry Kotlikoff (University of Boston); Kevin Lee (University of Leicester); David Miles (Imperial College); Stephen Millard (Bank of England); and Richard Murray (Swedish Agency for Administrative Development).

From school to productive work: Britain and Switzerland compared

by *Helvia Bierhoff and S.J. Prais*

Economic and Social Studies no. XXVII ISBN 0 521 59079 5 hardback 0 521 59919 9 paperback
Price £30.00 hardback £11.95 paperback. Published by Cambridge University Press

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Switzerland is universally respected for its highly successful economy – not simply its banks and cuckoo clocks, but its precision engineering, pharmaceuticals, and manufactured food industries. It has long enjoyed low unemployment, and an exceptionally successful transition process for youngsters from school to work.

This book provides a 'nuts-and-bolts' comparison with Britain of how that more successful transition is brought about. It explains the different emphases of Swiss secondary schooling: more time on mathematics and, within mathematics, more on arithmetic; in science lessons, less time on pupils' individual experimentation and more on documentation by the teacher of central scientific laws; in lessons on technology and practical subjects, less time on pupils' individual creations and more on class-wide specified tasks – whether in woodwork or domestic science – aimed at high standards of finish. Career guidance at school including periods of work experience with potential employers who provide apprenticeships (in contrast to current British policy, where spells of work experience are deliberately *not* with potential employers). Apprenticeships are undertaken in Switzerland by three quarters of all school leavers, and are completed with external practical and written tests.

A final chapter discusses current developments and lessons for Britain.

Coping with recession. UK company performance in adversity

by *P.A. Geroski and P. Gregg*

ISBN 0 521 62276X hardback 0 521 626013 paperback. Price £40.00 hardback £14.95 paperback. Published by Cambridge University Press.

The UK has lived through two major recessions in the last two decades, and many people believe that this experience has changed both the structure and the culture of UK industry. Some actually believe that recessions are a much needed purgative, providing an occasion (and the means) for sweeping away a whole host of restrictive practices and inefficient firms: recessions, it is said, lead firms to cut away fat, leaving leaner and obviously fitter enterprises more able to compete in global markets.

This book tries to ascertain just what actually happened in the recession which occurred in the early 1990s under the Major government. It is based on a large and detailed survey undertaken with the active cooperation of more than 600 leading UK firms. The goal of the study is to find out what types of firms are affected by recessionary pressures, and how they responded.

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*

To be 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. Foreign investment is an effective way of transferring techniques, processes and products into new markets, and firm specific assets transferred in this way can raise productivity in the host country without costing jobs in the home country. 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 is also assessed, and the editors draw conclusions for future economic development in the European Union.

FORTHCOMING BOOKS INCLUDE 'THINKING THE UNTHINKABLE ABOUT EMU: COPING WITH TURBULENCE BETWEEN 1998 AND 2002' **EDITED BY JOHN ARROWSMITH:** 'ECONOMETRIC MODELLING: TECHNIQUES AND APPLICATIONS' **EDITED BY SEAN HOLLY AND MARTIN WEALE,** 'PRODUCTIVITY, INNOVATION AND ECONOMIC PERFORMANCE'**, EDITED BY RAY BARRELL, GEOFF MASON AND MARY O'MAHONY, AND** 'SIXTY YEARS OF ECONOMIC RESEARCH. A BRIEF HISTORY OF THE NATIONAL INSTITUTE OF ECONOMIC AND SOCIAL RESEARCH 1938–98' **BY KIT JONES.**

As the General Election approached the information provided in the Review *was widely quoted by all the major political parties, further strengthening its status as a top quality politically-independent publication. Our UK forecasts were again found to be the most accurate available, by both the* Sunday Times *and* Independent *newspapers and Anbar voted the* Review *first out of 26 journals for its originality in a business context. 1997 has seen the development of themed issues, with contributions from internationally acclaimed economists and from policymakers. A full list of articles in 1997 is shown below.*

No. 159 (January)

Shocks to the system: the German political economy under stress
Wendy Carlin and David Soskice
Taking a view on price review. A perspective on economic regulation in the water industry
Ian Byatt
Promoting efficient competition in telecommunications
Chris Doyle
Saving Europe's automatic stabilisers
Barry Eichengreen

No. 160 (April) Themed issue on Foreign Direct Investment in Europe

The growth of foreign direct investment in Europe
Ray Barrell and Nigel Pain
The impact of foreign direct investment on sectoral adjustment in the Irish economy
Frances Ruane and Holger Görg
Regional economic integration and foreign direct investment: the case of German investment in Europe
Nigel Pain and Melanie Lansbury
European integration and German FDI: implications for domestic investment and central European economies
Jamuna Prasad Agarwal

No. 161 (July)

How did English schools and pupils really perform in the 1995 international comparisons in mathematics?
S.J. Prais
The effect of British industrial relations legislation 1979–97
William Brown, Simon Deakin and Paul Ryan
A monthly indicator of GDP
Eduardo Salazar, Richard Smith, Martin Weale and Stephen Wright
Comparative properties of models of the UK economy
Keith B. Church, Peter R. Mitchell, Joanne E. Sault and Kenneth F. Wallis

No. 162 (October) Themed issue on Productivity

Total factor productivity growth and the role of externalities
Nicholas Oulton
Productivity, machinery and skills in the United States and Western Europe
Geoff Mason and David Finegold
There is no silver bullet: investment and growth in the G7
Chrys Dougherty and Dale W. Jorgenson
Economic growth in East Asia and Western Europe since 1950: implications for living standards
N.F.R. Crafts

EACH EDITION OF THE REVIEW INCLUDES DETAILED FORECASTS OF BOTH UK AND WORLD ECONOMIES, COMMENTARY AND COMPREHENSIVE STATISTICAL APPENDIX, PLUS HIGH QUALITY ARTICLES FROM INSTITUTE AND EXTERNAL AUTHORS. ITS LARGE CIRCULATION ENABLES ANNUAL SUBSCRIPTIONS TO BE KEPT AT £90 (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.

DISCUSSION PAPERS

The purpose of this series is to foster the interchange of ideas at an early stage and to describe work in progress. The following papers published in 1997 are currently available at £4.00 each and £30.00 for ten consecutive published papers. A list of earlier papers is available from the Publications Department.

109. **Comparative productivity in market services: the distributive trades**
Mary O'Mahony

110. **Industry, regulation and the single European market**
J.F. Pickering and D. Matthews

111. **School-readiness, whole-class teaching and pupils' mathematical attainments**
S.J. Prais

112. **Under-achievement and pedagogy**
N.R.G. Luxton and Graham Last

113. **Britain's fiscal problems**
Nigel Pain, Martin Weale and Garry Young

114. **Consumption and the means of payment: an empirical analysis for the United Kingdom**
Jayasri Dutta, James Sefton and Martin Weale

115. **The evolution of rules for the single European market in insurance**
Duncan Matthews and John Pickering

116. **Income distribution and income dynamics in the United Kingdom**
Jayasri Dutta, James Sefton and Martin Weale

117. **Labour productivity in transport and communications: international comparisons**
Mary O'Mahony, Nicholas Oulton and Jennet Vass

118. **Trade with China. Do the figures add up?**
C.-D. Huang and S. Broadbent

119. **A common currency route to EMU: the hard ECU revisited**
Christopher Taylor

120. **Back from the dead again? Production supervisors in the United States, Britain and Germany**
Geoff Mason

121. **UK labour reforms and sectoral wage formation**
Bob Anderton

122. **A solution method for consumption decisions in a dynamic stochastic general equilibrium model**
J.A. Sefton

123. **A calibrated model of saving and income distribution for the UK**
James Sefton, Jayasri Dutta and Martin Weale

124. **Capital accumulation and manufacturing productivity performance: US–European comparisons**
Geoff Mason and Mary O'Mahony

125. **The evolution of rules for the single European market in pharmaceuticals**
Caroline Wilson and Duncan Matthews

126. **Interpolation using a dynamic regression model: specification and Monte Carlo properties**
Eduardo Salazar, Richard J. Smith and Martin R. Weale

127. **A monthly indicator of GDP**
Eduardo Salazar, Richard J. Smith, Martin R. Weale and Stephen Wright

MARIE SHELDON AND GONZALO CAMBA-MENDEZ, INSTITUTE STAFF WHO HAVE RECENTLY COMPLETED THEIR PHDS, WITH FLORENCE HUBERT, WHO RECENTLY BEGAN WORKING FOR HERS.

OTHER PUBLISHED ARTICLES AND PAPERS PRESENTED

Publications

Anderton, R. , 'Policy regimes and the persistence of wage inflation and unemployment', forthcoming in *The Manchester School.*

— , 'Did the underlying behaviour of inflation change in the 1980s? A study of 17 countries', *Weltwirtschaftliches Archiv*, Band 133, Heft 1, March.

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Wagner, K., O'Mahony, M. and Paulssen, M., 'Humankapital in Deutschland und die aufholjagd der Britischen industrie', *Zeitschrift für Betreibswirtschaft*, 9, September.

Papers presented at conferences

Anderton, R., *UK trade performance and the role of product quality, variety, innovation and hysteresis: some preliminary results*, Royal Economic Society , March.
—, *UK labour market reforms and sectoral wage formation*, Employment and Education Economics Group Annual Conference, June.
—, Arrowsmith, J. and Wlodek, K., *Optimal portfolios for institutional investors in Europe following deregulation and monetary union in Europe*, Paper presented to European Financial Markets Advisory Panel.
— and Brenton, P., *Did outsourcing to low-wage countries hurt less-skilled workers in the UK?*, Queen Mary and Westfield College, December, and Conference on Analysis of Low Wage Employment, London School of Economics, December.
Arrowsmith, J., *Monetary integration and southern Europe*, University Association for Contemporary European Studies Conference on the EU and Mediterranean Member States, King's College, London, February.
—, *Prospects for Monetary Union in Europe*, Bank of England Centre for Central Banking Studies, London, March.
—, *EMU and, if so, when?* British–German Forum, Wilton Park conference on Britain and Germany: Same House, Different Dreams? July.
—, *The EMU Countdown: decisions and consequences*, Statistics Norway Conference, Oslo, September.
—, *Holding the line if EMU falters: the economic context and key policy issues*, NIESR Conference on Thinking the Unthinkable about EMU, London, November.
Barrell, R., Anderton, R., Lansbury, M. and Sefton, J., *FEERs for the NIEs*, Project Link Conference, Kuala Lumpur, September.
—, Hurst, A., Pain, N. and Sefton, J., *Maastricht and models*, Applied Econometric Association Conference on Public Deficits and Monetary Union, November.
— and Pain, N., *The employment effects of monetary union*, European Commission Conference on EMU, Vienna, January.
— and Pain, N., *Foreign direct investment, technological change and economic growth within Europe*, Royal Economic Society Conference, March; The Research Institute of Industrial Economics (IUI), Stockholm, September.
— and Pain, N., *Employment, fiscal policy and monetary union*, Applied Econometric Association Conference on Public Deficits and Monetary Union, November.
— and Riley, R., *What is full employment and when will we get there?*, Business Strategies Conference on the UK Labour Market, November.
Blake, A., *Evaluating monetary policy by stochastic*

simulation, Royal Economic Society Conference, March.

—, *In defence of discretion*, ESRC Macroeconomic Modelling Bureau Conference, Warwick, July.

Broadbent, S. and Huang, C-D., Asia Europe Economic Meeting, June.

Camba-Mendez, G. and Pearlman, J., *Can real equilibrium models account for the fluctuations of the UK business cycle*, Money, Macro and Finance Study Group Annual Conference, Durham, September.

Dutta, J., Sefton, J. and Weale, M., *Income distribution and income dynamics in the United Kingdom*, Royal Economic Society Conference, March.

Hubert, F., Pain, N. and Barrell, R., I*nnovation and the regional and industrial pattern of German foreign direct investment*, NIESR conference on Investment, Innovation and the Diffusion of Technology in Europe, February.

— and Pain, N., *Economic integration in Europe and the pattern of German foreign direct investment*, CESSEFI, Université Panthéon-Sorbonne, Paris, December.

Mason, G. and O'Mahony, M., *Capital-intensity, capital quality and productivity performance in manufacturing: international comparisons*, Royal Economic Society, March.

Morgan, J. , *Outlook for the world economy*, Project LINK Spring Meeting, New York, March.

—, *Prospects for the world economy and European economic and monetary union*, Asian Industrialising Economies in 2005 Conference, Institute of Developing Economies, Tokyo, March.

—, *Employment protection and labour demand*, EEEG Labour Market Conference, June.

—, *Macroeconomic policy in the United Kingdom*, 55th Kieler Konjunkturgesprach, Kiel, September.

—, *The economics of employment protection*, Industrial Relations Unit of the Department for Trade and Industry, September.

Oulton, N., *Productivity in market services: international comparisons*, Royal Economic Society Conference, March.

—, *New growth accounting and new growth theory: how big a role for externalities in the growth process?* Conference on Investment, growth and employment: perspectives for policy, Imperial College, London, May.

Pain, N., *The impact of the European internal market programme on the location of intra-EU foreign direct investment*, International Economics Study Group seminar, LSE, February.

—, *Multinational companies and foreign direct investment: theory and empirical analysis*, Bank of England, November.

— and Wakelin, K., *Foreign direct investment and export performance*, International Economics Study Group Conference, University of Nottingham, April; Money, Macro And Finance Research Group Annual Conference, University of Durham, September.

Salazar, E. and Weale, M., *Interpolation and measurement error: an assessment of monthly data in a VAR model*, ESRC Macromodelling Bureau Conference, Warwick, July.

Sefton, J., *A solution method for consumption decisions in a dynamic stochastic general equilibrium model'*, CORE Conference on Inequality, Louvain, Belgium, June.

— and Weale, M., *A calibrated model of saving and income distribution for the UK*, Cambridge Conference on the Macroeconomics of Inequality, Cambridge, July; HM Treasury Academic Panel.

Sheldon, M. and Young, G., *Estimating cointegrating relationships when there is uncertainty about the time series properties of the data*, Money, Macro and Finance Conference, University of Durham.

Taylor, C., *The role and status of the European Central Bank: some proposals for accountability and cooperation'*, Workshop on The political and institutional deficits of the European integration process, European University Institute, Florence, May.

—, *Potential monetary/fiscal conflicts in EMU: simple analytics and some model-based estimates*, Conference on The monetary, fiscal and financial implications of European monetary union, European University Institute, Florence, June.

—, *Fall-back to a common currency: what to do if EMU stumbles*, NIESR Conference on Thinking the unthinkable about EMU, London, November.

Whitburn, J., *The slow bird must start out early: a key to success in Japanese mathematical attainment*, Oxford University Department of Educational Studies Seminar, 'Comparing standards internationally: research and practice in mathematics and beyond', October.

Young, G., *The long-term benefits to the UK economy of low inflation*, ESRC Macroeconomic Modelling Bureau Conference, Warwick, July.

PhD theses completed

Camba-Mendez, G., *Can real equilibrium models account for the fluctuations of the UK business cycle?* London Guildhall University, September.

Sheldon, M., *Robust estimation and inference in cointegrated systems under near-integration*. University of Birmingham, August.

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Corporate members of the Institute are valued not only for their financial support, but for their active contribution to discussions, in an excellent network of company chairmen and Board members, leading academics and policy makers. At no time was this more evident than in 1997, when our programme included dinner discussions with a senior cabinet minister and a member of the new bank of England Monetary Committee. Discussions benefit greatly from being small and highly informal, but the ideas generated do feed directly into the commentary and editorials published in the *National Institute Economic Review.*

Principal meetings for Corporate Members during the year included the following:

FEBRUARY
IMPROVING NUMERACY : WHAT CAN BE DONE IN PRACTICE?
Dinner discussion led by Rt. Hon Gillian Shephard, Secretary of State for Education and Employment.
Chairman: Sir Brian Corby
Guests included Judith Mayhew, Chairman of Policy and Resources Committee, City of London Corporation

MAY
THE UK ECONOMY AFTER THE ELECTION
Introduced by Garry Young and Martin Weale, NIESR
Guests included Sir Samuel Brittan, *Financial Times*

JULY
INEQUALITY, INCOME UNCERTAINTY AND SAVINGS BEHAVIOUR
Introduced by Martin Weale and James Sefton, NIESR
Guests included Don Brereton, Department of Social Security

OCTOBER
ANNUAL DINNER – **THE IMPLICATIONS OF BANK OF ENGLAND INDEPENDENCE**
Chairman: John Flemming
Guests included Professor Charles Goodhart, Member, Bank of England Monetary Policy Committee, and Robert Chote, *Financial Times*

PROFESSOR CHARLES GOODHART (ABOVE), A GUEST OF THE MEMBERS FORUM IN OCTOBER, AND SIR SAMUEL BRITTAN (BELOW), A GUEST IN MAY.

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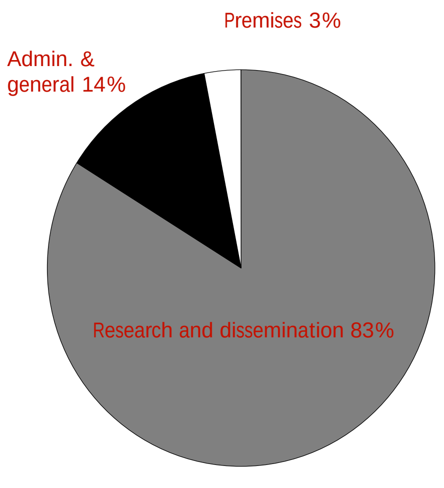
	1996–97	*1995–96*	*1994–95*
	£	£	£
INCOME			
Research	1,114,504	*1,138,753*	*966,659*
Publications	384,971	*414,886*	*363,436*
Corporate supporters	142,558	*127,294*	*135,828*
Investments and interest	142,910	*129,417*	*113,464*
Total income	1,784,935	*1,810,350*	*1,579,387*
EXPENDITURE			
Research	1,194,084	*1,221,795*	*1,101,807*
Publications	220,227	*241,071*	*219,675*
Premises	55,794	*61,490*	*74,079*
Administration and general services	244,002	*228,487*	*247,642*
Total expenditure	1,714,107	*1,752,843*	*1,643,203*
OPERATING SURPLUS / (DEFICIT)	70,828	*57,507*	*(63,816)*



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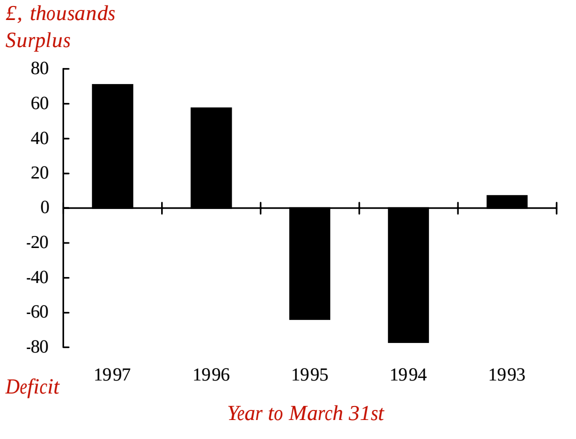

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