CONTENTS

Fifteen months after the National Institute's first Council of Management met to formulate a viable set of research programmes, the outbreak of war overturned the prospects and priorities on which these plans rested and snatched into full-time war work its managers, advisers and research staff. When I became its solitary in-house research officer, in October 1941, the Institute (already bombed out of the Gordon Square offices where I had first been interviewed) had put its library into store and was perched in two rooms hospitably provided by the Royal Institute of International Affairs at Chatham House, St James' Square. There the National Institute's Executive Committee, chaired by Henry Clay (Economic Adviser to the Bank of England) and fortified by the administrative expertise of its inspiringly efficient full-time Secretary, Feodora Leontinoff, functioned on a shoestring. Sixty years on, I recall my own restricted desk space at the window of a ground floor storeroom, looking across an ancient mews passage off Duke Street. Between this quiet backroom and the National Institute's meagre administrative headquarters lay a set of small, unoccupied, interconnecting rooms and short narrow corridors – obviously predating the main building and lending intriguing credibility to the story that it had once contained an 18th century brothel. Paired with another employee on our weekly firewatch night, I was to become darkly familiar with the extensive roof area and internal layout of the buildings constituting or adjacent to Chatham House during our torchlit patrols, whenever an air raid dictated the urgent search for incendiary bombs. Among my most vivid memories, I recall standing by a spartan camp bed, gazing through a top-floor window into an unusually peaceful blacked-out London and enjoying the music of a service at St James' Church Piccadilly, in the early hours of New Year's Day 1942.

A few months later the National Institute's acquisition of 2 Dean Trench Street – to accommodate its headquarters, library and small research staff engaged in various uncoordinated projects – transformed my working environment. With my desk located at the window of the Institute's library (in the room which later became the Conference Room and the annual meeting place for the Governors), I cheerfully assumed the unpaid and undemanding role of librarian. My own project, on the measurement of colonial national incomes, was an attempt to apply to underdeveloped economies the social accounting approach advocated by Maynard Keynes in the 1939 pamphlet *How to Pay for the War* and formalised in 1940 for application to the United Kingdom by two members of the Central Intelligence Staff of the War Cabinet Offices – James Meade and Richard Stone. It was in 1941 that these two future Nobel prizewinners combined with a relatively senior member of the Central Intelligence Staff, Austin Robinson (motivated by past personal experience of constructing African national income and balance of payments estimates), in persuading the National Institute to initiate an inquiry designed to explore the possibilities and limitations of applying the new United Kingdom social accounting techniques to underdeveloped economies, whilst throwing some light on the economic problems of selected colonial territories. It was my good fortune to be an ex-pupil of A.K. Cairncross (also then serving in the War Cabinet Offices), as well as to be of the right gender to be considered for a research job outside war service. Even more fortunately for me, the rawest of raw recruits, the Executive Committee decided to put my project in charge of a powerful advisory committee containing the three proposers – then the most relevant and actively interested economists in Whitehall – plus the Institute's dynamic Secretary, Feodora Leontinoff, soon to become Mrs Richard Stone. Later, when Jamaica was included in the inquiry, another future Nobel prizewinner – W. Arthur Lewis (a West Indian in the Colonial Office) – was added to my team of geographically accessible and gratifyingly attentive supervisors.

As I remember, the number of full-time National Institute researchers working in Westminster varied between five and less than ten during the war years. It was small, partly because the supply of fresh British university graduates had virtually dried up and partly because not all of the applied economists willing and eligible to be recruited to a National Institute project chose to work in war-harassed London – when arrangements could be made for them to pursue the research in a suitable university location less subject to air attacks. Indeed, in July 1944, a flying bomb that demolished the house opposite wrecked 2 Dean Trench Street. Fortunately it hit during the weekend and no staff member was injured; but those of us who regularly fled London on Saturday afternoons to relax briefly in Cambridge, or some other normally peaceful location, returned on Monday morning to find that the blast had swept fiercely through our workplace, destroying windows, furniture, papers and books. From then until late 1946 the Institute again took temporary refuge – this time at a nearby empty house in Romney Street – and arrangements were made for those who preferred to continue their research in Cambridge to move into college accommodation. Since I gleaned most of my research material from resources in the Colonial Office Library I went with the administrative staff, and a diminished research group, to the house around the corner. Meanwhile, until the Institute's library was repaired and restored, those of us who stayed in London enjoyed privileged access to the library of the London School of Economics.

In spite of such war-induced disruptions, it has to be said that there were considerable intellectual advantages attached to working at the headquarters of the National Institute. The in-house staff constituted a varied, and mutually-stimulated community of applied economists, statisticians and the occasional sociologist. Relatively few of them were as short of research experience as I was and some were distinguished immigrants (from Europe or North America) who memorably extended our national horizons. Their colleagues and advisers were also frequent visitors to our workplace, as were members of the Institute's Management Council and Executive Committee, as well of course as the personnel currently involved in its external research projects then in progress elsewhere. Moreover, the fact that Feodora Stone was an enthusiastic organiser of sandwich lunches to support discussion sessions meant that the National Institute's headquarters became a regular meeting place for social scientists eager to share their research plans, results and methods with each other. While the universities' operations were at a virtual standstill, and most of the leading applied practitioners in economic and social research were working within the secretive confines of a central government office, the National Institute was uniquely situated to attract a stream of distinguished scholars to such discussion meetings. For its junior researchers, such as myself, the privilege of meeting the giants in our discipline in these informal circumstances and of listening to the open exchange of ideas and views on a variety of issues brought educational rewards of lasting significance.

Phyllis Deane

PHYLLIS DEANE, FBA, WORKED AT THE NATIONAL INSTITUTE FROM 1941 TO 1948, WHEN SHE JOINED THE COLONIAL OFFICE. HER BOOK *COLONIAL SOCIAL ACCOUNTING* WAS PUBLISHED IN 1952. HER OTHER BOOKS INCLUDE *BRITISH ECONOMIC GROWTH 1688–1959* (WITH W.A. COLE). SHE HAS RESEARCHED AND TAUGHT IN CAMBRIDGE SINCE 1950 WHERE SHE IS EMERITUS PROFESSOR OF ECONOMIC HISTORY. SHE WAS PRESIDENT OF THE ROYAL ECONOMIC SOCIETY FROM 1980–82.

The end of the first year of the new century gives the opportunity to report on a number of new developments at the National Institute. We have, for the first time, created a post jointly with a university. We are particularly pleased that it is at professorial level jointly with Imperial College of Science, Technology and Medicine. We hope that this will develop a fruitful relationship with one of the country's top universities.

The Institute's accounts show a loss for the first time since 1994/5. The Institute is not profit making. Its goal is to do as much high-quality research as possible consistent with maintaining the sort of financial reserves which are needed to smooth out fluctuations in income and to reassure staff that their employment is not contingent on the success of any particular research grant application. Such a goal is obviously inimical to profit-maximisation because while we are supported by research contracts of various types, research itself is not sold in any market. Consistent with the charitable status of the Institute we aim to place our research findings in the public domain and there is no immediate financial reward to writing up research for academic publication after the direct obligations of any particular research contract have been met. But the Institute does have to meet its costs and, from a given amount of income, it is obviously desirable to finance as much research as possible. This creates a continuing need to keep a careful eye on costs and to find ways to run more efficiently in order to maximise our research output. Our recent experience makes us increasingly aware of the importance of the generous contributions from our Corporate Members and financial supporters who donate funds for generic research and towards the costs of producing our forecasts. We are extremely grateful to those organisations. We are pleased to report that we anticipate a more favourable financial outcome to the current financial year.

There has been a visible broadening out of the sources of our research funding, reflecting in part changes to the funding environment and in part the fact that the Institute has improved the way it exploits some existing opportunities. We have traditionally distinguished in our accounts funding from the Economic and Social Research Council and from trusts and charities from other forms of funding. In part this was because such research was typically funding for projects where we had taken the initiative while most other sources of funding reflected a response by us to a tender or other specification from the awarding body. While we have accepted funds of the latter type only if the results of the research can be published, researchers have a natural preference for developing their own agenda. However in the last year we have started two projects funded by the European Commission's Fifth Framework programme; these both involve collaboration with a number of other research organisations in other European countries and raise substantially the funding obtained from European programmes of this type. In both cases the Institute has taken the initiative in putting the proposals together and is the body co-ordinating the research. The first project looks at the production of early, or 'flash' estimates of economic statistics; the second studies employment implications of technical progress. We are participating in a third project, on ageing, starting in 2002, which is led by the Centre for European Policy Studies in Brussels. These projects increase the international awareness of the Institute. Naturally we hope that we will be able to maintain this diversity with further successful applications in the final rounds of the Fifth framework programme and following that, with its successor.

A further opportunity for diversification comes from the Government's 'evidence-based policy fund'. This provides co-funding for work which departments wish to sponsor. Here, as with the Fifth Framework, there is plenty of opportunity for proposers to take an initiative and the Institute, with its long tradition of policy-relevant research and its experience of working with

New staff from top left, clockwise: Willem de Boer, Martin Weale (Director), Michael Massmann, Desirée van Welsum, Bettina Becker and Sylvia Gottschalk

government departments, is well-placed to bid for such funds. We have a substantial project running from the first tranche of evidence-based policy funding and hope for further success.

These opportunities allow us to diversify our sources of funding and, while it can take time in getting used to the requirements of different funding bodies, they do at the same time reduce the Institute's dependence on any single funder or on the continuation of any particular large programme.

The pages which follow give an indication of the range of microeconomic, macroeconomic and social issues which we have worked on. The distinction between our microeconomic and our macroeconomic work is not as clear as it once was; this reflects the fact that in the subject as a whole what was once a clear distinction is now blurred. Over the past ten years we have made increasing use of microeconomic data sources such as surveys and data on individual firms; the rapid development of computers has made the task of handling large amounts of data much easier than it used to be. To give two examples, first of all one can sensibly look at questions of location of industry and foreign investment using both aggregate and individual data. Secondly, there is often a richness in individual data which can be lost on aggregation as our work on business survey data shows. But such definitions are largely irrelevant to our main purpose which is to conduct economic and social research on issues of policy relevance to a high academic standard.

A number of new staff have joined us during the year. We look forward to their stay being happy and productive.

The National Institute maintained its high profile at the centre of economic debate during 2001. During a year of economic uncertainty the views of its research staff were widely sought and reported as they forecast the prospects for both the world and UK economies for the months ahead.

"The inflation rate will dramatically undershoot the government's target by a full percentage point, a respected independent think-tank predicts today. Forecasters at the National Institute of Economic and Social Research believe inflation will miss the government's 2.5% target – requiring Sir Eddie to explain why the deviation happened and what the Bank is planning to do about it."
The Guardian, *2 February 2001*
"One of the country's leading economic think tanks has called for more cuts in interest rates to shelter Britain from a global economy it believes is in the worst shape for nearly a decade"
The Daily Telegraph, *20 July 2001*
"The National Institute of Economic and Social Research added to the gloom by estimating that the economy grew by just 0.1 per cent in the three months to the end of November. Martin Weale of the NIESR said the slowdown justified the interest rate reductions implemented by the Bank since 11 September. But he added that it was still too early to say whether further rate cuts would be needed"
The Independent, *7 December 2001*

NIESR's position at the centre of policy debate was further demonstrated in October when findings were published on the effects of fee paying on students in higher education. Publication coincided with the announcement that the government would be reconsidering policy in this area. The Institute's findings were highly relevant and timely and thus widely reported:

"Student debt problems polarising class divide"
Sarah Cassidy in The Independent *on 12 October.*
"The National Institute of Economic and Social Research (NIESR) believe that the abolition of maintenance grants four years ago has led to greater inequality in higher education"
BBC News Online, *12 October.*

The Institute has always been concerned about dissemination of research findings, as well as research *per se*. In March we joined forces with Cambridge University Press to launch a new lecture programme. Named after the 1984 Nobel Prizewinner in Economics, who was awarded the prize for his work on the development of systems of national accounts, part of which was done at the NIESR, the Sir Richard Stone Lecture Series aims to attract the most respected international economists to lecture to an audience of academics, business people, and policymakers. Each year the presentation will be followed by the publication of a book based on the lecture. In 2001 Professor Arnold Zellner of the University of Chicago presented his work to audiences both at NIESR and at the Bank of England. We are delighted that Professor Danny Quah of the London School of Economics has agreed to be our lecturer in 2002.

NIESR and the Economic and Social Research Council have collaborated during the year to develop the Westminster Economics Forum exploiting the Institute's location in the heart of Westminster. The seminars aim to bring together a wide variety of businesses, politicians and government departments for lunchtime events in the Westminster area. The first series has concentrated on 'The economics of population change'. We have been gratified by the high level of interest.

NIESR has demonstrated through its activities that it continues to provide a valuable link between high quality research and policy issues. Its aims and objectives are as relevant as they were in the first years of its existence, discussed on pages 2–3 by Professor Deane. Those who have visited the Institute during the year to attend one of the many seminars or conferences, or have read the published output, will know that, as a research institute, it continues to thrive.

The introduction of Jobcentre Plus in October 2001 in over 50 pathfinder offices represents the first step in the Government's move towards an integrated work-focused benefit service. With Jobcentre Plus, people of working age who are not in full-time work and are seeking to claim one or more of a range of benefits on offer will be required to attend a work-focused interview as a condition of receiving benefit. The development of Jobcentre Plus will draw on the lessons from an earlier pilot initiative, ONE. A recent Institute study examines early evidence from the ONE pilots on the policy's success in helping benefit clients into work.

Fourteen per cent of working age people rely on government support for a significant proportion of their income. These can be divided into three main groups: the unemployed, the sick or disabled and lone parents. The sick or disabled make up the majority, with 60 per cent of benefit claimants of working age claiming sickness or disability benefits. This is around three times the number of unemployed.

Benefit dependency varies amongst the three main groups. Of those unemployed in May 2001, 78 per cent had been unemployed for less than one year. In other words, most of the unemployed leave benefit fairly quickly. Of those who leave most find work. In contrast, 61 per cent of lone parents claiming Income Support and 75 per cent of people claiming sickness or disability benefit have been doing so for over two years.

Benefit claimants
(Great Britain, May 2001, thousands)

		Length of current claim		
		% less than 1 year	% 1 to 2 years	% 2 years or more
Unemployed	**925**	78	10	12
Sick or disabled	**2,984**	15	10	75
Lone parents	**868**	22	17	61
Other	**205**	34	18	48
All	**4,982**	28	12	60

Source: Department for Work and Pensions, Client Group Analysis, First Release October 2001.

With the introduction of Jobcentre Plus, new and repeat claimants for unemployment benefit, sickness or disability benefit or Income Support will have to attend an interview with a Personal Advisor in order to receive benefit. The purpose of the interview is to help claimants with the complexities of applying for benefits as well as to help them think about work and their potential to work. The initiative comes at a time of low unemployment when increasingly attention is being directed towards the employment prospects of other benefit claimants.

The development of Jobcentre Plus will draw on the lessons from an earlier pilot initiative, ONE, which introduced compulsory work-focused interviews in twelve areas representing 9 per cent of benefit claimants in Great Britain in April 2000. Institute research looks at the early evidence from the ONE pilots. Interim findings suggest that work-focused interviews may reduce benefit dependency for lone parents claiming Income Support, but not for sick or disabled clients.

THIS STUDY IS PART OF A CONTINUING EVALUATION PROJECT FUNDED BY THE DEPARTMENT FOR WORK AND PENSIONS.
ENQUIRIES TO: S.KIRBY@NIESR.AC.UK
R.RILEY@NIESR.AC.UK

POLICY CHOICES IN THE PRE-ACCESSION COUNTRIES

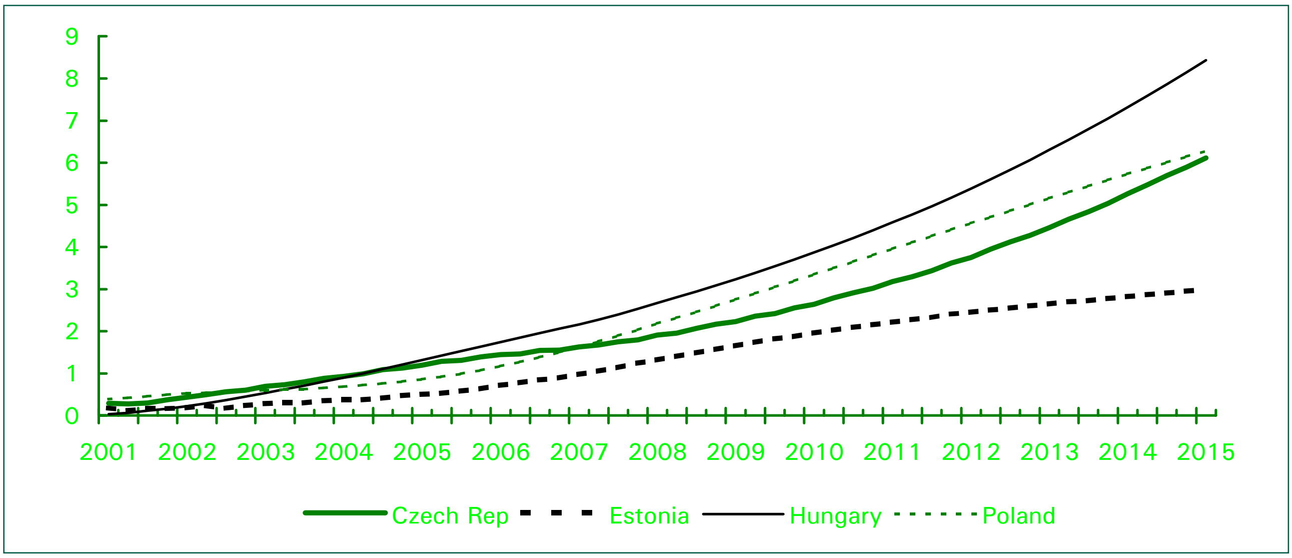
A recent project at NIESR explores the prospects for growth in five EU Accession candidate countries: the Czech Republic, Poland, Hungary, Slovenia and Estonia. Experts from the Central Banks in each country have worked in close collaboration with the modelling team at NIESR to construct econometric macromodels of each of the five countries. The models can be used for short-term forecasting, and the first forecast was published in the National Institute Economic Review *in July 2001. The models have also been used for the analysis of policy issues such as the impact of fiscal policy developments, the implications of a change in the exchange rate regime and the impact of a rise in foreign direct investment on growth.*

THIS RESEARCH WAS UNDERTAKEN WITH SUPPORT FROM THE EUROPEAN COMMUNITY'S PHARE ACE PROGRAMME 1997.
ENQUIRIES TO D. HOLLAND@NIESR.AC.UK

The analysis of fiscal policy under different exchange rate regimes is a major policy issue facing these economies. This has been particularly important in Hungary, which replaced its crawling peg regime with a floating exchange rate regime earlier this year. We have used the models to estimate the size of fiscal multipliers under different exchange rate regimes. Under a flexible regime, the impact of a fiscal contraction on output would be tempered by a significant depreciation of the exchange rate. A 5 per cent decline in Hungarian government expenditure would reduce output by about 0.4 per cent in the first year under a floating exchange rate and by about 0.5 per cent under a fixed exchange rate regime. This pattern is common in small open economies with large trade elasticities.

In constructing the models, we have taken special care to consider the roles of openness and foreign investment on productivity and growth. Research at NIESR has identified a need for policies to encourage inflows of FDI into the accession economies, in order to narrow the technology gap with the EU. Increasing the speed of financial liberalisation can help achieve this goal. We estimate that if the real stock of FDI is increased by 60 per cent over a period of 15 years, GDP rises almost 8 per cent above base in Hungary and about 6 per cent above base in Poland and the Czech Republic, as can be seen below. The impact is somewhat weaker in Estonia, reflecting a greater import propensity of Estonian investors.

Impact of a 60% rise in the FDI stock on GDP (% difference from baseline)



THE EFFECT OF TUITION FEES ON STUDENTS' DEMANDS AND EXPECTATIONS

Using evidence from case studies of four universities, this study looked at the effect of tuition fees on students' demands and expectations of university, through the eyes of lecturers. If students' demands and expectations of university are changing, this might be expected to be experienced directly by teaching staff. Moreover, teaching staff and universities may feel under a different obligation towards students and may change their provision. The study used qualitative data from interviews with 70 university lecturers in four universities to explore whether there is a discernible change in students' demands and expectations in recent years and how this affects teaching staff and university provision.

THIS RESEARCH HAS BEEN FUNDED BY THE LEVERHULME TRUST.
ENQUIRIES TO H.ROLFE@NIESR.AC.UK

Lecturers believed that a higher proportion of current students go to university for career reasons than in the past. They also believed that today's students are less interested in their subject and are more interested in vocational aspects of their studies. Lecturers also found students to be less able or willing to undertake independent study than they were ten or more years ago, and expect more instruction and guidance from teaching staff. Lecturers in three of the universities believed that part-time working is increasingly common among their students and has a detrimental effect on their studies.

Many lecturers expressed disappointment that today's students are less interested in their chosen degree subject than in the past. For some lecturers, this devalued the experience of university lecturing. A number said that they were now less interested in teaching than in the past and gained more satisfaction from other areas of their work, such as research.

What did lecturers feel had caused the changes they identified in students' expectations and demands? Few felt that changes in funding and the introduction of tuition fees played a major role. Rather, many felt that the expansion of higher education had brought in students with different attitudes and expectations from those in the past. The most notable change was that many students attend university simply to gain a degree, which has become the 'gold standard' qualification, and therefore to kick-start their careers. Lecturers therefore believed that the intake of students to university had undergone a significant change. Students' attitudes were also seen as encouraged by the approach of schools to teaching at A–level, criticised by many lecturers as 'spoon-feeding', which caused students difficulty in accepting a different approach to learning at university. While some lecturers felt that there was no link between students' attitudes and fees, others felt that fees had given further encouragement to a consumerist attitude, which began with the introduction of loans and the increasing cost of higher education to students.

Changes in students' attitudes and expectations

Related to fees	*Not related to fees*
A consumerist approach towards higher education.	Instrumental orientation towards higher education.
Increased complaints.	Less interest in degree subject, more interest in getting a good degree.
Detrimental effects of part-time working.	More interest in vocational aspects of study.
Increased parental involvement in decisions about university entry.	Less willingness to undertake independent study.
Concern among lecturers to provide 'value for money'.	Increased expectations for one-to-one assistance and guidance from lecturers and tutors.

The principal reason, if not the only reason, for offering tax incentives to encourage people to save for retirement is to ensure that the majority of the population save sufficient resources so as not to be a burden on the welfare state during retirement. If this is the motivation, then the prime target group for this policy must be those on low incomes.

Research into this question demonstrates that this is the very group which benefits least from the present pension structure. This is shown from the analysis of a partial equilibrium model of household savings behaviour. Savers face a dilemma: whether to delay their contributions to a pension scheme and so preserve their liquidity but risk losing the tax advantages, or contribute early, reduce their liquidity, but ensure that they benefit from the tax advantages. This dilemma is most acute for those on low incomes, who have the strongest desire for liquidity, and it is this group therefore that benefits the least from the tax breaks.

THIS RESEARCH HAS BEEN FUNDED BY INQUIRE.
ENQUIRIES TO J.SEFTON@NIESR.AC.UK

Another issue that the work addresses is directly concerned with the shift in pension provision to personal schemes. Many fear that the lack of both intra-generational and inter-generational risk-sharing implicit with any personal scheme will lead to a rise in pensioner inequality. The study shows that relaxing some of the constraints on maximum contribution levels encourages those on lower incomes to save more, which in turn reduces intra-generational pensioner income inequality. However it finds that there is little role for return guarantee policies in reducing the levels of intergenerational inequality.

The predicted savings profile of the average household

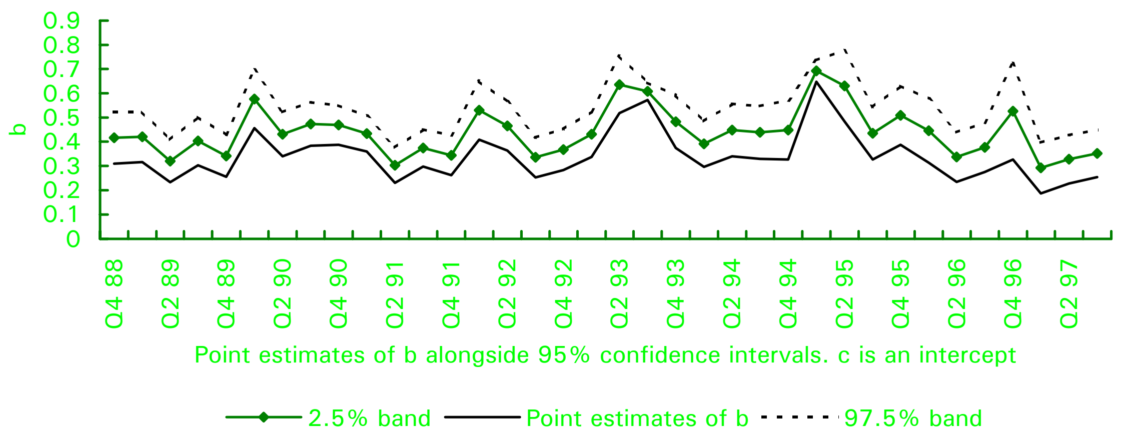
HOW GOOD ARE FIRMS' FORECASTS?

Do firms make efficient use of available information when forming their forecasts or expectations of the future, or could their forecasts be improved by better use of information? A new project at the National Institute, supported by the ESRC, tests whether firms use all available information when forecasting. The project exploits qualitative firm-level survey data from the Confederation of British Industry. We find that firms could improve upon their forecasts by better using information available to them. In particular, we discover that they could improve their predictions by looking at simple macroeconomic forecasts. Furthermore, we find common, or macroeconomic, shocks help explain firms' forecasting errors.

THIS RESEARCH HAS BEEN FUNDED BY THE ECONOMIC AND SOCIAL RESEARCH COUNCIL. ENQUIRIES TO J.MITCHELL@NIESR.AC.UK

Business surveys that ask firms about their expectations of future economic movements are widely used by policy makers to gain an impression of the state of the economy ahead of the publication of hard data. But are firms making the best use of the data available to them when making their predictions? Business surveys provide an important source of information on this question. Surveys that ask firms about their expectations of future movements in variables, and the changes they have actually observed, facilitate direct comparison of firms' expectations with their subsequent realisations. In this project we consider quarterly firm-level responses to the CBI's Industrial Trends Survey from 1988–97; among other things, the CBI asks a sample of UK manufacturing firms about their observed, and expected future, changes in output volumes relative to the previous period. The business survey data are ordered and categorical (i.e. firms answer 'up', 'the same' or 'down'). Consequently, standard time-series approaches for testing whether firms efficiently use information when forecasting are inappropriate. We therefore consider an alternative test that treats the categorical responses as being triggered by latent structural variables as they move across thresholds. Results suggest that firms are not using information as well as they could and that expectations of output growth are excessively volatile. We also found that firms could improve their forecasts by taking more account of macroeconomic forecasts.

The relationship between firms' expectations (E) and subsequent realisations (R): R = c + bE



Point estimates of b alongside 95% confidence intervals. c is an intercept

BRITAIN'S RELATIVE PRODUCTIVITY PERFORMANCE

This research presents the results of a major update and revision of the data contained in O'Mahony (1999) which considered Britain's productivity position in an international perspective. It examines productivity in the UK relative to the US, France, and Germany in the late 1990s. The results are discussed in the context of a number of broad questions. First, is there evidence that Britain has improved its relative productivity position in the past decade? To what extent is Britain's labour productivity shortfall due to a poor investment record in both physical and human capital and has there been any improvement over time in Britain's relative capital position? Finally, in which sectors is Britain's productivity deficit greatest and how much do these sectors contribute to Britain's overall productivity position?*

THIS RESEARCH HAS BEEN FUNDED BY HM TREASURY. ENQUIRIES TO M.OMAHONY@NIESR.AC.UK

*O'MAHONY, M. (1999) BRITAIN'S RELATIVE PRODUCTIVITY PERFORMANCE 1950–1996: AN INTERNATIONAL PERSPECTIVE, NIESR.

The research estimates relative levels and growth rates of labour productivity, capital intensity, skill intensity and total factor productivity for about 40 sectors of the aggregate economy. The results show that Britain has not improved its relative productivity position in the past decade, merely keeping up with France and Germany, with all three falling behind the US. The current labour productivity gap with the two European countries is explained by greater investment in both physical and human capital whereas there is a significant TFP gap with the US (see table).

At the sector and industry levels Britain's relative position shows significant labour productivity deficits in three large sectors, manufacturing, distribution and financial and business services. These three sectors combined explain most of the British productivity gap. The TFP gaps in these sectors are smaller but remain significant for manufacturing, distribution relative to the US and France and financial and business relative to the US and Germany. Labour productivity growth in the 1990s was relatively poor in British manufacturing and in distribution. All three European countries fall behind the US in productivity growth in the ICT-using sectors with very little by way of a comparable acceleration from the mid-1990s.

The decomposition of relative labour productivity, 1999

	US	France	Germany
A. Total economy			
Labour productivity			
Relative levels (UK = 100)	128	126	113
Percentage contributions			
Total capital	66.0	75.8	98.5
Physical capital	*64.6*	*62.3*	*73.3*
Skills	*1.4*	*13.6*	*25.2*
Total factor productivity	34.0	24.1	1.5
B. Market economy			
Labour productivity			
Relative levels (UK = 100)	137	124	119
Percentage contributions			
Total capital	38.0	72.3	54.4
Physical capital	*41.1*	*59.2*	*35.7*
Skills	*–3.1*	*13.0*	*18.7*
Total factor productivity	62.0	27.7	45.6

OFFICIAL LAUNCH OF IMPROVING PRIMARY MATHEMATICS

The 'Improving Primary Mathematics' project (IPM), designed to raise mathematics standards achieved by primary school pupils, has reached a new stage this year. As part of the collaboration between researchers at the National Institute and inspectors/advisory teachers at the London Borough of Barking and Dagenham, new teaching materials and methods have been developed and trialled extensively during recent years with nearly 20,000 primary pupils in 5 boroughs (LBBD, Leeds, Rochdale, Kirklees and Clackmannanshire). This year the materials designed for use with pupils in Years 1 and 2 of schooling (aged 5–7 years) have been published commercially and are now available for purchase by all schools in England.

The published materials comprise 11 pupils' workbooks (5 for Year 1 and 6 for Year 2), together with a Teachers' Manual for each of the 6 terms in Years 1 and 2. The Teachers' Manuals provide a framework for each term and year, lesson-by-lesson teaching plans, homework sheets, transparencies for use with overhead projectors, games, card sets and additional more challenging worksheets for children who are 'quick finishers'. The materials are designed to be used in mixed-ability classes using an interactive whole-class teaching approach; emphasis is placed on the involvement of all *pupils throughout each lesson and the importance of use of mathematical language for explanation, discussion and demonstration. The Teachers' Manuals also provide detailed advice on how interactive whole-class teaching may be successfully achieved in our classes so as to reduce the long tail of low achievement.*

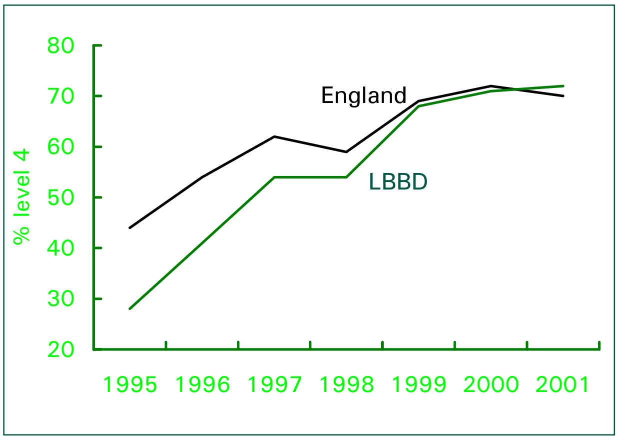
The first phase of publication was launched by Margaret Hodge, Under Secretary of State for Employment and Equal Opportunities, in May 2001, thus providing schools with the opportunity to purchase materials in time for the start of the new school year in September. Plans are now well advanced for the publication of the next phase in April 2002 which will include materials for use with pupils in Years 3 and 4. The final publication phase for the remaining materials for

MORE INFORMATION ABOUT THE IPM PROJECT, TOGETHER WITH SAMPLES OF THE TEACHING MATERIALS, MAY BE FOUND ON THE WEB SITE WWW.IPMATHS.CO.UK.
ENQUIRIES TO J.WHITBURN@NIESR.AC.UK

Years 5 and 6 is planned for 2003. Publication of the IPM materials to date has attracted continuing media publicity and favourable comments from reviewers. Teachers themselves have been enthusiastic about the value of the lesson-by-lesson materials, commenting that they allow teachers to concentrate on the *delivery* of a successful lesson, and on the diagnosis and remediation of pupils' conceptual and procedural difficulties.

At the same time, the first cohort of pupils in Barking and Dagenham to use the IPM teaching materials reached the end of primary school and transferred to secondary schooling. Pupils' results in the mathematics tests at the end of Key Stage 2 show that the level of performance in Barking and Dagenham during the past 5 years has improved at a faster rate than the national average. This year, while the national figures showed a slight fall of two percentage points, performance in Barking and Dagenham continued to improve and, for the first time, exceeded the national average attainment level (see below).

Percentages of pupils gaining level 4 or better at the end of Key Stage 2: England and LBBD



GRADUATE UTILISATION IN SERVICE INDUSTRIES

The recent transition to mass higher education in the UK has led to intense public interest in the extent to which such expansion serves the interests of the national economy and of the majority of individuals who have invested time, money and foregone income in acquiring degree-level qualifications. While the Government and influential employers' organisations are united in calling for the expansion of graduate output to continue in order to meet increasing demand for highly-qualified people, others express concern about a rising incidence of 'under-utilisation' of graduate-level skills and knowledge.

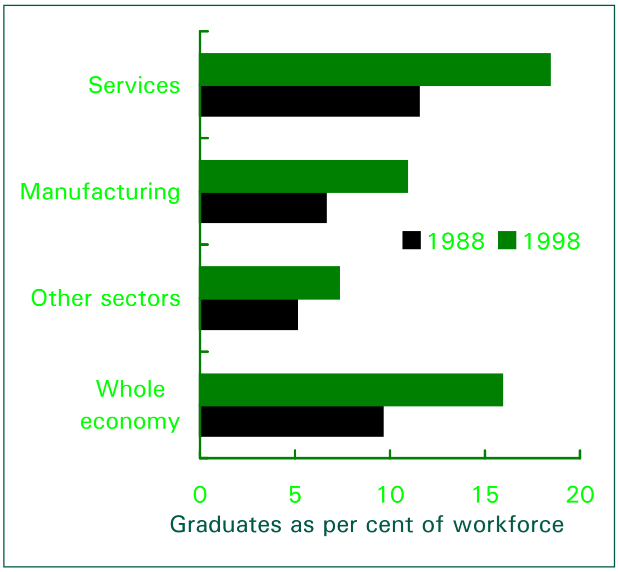
In this respect key empirical questions include the following: to what extent have employers adjusted positively to the greater availability of graduates by upgrading jobs and making appropriate changes in work organisation? Are there ways in which under-employed graduates can 'grow the jobs' in which they find themselves, thus making more effective use of their skills and knowledge and improving work performance?

In order to investigate these and other questions, a detailed study of graduate utilisation in the workplace was carried out in three different service industries – retailing, computer services and transport and communications – which exemplify the sectors of the UK economy where the graduate share of employment has risen fastest in recent years.

The study identified two important mechanisms by which graduate substitution for non-graduates in service industries has contributed to upgrading of hitherto non-graduate jobs over the last decade: (1) a one-off permanent upgrading of some clerical, administrative and other jobs in departments such as customer services and marketing; (2) temporary job upgrading as individual graduates in lower-level jobs have taken on additional tasks and responsibilities with a view to securing internal promotion out of those jobs or else gaining experience which will improve their job prospects with other employers.

However, the scope for further job upgrading of a permanent kind appears to be limited. In general the burden of adjustment to the increased supply of graduates falls to a greater extent on individual graduates than it does on employers. A sizeable minority of new graduates each year still enter largely unmodified low-paid jobs where their skills and knowledge are under-utilised. For many such graduates the problem is transitional in nature but, even when they find their way to better-paid and more demanding employment, it is hard for them to catch up with the initial headstart in salaries and training opportunities which 'mainstream' graduates in the same industries have received.

Graduate shares of total employment, UK, 1988 and 1998



THIS STUDY WAS KINDLY SUPPORTED BY THE LEVERHULME FOUNDATION. FOR FURTHER DETAILS OF THE RESEARCH, SEE GEOFF MASON, MIXED FORTUNES: GRADUATE UTILISATION IN SERVICE INDUSTRIES, NIESR DISCUSSION PAPER NO. 182, JULY 2001. ENQUIRIES TO G.MASON@NIESR.AC.UK

EMPLOYMENT FOR OFFENDERS AND EX-OFFENDERS

Offenders are amongst the most economically marginalised people in Britain, with unemployment reaching 80 per cent for prisoners (on release) and 60 per cent for those on probation. Reducing unemployment amongst offenders is important not only for reasons of social justice, but also to reduce crime, as employment is strongly linked to rehabilitation. Funded by the Department for Work and Pensions, the Institute conducted a major study into the barriers to employment for people with a criminal record. The study included a representative survey of employers and qualitative interviews with offenders and employers.

The high level of unemployment amongst recently released prisoners and those on probation has been attributed to a combination of poor employment characteristics and discrimination against applicants with a criminal record. However, we found that recruiters rarely identified criminal records and so little discrimination could take place. This was not because recruiters were uninterested in information on applicants' criminal record – this was sought for 63 per cent of vacancies – but appeared to be because criminal records were successfully concealed.

Recent legislation will change this. The Police Act (1997) will enable all recruiters to access details of applicants' unspent criminal convictions, in the form of 'Basic Disclosure'. (Additional protection is afforded to 'vulnerable jobs', such as those working with children.) We estimate that this will lead to applicants' criminal records being identified in about half of vacancies and usually identified in a further 20 per cent of vacancies.

The effect on recruitment for people with a criminal record will be considerable. For most offenders and ex-offenders, a known criminal record was estimated almost to preclude recruitment to about half of vacancies and, in the remainder, to reduce recruitment chances. The estimated effect varied with the offence: for example, a conviction for murder or indecent assault was estimated almost to preclude recruitment to over 80 per cent of vacancies, whereas conviction for offences against the Health and Safety at Work Act, or for prostitution, largely ruled out only half as many vacancies.

The intention behind the Act was to enable employers to protect themselves from crime at work. Our analysis suggested that protection from crime played a minor role in recruiters' response to criminal record. There was strong evidence of prejudice and of recruiters' concern to protect themselves from blame if offending occurred.

Irrespective of recruiters' intentions, widespread rejection of applicants with criminal records might be thought to decrease the likelihood of crime at work. However, it is not clear whether this leads to those at high risk of offending at work being rejected. Moreover, given that 30 per cent of men have a criminal record by the age of thirty and that, currently, recruiters largely fail to identify these people, the risk would appear small. We concluded that the Act was likely to raise unemployment amongst offenders and ex-offenders, which might in turn increase re-offending. Whether this would be compensated for by much reduction in crime at work was unclear, but doubtful.

ENQUIRIES TO: H.METCALF@NIESR.AC.UK
BARRIERS TO EMPLOYMENT FOR OFFENDERS AND EX-OFFENDERS IS AVAILABLE ON HTTP://WWW.DWP.GOV.UK/ASD/INDEX.HTM

MEASURING THE COST EFFECTIVENESS OF LOCAL AUTHORITIES

Local Authorities (LAs) represent a major part of the government sector, in terms of spending and of policy provision. It is important, therefore, that the cost effectiveness of their provision be assessed in a rigorous and practical manner. Inefficiency in local government is not only a waste of taxpayers' money, but often hits hardest at those who can least afford it.

THIS WORK WAS CARRIED OUT BY WILLEM DE BOER, MARY O'MAHONY AND PHILIP STEVENS AND UNDERTAKEN ON BEHALF OF THE DEPARTMENT FOR LOCAL GOVERNMENT, TRANSPORT AND THE REGIONS. ENQUIRIES TO M.OMAHONY@NIESR.AC.UK

The study aimed to evaluate methods for examining the cost effectiveness of English LAs in providing a range of services. It also aimed to assess the relevance of the data employed and to derive general conclusions on the feasibility of using the methods to evaluate performance.

Assessing LAs' cost-effectiveness is extremely problematic. There are often no market prices by which to evaluate their services, making overall measurement and comparisons difficult. In the private sector this can be overcome by assessing the impact upon profits or shareholder value, but how does one compare the efficacy of waste collection with that of the quality of teaching in primary schools? Another problem is that LAs do not operate on a level playing field. Some operate in areas of extreme poverty or population dispersion, thus influencing the LA's ability to provide services and pushing up costs in particular areas.

There are essentially two sets of techniques applicable to this type of analysis: Data Envelopment Analysis (DEA) and Stochastic Frontier Analysis (SFA). Both of these compare an LA's performance with that of the 'best-practice' authorities on the 'frontier'. These methods are preferable to simple indices, which do not properly take into account both the quantity and quality aspects of provision and the range of services offered.

The study found that SFA is the more appropriate of the methods for the assessment of LA cost effectiveness because of the nature of the data available – SFA is less sensitive to the measurement issues created by the data. Taking account of the LA's local environment in evaluating relative performance was seen to be crucial in order to avoid misleading policy conclusions.

The estimated scores may be used to construct an overall index of relative effectiveness for each LA but the result will be sensitive to the weighting scheme used. A measure of absolute efficiency was also constructed, indicating the extent to which each LA could decrease costs while maintaining outputs. Results for councils, excluding the District Councils, suggest maximum absolute cost reductions if all LAs produced according to best practice of the order of 10–15 per cent.

Average raw efficiency scores (per cent)

Authority type	Housing repairs	Primary education	Secondary education	General social services*	Highway maintenance	Street lighting
London Boroughs	84.3	79.2	86.8	80.6	77.7	72.8
Metropolitan Authorities	89.9	90.0	92.1	91.4	80.0	73.9
Unitary Councils	90.1	82.4	93.1	89.1	86.8	75.3
County Councils		93.8	91.1	89.1	84.7	76.2
District Council	89.6					
Total	89.0	86.2	91.0	87.8	82.7	74.6

Note: The means of the adjusted scores are identical since authority type was included as an explanatory variable.
* Social Services excluding services for children and the elderly.

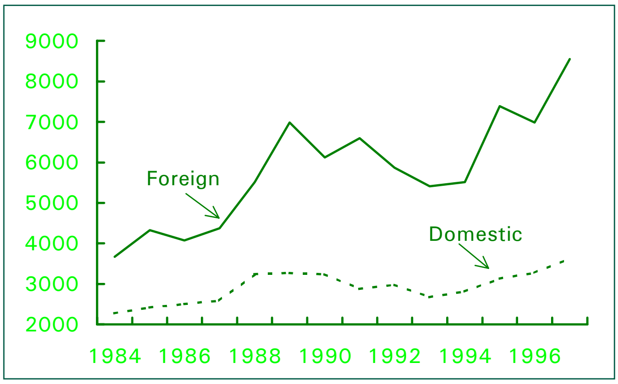
FOREIGN FIRMS AND UK FIXED CAPITAL FORMATION

A key objective of government policy is to close the productivity gap between the UK and other countries. One explanation for lower levels of labour productivity in the UK is a lower rate of investment in fixed capital and hence lower levels of capital per hour worked. In November the Chancellor invited the CBI and the TUC to set up a joint Working Group to consider policies to help the UK improve its investment performance. Work at NIESR provided the main academic input into the Group, and two reports are now available on our website.

One important finding was the significant contribution that foreign-owned firms make to closing the investment, and hence productivity, gap between the UK and other economies. Foreign firms, on average, invest more per worker than UK-owned ones, and the differential between them has widened over time.

Using a 3-digit level data set for manufacturing for 1984–97, the contribution of foreign firms to the overall rise in investment in the UK manufacturing sector over this period was found to be well above their share of value-added in the sector (25% in 1997). In this data set changes in the aggregate investment intensity, or the aggregate capital–labour ratio, of the manufacturing sector are generated in three ways. First, investment intensities can rise within individual industries. Second, the composition of demand can change between industries with different investment intensities. Finally, there can be a shift in the composition of demand between

Fixed investment per employee by firm nationality (£, 1995 prices)



THIS RESEARCH WAS FINANCED BY THE ECONOMIC AND SOCIAL RESEARCH COUNCIL AND THE DEPARTMENT OF TRADE & INDUSTRY.
ENQUIRIES TO N.PAIN@NIESR.AC.UK.

firms of different nationality with different propensities to invest.

Approximately 50% of the aggregate rise in the investment–output ratio in UK manufacturing between 1984–97, and 40% of the rise in investment per worker were found to be due to rising investment within foreign firms. A general shift in the pattern of demand from domestic firms towards more capital intensive foreign firms and a general shift within the total population of foreign firms towards more capital intensive industries accounted for a further third of the overall rise in investment intensity and a further tenth of the overall rise in investment per worker. The beneficial effects from foreign-owned firms were predominantly concentrated within 3 2-digit industries – motor vehicles, chemicals and communications equipment.

These findings emphasise the potential benefits of inward investment and raise a number of unresolved questions. Macroeconomic volatility, capital market imperfections, skill shortages, poor infrastructure and planning delays are suggested as reasons for low levels of investment in this country. It is harder to argue that they are responsible for cross-country differences when multinational firms achieve comparable productivity levels across borders.

The higher capital–labour ratios of foreign firms in the UK partly reflect differences in scale and industrial composition. But it is still striking that the differentials between the capital–labour ratios, and the labour productivity, of firms of different nationality within the UK manufacturing sector are remarkably similar to the aggregate differentials in manufacturing capital–labour ratios and labour productivity between the UK and the home countries of inward investors.

BACKWARD CALCULATION OF NATIONAL ACCOUNTS DATA (RETRAPOLATION)

A problem faced by statistical offices is the automatic revision of national accounts data subject to occasional large data revisions. Efficient methods for the back-calculation or retrapolation are needed. Such a revision could be the introduction of the euro at the end of 1998 or the introduction of the new national accounting standard, ESA95. Some statistical offices have begun the revision processes, with, for example, data for countries such as the Netherlands and the UK already published. Eventually it is planned that consistent, compatible accounts will be produced for all Euro Zone countries, and this project investigates possible methods.

THIS STUDY WAS UNDERTAKEN WITH SUPPORT FROM EUROSTAT.
ENQUIRIES TO A.BLAKE@NIESR.AC.UK.

We focus on alternatives to a full revision of the national accounts data. There are two broad categories of approach for such an approximation. The first is essentially to calculate from a reference point on a period-by-period basis, usually backwards in time. At its simplest, the growth rates of the most closely related series are used to backwards-project the series from fully revised data. This reduces the burden of a full revision by assuming that there are good enough indicator variables available from the existing definitions. A second approach is to interpolate revisions between a number of chosen reference years where in the reference year a full revision of the data is undertaken. This could be seen as smoothing the growth rate approach so that the growth rates are consistent across revision years.

Whichever method is chosen, we need to build models applicable to infrequently observed time series. Similar difficulties exist when approaching the problem of temporal disaggregation and similar solutions are appropriate. Both linear interpolation methods and models that employ the Kalman filter to optimally estimate the missing data can be used. We investigated both methods by Monte Carlo analysis. Results indicate that a considerable number of contiguous observations are needed for the Kalman filter model with cointegrated data series to give satisfactory results. This is less pronounced using stationary data and standard linear interpolation. In particular, the Kalman filter model on integrated data can exhibit considerable parameter bias.

However, we also find important difficulties with determining appropriate statistical models to relate the time series across the different accounting standards. Using available data for the ESA95 measure and two measures of ESA79, the old standard, we see from the table that there is considerable variation in the integratedness of the old and new data. Few data are either always integrated or stationary across definitions and further often not cointegrated. This means that there is the considerable statistical problem of spurious regression for the data in levels.

These methods point to there being considerable difficulties with automatic retrapolation methods. The data themselves do not have consistent properties. The advantages to cointegrated models are not clear cut – in particular, many parameters need to be determined on often much less data than we have investigated in our Monte Carlo experiments. Models in growth rates can be fitted, and we have retrapolated data series in this way with some success.

Integration and cointegration properties of National Accounts data

	ESA95 and ESA79A			ESA95 and ESA79		
	Both not integrated	Cointegration accepted? Yes	No	Both not integrated	Cointegration accepted? Yes	No
GDP	2	2	6	2	2	4
Consumption	0	0	0	2	2	3
External balance	1	2	6	2	5	5

EVENTS DURING 2001

DISADVANTAGE IN THE LABOUR MARKET

In June the National Institute organised a major one-day conference on disadvantage in the labour market: diversity and commonality in causes, consequences and redress. The conference, which was held at the British Academy in London, attracted attention from many sectors. Speakers included Professor Duncan Gallie of Nuffield College, Oxford, who spoke on skills change and the structure of the labour market; Professor John Goldthorpe, also of Nuffield College, who spoke on class, mobility and education. Professor Richard Scase from the University of Kent and Dr Jonathan Scales from the University of Essex presented work on ageing, labour market participation and Anglo-American models of organisation. The international nature of the subject was also shown in the presentation given by Professor John Wrench from the University of Southern Denmark, who described his research into ethnic minorities and discrimination in the European labour market. Two researchers from the National Institute presented findings from their recent work: Hilary Metcalf, Senior Research Fellow, on ex-offenders and unemployment, a study funded by the Department for Work and Pensions (published in December 2001), and John Forth, Senior Research Officer, on the gender pay gap (funded by the Department for Education and Employment, published on 5th December by the Women and Equality Unit in the Cabinet Office). Paul Gregg from the University of Bristol brought the conference to a close by drawing together the themes of the day and discussing various factors which lead to "Disadvantage in the labour market".

EDUCATION AND INEQUALITY

A second major conference organised by the National Institute was held at the British Academy in September 2001. This conference brought together a number of studies on the link between education and inequality, in order to shed light on whether inequality can be reduced by well-designed educational policies. The topics covered ranged from the design of teaching methods to prevent a poorly educated 'tail' developing (presented by Dr Julia Whitburn of the National Institute), to an analysis of financial pressures on university students of different backgrounds and of the extent to which these might perpetuate inequality (presented by Hilary Metcalf of the National Institute). Other speakers included Lorraine Dearden of the Institute of Fiscal Studies, who presented work into educational outcomes and inequality; Paul Gregg of the University of Bristol, who presented research into the impact of family income on children's educational attainment and intergenerational mobility; and Dr Steve McIntosh from the Centre for Economic Performance at the London School of Economics, who spoke on Britain's record on skills. Finally Dr James Sefton of the National Institute presented his research into the link between education and inheritance.

SOCIAL SECURITY REFORM

In July 2001 the Rt Hon Frank Field, MP, hosted a seminar at the House of Commons, organised by the National Institute, on Social Security Reform. Mr Field spoke on how to make stakeholder pensions successful. Deborah Cooper from the Institute of Actuaries also spoke on 'saving strategies for retirement'. The event was a great success and was attended by representatives of the National Association of Pension Funds, the Government Actuary's Department, HM Treasury and the Financial Services Authority, amongst others. Mr Field organised a reception to follow the seminar.

PAPERS AND PRESENTATIONS FROM THESE AND OTHER INSTITUTE EVENTS CAN BE DOWNLOADED FROM THE EVENTS PAGE OF OUR WEBSITE (WWW.NIESR.AC.UK/EVENT). ENQUIRIES TO H.BARNES@NIESR.AC.UK

The Sir Richard Stone lecture series

In May 2001 Professor Arnold Zellner of the University of Chicago presented the inaugural lecture in the Sir Richard Stone Lecture Series, a joint initiative between NIESR and Cambridge University Press. Sir Richard Stone (1913–1991) was awarded the Nobel Prize in Economics in 1984 for his work on the development of systems of national accounts. Much of this work was published jointly by the Department of Applied Economics in Cambridge and the National Institute of Economic and Social Research.

Professor Zellner spoke on 'statistics, econometrics and forecasting' at the Bank of England on 8th May and then at the Institute on 9th May, where he presented a more technical variation of his work. Sir Richard's wife, Lady Stone, attended the lecture at the Bank of England along with representatives from the Bank, HM Treasury, the Office for National Statistics, the Institute for Fiscal Studies and numerous academics.

Stability and growth pact

In November NIESR held a seminar on the *Stability and Growth Pact* and European fiscal policy, sponsored by the Economic and Social Research Council's Macro Programme and chaired by the Programme Director, Professor Mark Taylor of Warwick University. The seminar marked the publication of a new book, '*The Stability and Growth Pact: the architecture of fiscal policy in EMU*' (available from Palgrave Publishers). The contributions in the book analyse the institutional, legal, theoretical and empirical aspects of the *SGP*, examine its development and evaluate its main implications. Speakers at the conference included Marco Buti, Economic Adviser at the European Commission, Daniele Franco from the Bank of Italy, and Professor Ray Barrell, Senior Research Fellow at NIESR, whose work forms part of the ESRC Macro Programme.

Margaret Hodge, MBE, MP Under Secretary of State for Employment and Equal Opportunities and Roger Luxton, OBE, Chief Inspector of Schools in the London Borough of Barking and Dagenham, at the launch of the IPM materials on 10 May (see page 13).

Improving primary maths

The first phase of publication in the IPM project was launched in May by Margaret Hodge (see above) at the National Institute. For further details see page 13.

Governors' seminars

The Institute continued its series of seminars given by members of its Board of Governors. These seminars are informal events at which fellow governors and the Institute's supporters are particularly welcome. Seminars in 2001 were as follows:

Environmental policies: an economist's view from the Royal Commission. Speaker, John Flemming, FBA, CBE (Warden of Wadham College, Oxford).

Competition policy and regulation – a new era. Speaker Derek Morris, Chairman,Competition Commission.

Will globalisation crush the European Social Model? Speaker: John Edmonds, General Secretary, GMB.

Monetary regimes of the twentieth century

Andrew Britton

£45 hardback, Cambridge University Press, 2001,
ISBN 0 521 80169 9

Abstract economic theory may be timeless and potentially universal in its application, but macroeconomics has to be seen in its historical context. The nature of the policy regime, the behaviour of the economy and the beliefs of professional economists all interact, and influence each other. This short historical account of monetary regimes since 1900 shows how the role of policy has changed, and how this has related to experience of inflation and the real economy, as well as to changes in political philosophies.

Social disparities and the teaching of literacy

S.J. Prais

£12.50 paperback, NIESR Occasional Paper 54,
2001, ISBN 0 9526213 8 X

The need to raise literacy standards in England, and to eliminate illiteracy, has been evident for many decades but success has been only tenuous. This book reports on comparative visits to literacy lessons in Swiss and English schools to see, first, what can be learnt as to the reality of pupils' higher literacy attainments there and, secondly, to elucidate differences in Swiss schooling methods relevant to future reforms in our schooling here. Issues discussed include: teaching styles; the greater emphasis of their literacy curriculum on transactional writings rather than a classical canon; complexity of English spelling and the possibility of a graduated programme of reforms; changes needed in our methods for the teaching of reading in primary schools; changes in nursery and early-years schooling to provide better support for slow-maturing children; and flexibility in the twelve months' age-grouping of each class.

Improving Primary Maths

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

The growing evidence of the project's success, together with the cumulative refinement of the teaching materials after each year's teachers' evaluation, suggests that we should be making the project materials more widely available. With this objective in mind, we have published teaching materials for use with pupils in Years 1 and 2, which are now available for schools to purchase. Materials for other years will be available by September 2002 and 2003. A web site containing more detailed information and examples of pupils' and teachers' materials is available at www.ipmaths.co.uk.

All materials are available from Improving Primary Mathematics, Sentinel House, Poundwell, Devon PL21 0XX (01548 830950).

Forthcoming publication

Social Security and Pension Reform

Edited by Martin Weale

NIESR Occasional Paper 55

This book presents six papers on questions of social security and pension reform. Both empirical and theoretical issues are addressed with specific analysis of problems faced by Finland, Germany and the Netherlands. The issues discussed include early retirement, demographic and other aspects of risk, redistribution and the interaction between political and economic forces shaping pension reform.

The quarterly Economic Review *continued to provide a unique combination of analysis, forecasts and research results. The year 2001 contained a special issue, in April, on the impact of trade unions in Britain and, in October, the first part of another on developments in education and vocational training in Britain. Part 2 of this special issue will be published in January 2002. The October edition also contained notes on risk and equity market weakness; on the information content of consumer surveys; and on the performance of the National Institute's UK forecasts. These forecasts for the UK and all major world economies are published in each edition of the Review, together with articles from leading commentators, and a comprehensive statistical appendix.*

Articles which appeared during the year were as follows:

No. 175 (January)
The inflation forecast
Charles Goodhart
Understanding 'the essential fact about capitalism': markets, competition and creative destruction
Wendy Carlin, Jonathan Haskel and Paul Seabright
Qualifications and international mobility: a case study of the European chemicals industry
Heather Rolfe
The economic effects of business to business internet activity
Martin Brookes and Zaki Wahhaj

No. 176 (April) Themed issue on the Impact of Trade Unions in Britain
Unions and the sword of justice: unions and pay systems, pay inequality, pay discrimination and low pay
David Metcalf, Kirstine Hansen and Andy Charlwood
The impact of unions on pay levels in lower-skilled jobs
John Forth and Neil Millward
The foundation of 'partnership'? Union effects on employee trust in management
Alex Bryson
Ethnic minorities and equal treatment: the impact of gender, equal opportunities policies and trade unions
Mike Noon and Kim Hoque

No. 177 (July)
What became of the new economy?
John Kay
The new British economy
Richard Kneller and Garry Young
The electricity supply industry: a study of an industry in transition
Mary O'Mahony and Michela Vecchi
An historical perspective on forecast errors
Michael P. Clements and David F. Hendry

No. 178 (October) Themed issue on Developments in Education and Vocational Training in Britain: Part 1 Vocational Training
Background note on recent research
S.J. Prais
Five years of the modern apprenticeship initiative: an assessment against continental European models
Hilary Steedman
The role and use of vocational qualifications
Michael Eraut
Apprenticeship in the British 'training market'
Paul Ryan and Lorna Unwin

THE NATIONAL INSTITUTE ECONOMIC REVIEW IS PUBLISHED BY SAGE PUBLICATIONS. THE ANNUAL SUBSCRIPTION FOR 2002 (INCLUDING ELECTRONIC VERSION) IS £175. OTHER RATES ARE AVAILABLE ON APPLICATION TO THE MARKETING DEPARTMENT AT SAGE PUBLICATIONS LTD, 6 BONHILL STREET, LONDON EC2A 4PU.
TEL 020 7374 0645; FAX 020 7374 8741
E-MAIL: SUBSCRIPTIONS@SAGEPUB.CO.UK

OTHER PUBLICATIONS

Anderson, T., Forth, J., Metcalf, H. and Kirby, S., *The Gender Pay Gap*, Women's Unit, Cabinet Office.

Ashworth, P., Hubert, F., Pain, N. and Riley, R., 'UK fixed capital formation: determinants and constraints', Report prepared for Department of Trade and Industry and CBI/TUC Working Group on Investment.

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

—'Time to consider alternatives to the Stability and Growth Pact', *Intereconomics*, 30, 6, pp. 279–81.

—'Employment in the 1990s and recent trends in European labour markets', CPB Report 2001/3, pp. 51–2.

—'Flexibility and growth – can Europe grow more rapidly if it has more flexible institutions', *Review of Enterprise in Europe*, Institute of Directors, Kogan Page.

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

Barrell, R. and Dury, K., 'Asymmetric labour markets in a converging Europe. Do differences matter' ENEPRI working paper CEPS Brussels.

—'The Stability and Growth Pact, will it ever be breached? An analysis using stochastic simulations', in Brunila, A., Buti, M. and Franco, D. (eds), *The Stability and Growth Pact: The Architecture of Fiscal Policy in EMU.*

Barrell, R, Dury, K., Byrne, J., Holland, D. and Hurst, I., 'Interdependency and the EMU outsiders', in Nilson, H. (ed.), *Britain and Scandinavia – Four North European States in the Gravitation Field of the EMU*, Europa Idag, No. 1/2001, ISSN 0804–3485.

Barrell, R., Dury, K. and Hurst, I., 'International monetary policy coordination: an evaluation using a large econometric model', *Economic Modelling* (*forthcoming*).

—'Decision making within the ECB: Simple monetary policy rules evaluated in an encompassing framework', RWI *Project Link Conference Volume*, Germany.

Barrell, R. and Holland, D., 'Foreign direct investment in central European manufacturing', in Weresa, M. (ed.), *Foreign Direct Investment in a Transition Economy. The Polish Case*, London, SSEES.

—'Policy of the Russian Federation in the field of FDI attraction', in *Policy on Foreign Direct Investment in Russia*, Bureau of Economic Analysis, Moscow (in Russian).

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

—'UK living standards in or out of EMU', *Info*, Chambre de Commerce Française de Grande-Bretagne, November–December 2001.

Barrell, R. and te Velde, D.W., 'German monetary union and the lessons for EMU', in Baimbridge, M. and Whyman, P. (eds), *Europe, Theory, Evidence and Practice*, Edward Elgar.

Blake, A.P. and Kapetanios, G., 'Pure significance tests of the unit root hypothesis against nonlinear alternatives', *Journal of Time Series Analysis* (*forthcoming*).

Camba-Mendez, G. and Kapetanios, G., 'Testing the rank of the Hankel covariance matrix: a statistical approach', *IEEE Trans. on Aut. Control*, 46(2), pp. 331–6.

Camba-Mendez, G., Kapetanios, G., Smith, R. and Weale, M.R., 'An automatic leading indicator of economic activity: forecasting GDP growth for European countries', *Econometrics Journal*, 4, 1, pp. S56–S90.

—'Tests of rank in reduced-rank regression models', *Journal of Business Economics and Statistics* (*forthcoming*).

Campbell, M. and Meadows, P., *What Works Locally?* York Publishing Services.

Cantor, A. and Sefton, J., 'Economic applications to actuarial work: personal pensions and future rates of return', *British Actuarial Journal* (*forthcoming*).

Crafts, N. and O'Mahony, M., 'A perspective on UK productivity performance', *Fiscal Studies*, 22, 3, September, pp. 271–306.

Darby, J., Hart, R. and Vecchi, M., ‘Labour force participation and business cycle fluctuations: a comparative analysis of Europe, Japan and the United States’, *Japan and the World Economy*, 13, pp. 113–33.

—‘Wages, work intensity and unemployment in Japan, UK and USA’, *Labour Economics,* 8, pp. 243–58.

Dutta, J., Sefton, J.and Weale, M.R., ‘Income distribution and income dynamics in the UK’, *Journal of Applied Econometrics*, 16, pp. 599–617.

Dutta, J. and Weale, M.R., ‘Consumption and the means of payment: an empirical analysis for the United Kingdom’, *Economica*, 68, pp. 293–316.

Forth, J. and Millward, N., *The Growth of Direct Communication*, London, Chartered Institute of Personnel and Development (*forthcoming*).

Gokhale, J., Kotlikoff, L., Sefton, J. and Weale, M.R., ‘Simulating the transmission of wealth inequity via bequests’, *Journal of Public Economics*, 79, 1, pp. 93–128.

Hubert, F. and Pain, N., ‘Inward investment and technical progress in the UK manufacturing sector’, *Scottish Journal of Political Economy*, 28, pp. 134–48.

—‘Economic integration in Europe and the pattern of German foreign direct investment’, in Korres, G.M. and Bitros, G.C. (eds) *Economic Integration: Limits and Prospects*, Palgrave.

—‘Aides à l’investissement, intégration Européenne et localisation de l’investissement direct Allemand’, *Economie et Prevision* (*forthcoming*).

Kapetanios, G., ‘Model selection in threshold models’, *Journal of Time Series Analysis*, 22, 6, pp. 733–54.

—‘Incorporating lag order selection uncertainty in parameter inference for AR models’, *Economics Letters*, 72, 2, pp. 137–44.

Kirby, S. and Riley, R., ‘The employment effects of ONE: interim findings from the full participation phase’, In-house report 88, Department for Work and Pensions.

Lau, E. and Pain, N., ‘Gross fixed capital formation in the UK: a review of the data’, Report prepared for CBI/TUC Working Group on Investment.

Mason, G., ‘The mix of graduate and intermediate-level skills in Britain: what should the balance be?’, *Journal of Education and Work*, 14, 1, pp. 5–27.

Mason, G. and Wagner, K., ‘High level skills formation and knowledge transfer in Germany and Britain’, in Backes-Gellner, U. and Schmidtke, C. (eds), *Bildungssystem und Betriebliche Beschäftigungsstrategien in Internationaler Perspektive*, Berlin, Duncker & Humblot Verlag (*forthcoming*).

Meadows, P., ‘Women and labour market regulation’, *Arbete och Hälsa.*

—*Poverty among Pensioners*, National Association of Pension Funds.

—*Young Men on the Margins of Work*, York Publishing Services.

Metcalf, H., Anderson, T. and Rolfe, H. *Barriers to Employment for Offenders and Ex-Offenders*, Department for Work and Pensions.

Millward, N., ‘Research note: the representativeness of WERS 98 – a clarification’, *Industrial Relations Journal*, 32, 4, pp. 344–6.

Millward, N., Forth, J. and Bryson, A., *Who Calls the Tune at Work? The Impact of Trade Unions on Jobs and Pay*, York, Joseph Rowntree Foundation.

Mitchell, J., ‘The use of non-normal distributions in quantifying qualitative survey data on expectations’, *Economics Letters* (*forthcoming*).

Mitchell, J., Smith, R.J. and Weale, M.R., ‘Quantification of qualitative firm-level survey data’, *Economic Journal* (*forthcoming*).

Pain, N., ‘Inward investment: closing the productivity gap within the UK’, *New Economy*, 8, pp. 151–6.

—‘Openness, growth and development: trade and investment policy issues for developing economies’, in Rugman, A. and Boyd, G. (eds) *Millennium Round Trade and Investment Issues*, Edward Elgar (*forthcoming*).

—‘The impact of inward investment on the UK economy’, in *Economic Growth and Government Policy*, HM Treasury.

—‘Openness and growth: an international perspective’, *Journal of the Statistical and Social Inquiry*

Society of Ireland (*forthcoming*).

Pain, N. and Hubert, F., 'Foreign-owned firms and UK economic performance', in Borrmann, C., Jungnickel, R. and Keller, D. (eds) *Foreign-Owned Firms, Are They Different?*, Palgrave (*forthcoming*).

Payne, J., Riley, R. and Coleman, N., 'Feasibility study for the long-term evaluation of modern apprenticeships', DfES Research Report, RR290.

Rolfe, H., *Barriers to Employment for Offenders and Ex-Offenders: A Review of the Literature*, DfES Research Report (*forthcoming*).

Rolfe, H., *Mobility in the European Chemicals Industry Sector: The Role of Transparency and Recognition of Vocational Qualifications*, Cedefop Panorama series, Luxembourg, Office for Official Publication of the European Communities.

Scowcroft, A. and Sefton, J., 'Do tracking errors reliably estimate portfolio risk', *Journal of Asset Management*, 2, 3.

Stewart, A., 'Snatching the eternal out of the desperately fleeting is the great magic trick of human existence: on playing tricks with time', *Psychoanalytic Studies*, 3, 3/4, Sept–Dec, pp. 425–55.

Supiot, A., Meadows, P. *et al.*, *Beyond Employment*, Oxford University Press.

Weale, M.R., 'Sir Richard Stone', *New Dictionary of National Biography*, Oxford University Press (*forthcoming*).

Papers presented

Ashworth, P., Cufer, U. and Holland, D., 'Modelling the wage–price system in transition economies', seminar on East European Transition and EU Enlargement, Sopot, Poland, June.

Barrell, R., 'Britain and Monetary Union in Europe', ESRC Macro programme workshop, London, June.

Barrell, R., and Dury, K., 'Asymmetric labour markets in a converging Europe: do differences matter?', European Economic Association meetings, Lausanne, Switzerland, August.

Barrell, R., Dury, K., and Holland, D., 'Macromodels and the medium term: the NIESR experience with NiGEM', EU/ULB/AEA conference, Brussels, July.

Barrell, R., Dury, K. and Hurst, I., 'Forecasting in an uncertain world', European Economic Association meeting, Lausanne, Switzerland, August.

Barrell, R., Dury, K., Hurst, I., and Pain, N., 'Modelling the world economy: the NIESR model NiGEM', ENEPRI workshop, Paris, July.

Barrell, R., Genre, V., Hubert, F. and Pain, N., 'Agglomération, localisation des investissements directs étrangers, concurrence étrangère et emploi en France', Commissariat Général du Plan, France, June.

Barrell, R. and Holland, D., 'Medium-term prospects for Europe', AIECE conference, Paris, May.

Barrell, R., Holland, D. and Pain, N., 'Openness, integration and transition: prospects and policies for economies in transition', Chongquing Colloquium, China, July.

Barrell, R., Holland, D., Pain, N., Jakab, Z., Kovacs, M., Smidkova, K., Cufer, U. and Sepp, U., 'An econometric macro-model of European accession: model structure and properties', Czech National Bank seminar, June.

—'An econometric macro-model of transition: policy choices in the pre-accession period', Macromodels 2001 Conference, Krag, Poland, December.

Barrell, R., Holland, D., Smidkova, K. and Jakab, Z., 'Estimates of FEERs for the five EU accession countries', Czech National Bank seminar, June.

Barrell, R., and Pain, N., 'Productivity, technical progress and the new economy: lessons from the US', *Financial Times* Conference on Growth and the New Economy, Berlin, February/March.

—'Macroeconomic management in the EU', United Nations, New York, project LINK meeting, April.

Forth, J., 'Changes in practice: the WERS findings', CIPD/LSE Conference on 'Voice and Value: New Dimensions in Employee Involvement', London School of Economics, March.

—'Union effects on pay levels in Britain', Annual Conference of the European Association of Labour Economists, Jyvaskyla (Finland), September.

—'The union wage premium: substantive and methodological issues', seminar on 'Unions and Performance', Centre for Economic Performance,

London School of Economics, December.

Forth, J. and Millward, N., 'The 1998 Workplace Employee Relations Survey: methodological innovations and analysis opportunities', Royal Statistical Society, London, April.

—'The 1998 Workplace Employee Relations Survey: what can trade unions learn?', Transport and General Workers Union, London, August.

Holland, D., 'World economic prospects', Government's Centre for Management and Policy Studies, November.

Hubert, F., 'Investissement direct étranger en France et intégration européenne', Association Française de Science Economique 50th Annual Meeting, Ministère de la Recherche, Paris, September.

Hubert, F. and Pain, N., 'Fiscal incentives and the location of foreign direct investment in Europe', University of Reading, Department of Economics, May.

—'Fiscal policy, European integration and the location of foreign direct investment', presented at Conference on Foreign Direct Investment and Economic Integration, University of Nottingham; Trade Policy seminar, LSE.

Kirby, S. and Riley, R., 'The employment effects of ONE: evidence from the first months of the full participation phase', Department for Work and Pensions, London, July.

Kirsanova, T. and Sefton, J., 'A comparison of personal sector saving rates in the UK, US and Italy', University of Oxford, February.

Kirsanova, T. and Vines, D. 'Government budget, oil prices and currency crisis in Russia', CEPR Annual Transition Economics Summer Workshop for Young Academics, Portoroz, Slovenia, 27 June and 5 July.

Millward, N., 'Threats to the validity of international comparison: units of analysis, the operationalisation of constructs and some analysis issues', International Conference on Organisational Design, Management Styles and Firm Performance, University of Bergamo, June.

Mitchell, J., Smith, R.J. and Weale, M.R., 'Aggregate versus disaggregate survey-based indicators of economic activity", Econometric Society European Meeting, Lausanne, August.

—'Quantification of qualitative firm-level survey data', Royal Economic Society Conference, Durham, April; University of Surrey, November.

—'The rationality of firms' forecasts: qualitative firm-level survey based evidence for the UK', ESRC Econometric Study Group Conference, Bristol, July.

Pain, N., 'A fairytale ending or the same old story? The New Economy and economic growth in the United States', European Economic Association Conference, Lausanne; Money, Macro & Finance Research Group Annual Conference, Belfast; Evolving Macroeconomy Conference, University of Warwick; NIESR Macro Users Group; University of Lancaster seminar.

Pain, N. and Young, G., 'The macroeconomic impact of UK withdrawal from the EU', 5th International Conference on Macroeconomic Analysis and International Finance, University of Crete.

Payne, J., Riley, R. and Coleman, N., 'Feasibility study for the long-term evaluation of modern apprenticeships', Department for Education and Employment, April, London.

Riley, R. 'The UK economy', 64th Kieler Konjunkturgespräch, Kiel, September.

Riley, R. and Young, G., 'Evaluating the impact of the New Deal for Young People on the macroeconomy', Policy Studies Institute workshop, London, March; Education & Employment Economics Group, September, London.

NATIONAL INSTITUTE DISCUSSION PAPERS

Discussion papers exist to foster debate on Institute research. Recent papers listed below are available on our website www.niesr.ac.uk or free on request.

177. Openness, integration and transition: prospects and policies for economies in transition *Ray Barrell, Dawn Holland and Nigel Pain*
178. Balance of payments prospects in EMU *Dirk te Velde and Christopher Taylor*
179. The low-paid worker and the low-paying employer: characterisations using WERS98 *John Forth and Neil Millward*
180. Disaggregate wealth and aggregate consumption: an investigation of empirical relationships for the G7 *Joseph Byrne and E. Philip Davis*
181. Quantification of qualitative firm-level survey data *James Mitchell, Richard J. Smith and Martin R. Weale*
182. Mixed fortunes: graduate utilisation in service industries *Geoff Mason*
183. Does welfare-to-work policy increase employment? Evidence from the UK New Deal for Young People *Rebecca Riley and Garry Young*
184. The macroeconomic impact of the New Deal for Young People *Rebecca Riley and Garry Young*
185. The determinants of economic efficiency in English and Welsh universities *Philip Andrew Stevens*
186. Increasing inequality in higher education: the role of term-time working *Hilary Metcalf*
187. Some evidence on financial factors in the determination of aggregate business investment for the G7 countries *Paul Ashworth and E. Philip Davis*
188. A 'timeless perspective' on optimality in forward-looking rational expectations models *Andrew P. Blake*
189. Knowledge infrastructure, technical problem-solving and industrial performance: electronics in Britain and France *Geoff Mason, Jean-Paul Beltramo and Jean-Jacques Paul*
190. The effect of tuition fees on students' demands and expectations: evidence from case studies of four universities *Heather Rolfe*
191. University strategy in an age of uncertainty: the effect of higher education funding on old and new universities *Heather Rolfe*

THE NATIONAL INSTITUTE ECONOMETRIC MODEL

The global model – NiGEM – is widely regarded as one of the world's leading models and is used extensively for forecasting and analytical purposes in both public and private sectors. NiGEM patrons include the Bank of England, the European Central Bank, the Economic Planning Agency of Japan and many other European Central Banks and Finance Ministries.

The 1500-equation model contains individual models for all OECD countries within a framework which embraces all major world economies. NiGEM's flexible design supplies users with the freedom to produce their own forecasts and simulations. Subscribers to NiGEM are provided with a comprehensive support and training package including regular user's meetings, training targeted to their areas of interest and a model-dedicated web site.

A trial copy of the model, and further information, can be obtained from the contacts listed on the inside back cover.

NiGEM, NiBUILD and NIESR are registered trademarks of the National Institute of Economic and Social Research.

CORPORATE MEMBERSHIP

Corporate membership of the Institute was introduced in 1994 to facilitate a close link between the Institute and its leading financial supporters. In 2001 we were especially pleased to welcome Morley Fund Management and Ernst and Young into membership for the first time. A full list of current corporate members can be found on the opposite page.

The corporate membership scheme is designed to create a working relationship with key sponsors of the Institute's work. Corporate members can play a vital role in helping to develop the research agenda, in two ways. First, the subscriptions that they make act as a channel of support for new areas of inquiry, which may not be easily funded by other means. Second, corporate members can act as an informal sounding board for research ideas and can facilitate access to information and other resources.

In return for their support, the Institute offers corporate subscribers a range of benefits:

- quarterly meetings at which there is an opportunity for briefings on current research and policy topics;
- briefings on NIESR's quarterly forecasts of the UK and World economies;
- the newsletter *Economic Agenda* which contains summaries of reports issued by the Institute and news of events;
- complimentary invitations to all Institute conferences and seminars, usually featuring new contributions to research and a programme of distinguished speakers;
- free copies of Discussion Papers and other research publications on request;
- free access to the Institute's library and information services.

Further details about the Corporate Membership Scheme are available from the Secretary. The minimum subscription is normally £5,000 per year.

Members Forum meetings in 2001 were as follows:

13 February: The UK productivity gap in the 1990s
Mary O'Mahony, NIESR Senior Research Fellow
Guests included Mr Daniel Gordon, HM Treasury, Mark Miller, Morgan Stanley, and Michael Queen, 3i plc.

23 May: Taxation of Income from Capital
Martin Weale, CBE, NIESR Director.
Guests included Jonathan Leape, LSE, and Josh McCallum, HM Treasury.

23 October: Presentation of the quarterly forecast of the UK and World economies
Guests included representatives from the International Monetary Fund and the European Central Bank.

4 December: CBI Business Survey Data
Presentation by Martin Weale, CBE, NIESR Director.
Guests included Simon Briscoe, the *Financial Times*, and Sudhir Junankar, CBI.

FINANCIAL SUPPORTERS

The Institute would like to record its thanks to the following organisations for their support. Contributions of this type are vital in preserving our independence, and are much appreciated by our Council of Management.

Corporate Members

Bank of England
Barclays Bank plc
Dixons plc
Ernst & Young
Glaxo SkithKline plc
INVESCO Europe Ltd
Marks and Spencer plc
Morgan Stanley Dean Witter
Morley Fund Management
The National Grid Company plc
Nomura Research Institute Europe Ltd
Pearson Management Services Ltd
Rio Tinto plc
StandardChartered Bank plc
UBS Warburg
Unilever plc
Willis Group plc

Financial Supporters

Abbey National plc
Bank of Scotland
Mr and Mrs A. Broadbent
Cazenove & Co
Du Pont Company (United Kingdom) Ltd
Robert Fleming Holdings Ltd
GMB
Laings Charitable Trust
Leopold Joseph
Slough Estates plc
Trades Union Congress
Transport and General Workers Union

Research Supporters

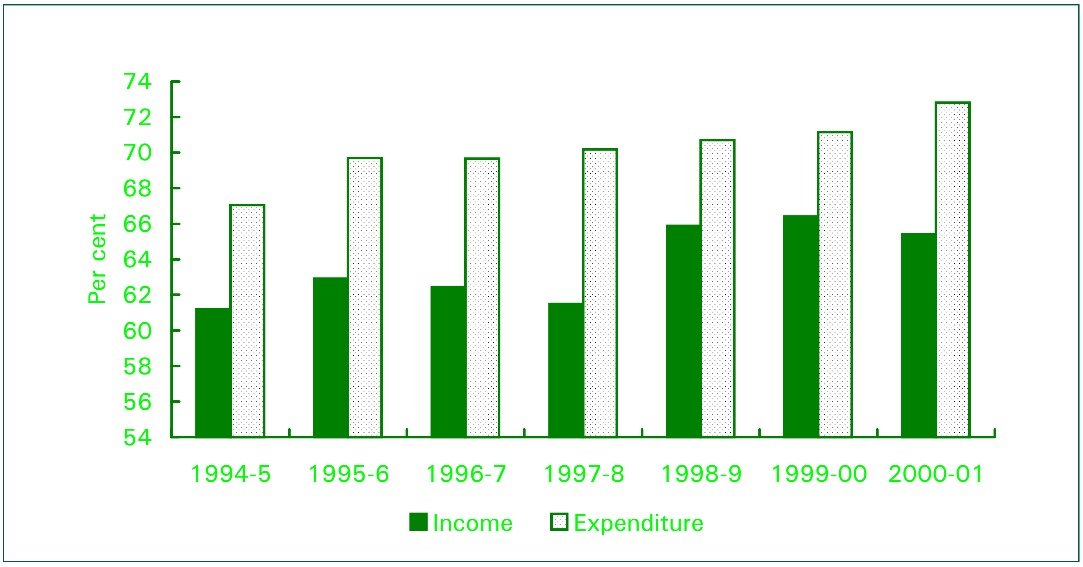
Barber White Property Economics
Britannia Building Society
British Council
Chartered Institute of Personnel and Development
Commissariat Général du Plan, France
Daiwa Anglo-Japanese Foundation
Department for Education and Skills
Department for Local Government, Transport and the Regions
Department for Work and Pensions
Department of Trade and Industry
Direction de la Prévision, Ministère de l'Economie, des Finances et de l'Industrie, France
Economic and Social Research Council
Equal Opportunities Commission
European Centre for the Development of Vocational Training
European Commission
European Parliament
EUROSTAT
Foreign and Commonwealth Office
Government of Hong Kong
Higher Education Funding Council for England
Humberside Partnership
Institute for Manufacturing Industry
International Labour Office
The Law Society
The Leverhulme Trust
London Borough of Barking and Dagenham
London Chamber of Commerce & Industry
LCCI Commercial Trust
National Association of Pension Funds
Office of Government Commerce
Office of National Statistics
Pinnacle Partnerships plc
Joseph Rowntree Foundation
HM Treasury

FINANCIAL SUMMARY

In the year to 31 March 2001 the Institute reported an operating deficit for the year. The policy of the Council is to balance income and expenditure over the long term, while recognising that fluctuations may occur in individual years. Full accounts for each of the years listed, including an unqualified audit report from KPMG Audit plc, have been filed at Companies House and the Charities Commission.

	2000–2001	*1999–2000*	*1998–99*
	£	£	£
INCOME			
Research	1,307,346	*1,346,399*	*1,336,088*
Publications	433,266	*443,721*	*404,339*
Corporate supporters	109,136	*86,630*	*124,805*
Investments and interest	146,791	*150,905*	*162,742*
Total income	**1,996,539**	***2,027,655***	***2,027,974***
EXPENDITURE			
Research	1,480,249	*1,349,369*	*1,303,458*
Publications	200,038	*252,640*	*247,179*
Premises	89,396	*87,581*	*93,317*
Administration and general services	263,345	*207,006*	*200,006*
Total expenditure	**2,033,028**	***1,896,596***	***1,843,960***
OPERATING SURPLUS/(DEFICIT)	**(36,489)**	*131,059*	*184,014*

Research income and expenditure as a percentage of total income and expenditure



INSTITUTE GOVERNORS

DI Allport
Professor MJ Artis FBA
Professor AB Atkinson FBA
RJ Ayling
Professor AD Bain OBE FRSE
Professor Sir James Ball KB
Sir John Banham
NCF Barber
Ms K Barker
Professor C Bean
W Beckerman
Sir Terence Beckett KBE
Sir Kenneth Berrill GBE KCB
Professor R Blundell FBA
Lord Borrie QC
F Bourgignon
The Rt Hon Lord Briggs FBA
Sir Samuel Brittan
AJC Britton
Professor AJ Brown CBE FBA
Professor WA Brown
Sir Alan Budd
Professor WH Buiter
Lord Burns GCB
Sir George Burton CBE DL FRSA
Sir Ian Byatt
Sir Adrian Cadbury
Sir Dominic Cadbury
W Callaghan
Sir John Cassels CB
M Cassidy
C Cheetham
R Chote
Sir Michael Clapham KBE
Sir Brian Corby
Sir John Craven
The Rt Hon Lord Croham GCB
Lord Currie
B Curtis*
Professor P Dasgupta FBA
G Davies
IF Hay Davison FCA
Professor PM Deane FBA
Lord Dearing CB
KHM Dixon CBE DL
Professor DV Donnison
The Hon John Eccles
J Edmonds
Professor CH Feinstein FBA
The Rt Hon F Field MP
NWA FitzGerald
JS Flemming CBE FBA
HJ Foulds
Sir Campbell Fraser FRSE
Sir Edward George
Professor N Gilbert MA FREng CEng FBCS
Sir Paul Girolami, FCA
Professor WAH Godley
Professor CAE Goodhart CBE FBA
Professor D Greenaway
Sir Richard Greenbury
The Rt Hon Lord Greene of Harrow Weald CBE
Lord Griffiths of Fforestfach
Sir David Hancock KCB SG
Lord Haskins
The Rt Hon Lord Haslam of Bolton
Professor PD Henderson
Professor DF Hendry FBA
Sir Michael Heron
The Rt Hon the Lord Higgins, KBE DL
T Hillgarth
Mrs M Hodge MBE MP
Sir Geoffrey Holland KCB
G Holtham
The Rt Hon Lord Hunt of Tanworth GCB
Sir Roger Hurn
Professor JP Hutton
W Hutton
Sir Robin Ibbs
Sir Martin Jacomb
L Jayawardena
C Johnson
Mrs K Jones
Professor H Joshi OBE
Ms D Julius CBE
Sir Stanley Kalms
Professor JA Kay FBA
G Keating
W Keegan
The Rt Hon Lord Keith of Castleacre
Ms R Kelly MP
Professor MA King FBA
The Rt Hon Lord Kingsdown KG PC
Sir Arthur Knight
Sir Martin Laing CBE
Baron Alexandre Lamfalussy
N Land
JW Leng
B Larcombe
Lord Lea OBE
Ms P Leith
C Lewin*
Sir Christopher Lewinton
HH Liesner
Professor SC Littlechild
A Lord CB
MA Loveday
Professor WG McClelland
Sir Donald MacDougall CBE FBA
Sir Ronald McIntosh KCB
Professor Sir Donald MacKay
Sir Kit McMahon
E Macpherson
Professor RCO Matthews CBE FBA
Sir Peter Middleton GCB
Professor MH Miller
R Milner
Professor Sir James Mirrlees FBA
Sir Nigel Mobbs DL
Sir Nicholas Monck KCB
J Monks
Professor PG Moore
DJ Morris
Ms KMH Mortimer
Sir Claus Moser KCB CBE FBA
Professor RR Neild
Professor S Nickell FBA
AJ Norman MP
PM Oppenheimer
Sir Geoffrey Owen
Professor Pang Eng Fong
Professor Sir Alan Peacock DSC FBA FRSE
Professor the Lord Peston of Mile End
Sir David Plastow
MV Posner CBE
K Poynter*
Lord Radice
JM Raisman CBE
M Rake*
Professor WB Reddaway CBE FBA
J Reeve
Sir Bob Reid
The Rt Hon Lord Richardson of Duntisbourne KC MBE
GB Richardson CBE
Sir Thomas Risk
The Rt Hon Lord Roll of Ipsden KCMG CB
Ms E Rothschild
JR Sargent
Sir Michael Scholar*
Sir David Scholey CBE
M Scicluna*
Professor A Sen FBA
Sir Alfred Shepperd
Professor ZA Silberston CBE
Lord Simpson of Dunkeld
RDN Somerville CBE
Ms C Spottiswoode
Professor N Stern FBA
Professor DK Stout
PD Sutherland
Sir Richard Sykes FRS
AR Thatcher CB
Professor AP Thirlwall
The Rt Hon Lord Tombs of Brailes
Professor A Turner*
D Verey
Professor J Vickers FBA
Professor D Vines
S Wadhwani
Sir David Walker
Professor KF Wallis FBA
R Watabe
Professor G Whittington*
R Wilson
Sir Brian Wolfson
Professor S Wren-Lewis

THE GOVERNORS ARE FORMALLY THE MEMBERS OF THE INSTITUTE. THE ARTICLES OF ASSOCIATION LIMIT THE NUMBER OF GOVERNORS TO A MAXIMUM OF 200. THESE ARE RECRUITED BY INVITATION AND REFLECT EXCELLENCE IN BUSINESS, ACADEMIC AND PUBLIC LIFE. THE FUNCTIONS OF GOVERNORS INCLUDE ELECTION OF THE COUNCIL AND APPROVAL OF THE ACCOUNTS. MANY ALSO PROVIDE INVALUABLE ADVICE IN THEIR AREAS OF EXPERTISE. GOVERNORS APPOINTED IN THE PAST YEAR ARE MARKED WITH AN ASTERISK.

INSTITUTE STAFF AND VISITORS

Institute staff

DIRECTOR

Martin Weale, CBE, MA, Cantab, Hon. F.I.A.

SECRETARY

Gill Clisham, BA, Essex

SENIOR RESEARCH FELLOWS

John Arrowsmith, MA, Oxon; MSc(Econ), London (on secondment to Foreign Office)
Ray Barrell, BSc(Econ), MSc, London; Visiting Professor at Imperial College, London
Hilary Metcalf, BA, Oxon; MSc, London
Neil Millward, BSc, Bristol; PhD, Manchester
Mary O'Mahony, MA, Dublin
Nigel Pain, BA(Econ), Exeter
SJ Prais, MCom, Birmingham; PhD, ScD, Cantab; Hon DLitt (City); FBA

RESEARCH FELLOWS

Andrew P Blake, BA, Liverpool; MA, Essex, PhD, London
Geoff Mason, BA, Auckland; MSc(Econ), London
Heather Rolfe, BA, Sheffield; PhD, Southampton
James Sefton, BA, PhD, Cantab (joint appointment with Imperial College)
Julia Whitburn, BSc, Leicester; MA, London; PhD, Oxford Brookes

SENIOR RESEARCH OFFICERS

Dawn Holland, BA, Tufts; MSc (Econ), London
A Ian Hurst, BEng, DipEng, PhD, Hull, IEng
John Forth, BSc, UMIST; MA, Warwick
Rebecca Riley, BA (Econ), Copenhagen; MSc (Econ), London

RESEARCH OFFICERS

Tracy Anderson, BSc, MSc, London
Bettina Becker, Diplom (Econ), Bonn; MSc (Econ), London
Willem de Boer, Drs, Groningen
Joseph Byrne, BA(Econ), Strathclyde; MSc(Econ),Glasgow; PhD, Strathclyde
Sylvia Gottschalk, BSc(Econ),Rio de Janeiro; PhD,Sussex
Simon Kirby, BA, Keele; MSc(Econ), London
Tatiana Kirsanova, MSc, Moscow; MA, Moscow; MSc, London; DPhil, Oxon
Michael Massmann, BA (Econ), Exeter; MPhil (Econ), Oxon
James Mitchell, BA, Dunelm; MSc, Bristol; PhD, Cantab
Philip Stevens, BA, Leeds Metropolitan; MA(Econ), Leeds
Michela Vecchi, Laurea, Macerata; MSc, Glasgow; PhD, Ancona
Desirée vanWelsum, Licence, Montpellier/Sussex; Maîtrise, Paris; MSc, Nottingham

ADMINISTRATION AND FINANCE

Robert G Coles, FCCA, MIMgt
Jean MacRae
Michele Ockenden, BA, East Anglia; Grad IPD
Pat Shaw

COMPUTING

Hassan K Feisal, BSc, London

LIBRARIAN

Claire Schofield, BA, Portsmouth; Dip LIS, Newcastle

PUBLICATIONS

Fran Robinson, BA, London

EXTERNAL RELATIONS

Helen Barnes, BSc, Hull; MSc, London

Visitors

VISITING FELLOWS

AJC Britton, BA, Oxon; MSc London
Simon H Broadbent, BA, Dunelm; BPhil, Oxon
Professor Philip Davis, MA, MPhil, Oxford
Professor Jayasri Dutta, BA, Calcutta; MA, PhD, Delhi
Professor PE Hart, DSc (Econ), London
Pamela Meadows, BA, Dunelm; MSc, London
Richard Pierse, MA, Oxon; MSc, London
Professor Richard Smith, MA, PhD Cantab; MA, Essex
Christopher Taylor, MA, Cantab; MA, McGill
Francis Terry, BA, Oxon; MA, Nottingham; FCIT, FILT, MIMgt
Paul Wallace, MA, Cantab; MPhil, London

CONSULTANTS

Dr Paul Brenton, Centre for European Policy Studies, Brussels
Alex Bryson, Policy Studies Institute
Douglas Edmonds
Uroš ‡ufer, Bank of Slovenia
Dr Nick Horsewood, University of Birmingham
Professor AG Howson, University of Southampton
Dr Bohdan KÓos, National Bank of Poland, Warsaw University
Mihály András Kovács, National Bank of Hungary
Dr Urmas Sepp, Bank of Estonia
Mgr Kateéina • mídková, Czech National Bank
Frau Professor Dr Karin Wagner, Fachhochschule für Technik und Wirtschaft, Berlin
Dr Hans Wessels, Deutsches Institut für Wirtschaftsforschung, Berlin