



Welcome to this first edition of the Faculty of Economics Newsletter. We hope to use the Newsletter to keep alumni and other friends fully informed; in touch with aspects of change in the Faculty, its facilities and its staff as well as developments in our economics courses.

We also look forward to providing a record of how current and former members recall their experiences, beginning in this issue with Mervyn King defending the vital role of Economics in both policy making and financial markets in the current turbulent climate. Dr William Peterson looks back at the changes he has witnessed over forty years with the Faculty, and Alan Beattie charts his progression from economics postgraduate student to Financial Times journalist.

In the Newsletter we hope to showcase the achievements of the Faculty and its members past and present, and to invite alumni to share in our pride in its world-class status, as well as to garner any contributions they may in turn have to offer.

*Hamid Sabourian*

**Hamid Sabourian**

*Chair of the Faculty,  
Professor of Economics and Game Theory*

## 'Innovative, International and Exciting'

### **Mervyn King's View of Modern Economics**

'Homes, shares, jobs in turmoil' exclaim the newsvendors' billboards outside the Bank of England. Inside, amid the Bank's measured Georgian elegance, the Governor, Mervyn King (eponymously King's 1969), swiftly dispels any thoughts that Economics is about to meet its nemesis in the wake of the turbulence that first hit world financial markets August last year. Our subject is, in his view, powerful, dynamic and, what's more, intensely relevant to today's policy issues and challenges.

Economic theory and analysis are being strengthened by the infusion of techniques and paradigms not only from mathematics and the natural sciences but also from the humanities. He mentions in particular the contribution that historians are making to our understanding of how institutional factors – culture, systems and values – influence economic and financial behaviour and outcomes.



If you are struggling with the complex algebra of the economics of auctions, Mervyn assures you that your efforts are not in vain. Auction theory is currently playing an important part in the Bank's measures to provide the appropriate amounts of liquidity to the banking system, following last year's tightening in the money markets. Auctioning access to central bank funds has given banks and credit institutions the necessary signals to make sure that they review their asset exposure and liquidity requirements realistically, and to price risk accordingly.

*Continued overleaf*

Continued from page 1

Greater rigour in Economics, he says, has been matched by increases in the capabilities of its best graduates. Economics has always called for clear thinking and is now giving students an appetite for tackling hard questions. Drawing on his American experience – he has taught at both Harvard and MIT – he notes approvingly the expansion of taught graduate-level courses in British universities, the Cambridge MPhil being a prime example. And there is now a distinct and vibrant community of European economists, who are both a support for, and a counter-weight to, their Anglo-American colleagues.

While acknowledging that research and teaching resources in the leading British universities are still limited by comparison with their international competitors, Mervyn points to the improvements in efficiency and funding that are being achieved now that the higher education sector is coming to terms with the mass expansion in student numbers that has taken place over the past decade. Research in Economics is feeding directly into the work of practitioners in financial markets, who are gaining a deeper understanding of what the subject offers as a result. Research is, at the same time, being enriched by feedback from practitioners' experiences.

But he rejects the suggestion that the agenda for Economics research in universities should be tailored to meet perceived current specific needs in business, commerce and finance. Unconstrained innovative thinking is vital to progress, and peer review – the assessment of Economics research proposals by co-workers to inform funding – is still the best way to achieve this.

Both in Economics and more broadly, he judges that Cambridge is still keeping its position as one of the world's best universities. The opportunities are to go on widening the international representation of students and Faculty members alike; to continue to grow graduate teaching and research; and to increase the volume and the proportion of funding that comes from non-governmental sources.

The Governor is fond of soccer analogies. The name of the Bank's economic forecasting model is 'Beckham' (Bank of England Quarterly Model – BEQM). As a final reflection on the current state of Economics, Mervyn, a life-long supporter of Aston Villa, draws a parallel with the Premiership. Like the major league championship, Economics, he says, is 'innovative, international, intensely competitive and exciting'. But he doesn't mention his favourite team.

**Tony Cockerill** Interview took place on 8 July 2008

## Mervyn King

<b>1948</b>	Born Wolverhampton, England.
<b>1966 – 1969</b>	King's College, Cambridge.
<b>1969 – 1977</b>	Faculty of Economics, University of Cambridge.
<b>1971 – 1972</b>	Harvard University (Kennedy Scholar).
<b>1972 – 1977</b>	Lecturer in Economics, University of Cambridge. Fellow, St John's College, Cambridge
<b>1977– 1984</b>	Professor of Economics, University of Birmingham.
<b>1984 – 1991</b>	Professor of Economics, London School of Economics.
<b>1991 – 1998</b>	Chief Economist and Executive Director, Bank of England.
<b>1998 – 2003</b>	Deputy Governor (Monetary Policy).
<b>2003 – Present</b>	Governor and Chairman of the Monetary Policy Committee.



## Cambridge Students win Econometric Game

Five students from the Faculty have won a Europe wide competition that required them to put their theoretical econometric techniques into practice. The Cambridge team won the 9th edition of the Econometric Game, which is an annual econometrics competition organised by the University of Amsterdam (VSAE). The team that competed on behalf of the Faculty on the 7 and 8 April 2008 were:

- Heather Battey (CPGS student)
- Nicky Grant (MPhil student)
- Richard Louth (CPGS student)
- Diego Winkelried (PhD student)
- Teng Teng Xu (CPGS student)

The Econometric Game is a two-day event in which teams of students from several top European universities provide competing solutions to a problem set by a leading academic in a particular area of economics. In this edition, the problem was to analyse a direct marketing dataset and devise an appropriate mail targeting strategy to maximise the profits of a hypothetical marketing firm.

This task is made more difficult by the fact that each team has access to only two computers, a limited number of software packages, and limited internet access, thereby making efficient team working an essential ingredient for success!

You might have expected the limitations to have forced the teams into similar tactics, but this was not the case according to Richard Louth who stated: 'The most surprising aspect of the games were the differences in econometric techniques used by each of the teams. Before we set off, I thought that each team would utilise the same techniques and tackle the problem from a similar perspective - I couldn't have been more wrong!'

So after two days of teamwork and hard work, were our students confident of a win? 'When they announced the winners, it came as a bit of a shock. We knew that we had done well, but so had many other teams - the competition was very strong'.

Other universities that participated included Aarhus, Amsterdam, Carlos III, Copenhagen, Hannover, Louvain-la-Neuve, LSE, Maastricht, Oxford, Prague, Rotterdam, Tilburg, Vienna and Warsaw.

**Charlotte Kelley**

## Listing everything, even the kitchen sink



Sheilagh Ogilvie

The next time you give your wardrobe its annual spring clean, pause awhile before you send your cast-offs to the charity shop. Make a list of what you are throwing out, take some photographs, and file all the evidence safely away in the attic, together with a copy of your tax return. You will earn the gratitude of future economic historians, as yet unborn, who will work in the wake and the shadow of Sheilagh Ogilvie.

Sheilagh's five-year research project, which started earlier this year and which is funded by the UK Economic and Social Research Council, is titled 'Human Well-Being and the "Industrious Revolution"'. Its focus is on consumption, gender and social capital in the economic development of a region of Germany over three hundred years.

The project's unique feature is that it will draw on detailed personal inventories of the goods and chattels of around ten thousand men and women who were alive at various times between 1600 and 1900. Details of people's personal effects, including land, financial instruments, clothes, pots and pans, furniture, books, clocks, ornaments, and food, had to be recorded twice in their lifetimes – when they married and when they died. The result is a rich picture of social life that gives insight into income and wealth, the range of marketed goods, techniques of production and distribution, and trade and exchange. Each inventory can be linked to the demographic details of the same household, generated during Sheilagh's previous project on 'Economy, Gender, and Social Capital in the German Demographic Transition' funded by the Leverhulme Trust. So the evidence will cast light on the interlinkages between consumption, production and reproduction inside households, as well as on the changing status and relationship patterns among the inhabitants of pre-industrial communities.

Reflecting Sheilagh's signature work in applying modern tools of statistical and econometric analysis to historical data, the research will apply multivariate techniques in analysing the large-scale databases that are being built up from the inventories. Markus K pker and Janine M egraith joined the project in January this year as research associates to begin the detailed work. Partha Dasgupta and Tim Guinnane are co-investigators.

An important aspect of Sheilagh's interest in the pre-industrial economies of central and eastern Europe is that the social, legal and political rules and norms – the 'institutions' – were different from those that characterised the more open economies of the Netherlands and England. She challenges the widely held paradigm of economic history that assumes that institutional frameworks evolve to promote and support society's efficient functioning. Rather, she argues, the institutions are themselves the product of social power and its distribution. Studying economic development and social relationships on the basis of the evidence of household artefacts shows how institutional constraints reach deeply inside household decision-making, particularly affecting the consumption and production choices of women.

Sheilagh was at school in Canada and in Scotland and gained

her first (in both senses) degree from St. Andrews. She came to Cambridge as a doctoral candidate in 1980 and, via a Trinity Research Fellowship, University Lectureship, Readership and various visiting appointments, was appointed to a Chair in Economic History in 2004. She maintains and increases the Economics Faculty's distinction and distinctiveness in quantitative Economic History, continuing the tradition of those outstanding measurers of economic activity, Phyllis Deane and Brian Mitchell.

She sees Economic History as an integral part of the discipline of Economics, having the capacity both to contribute to and benefit from developments in theory and empirical analysis. At the same time, Economic History plays an important part in the University's wider community whose specialisms and interests include history, geography, sociology and politics.

Sheilagh started her 2006 Tawney Lecture for the Economic History Society by saying 'Economic history used to be so simple'. It may now be more complex and challenging in its paradigms and techniques of analysis. But it's also a lot more interesting.

**Tony Cockerill**

## Innovation and the Resilience of Religion



The project on 'Innovation and the Resilience of Religion' examines the economics of religion in the Indian sub-continent. A range of researchers from the Faculty of Economics and the Judge Business School are involved in this project including Sriya Iyer, Chander Velu and Jun Xue. In particular, the project highlights the provision of education and health services by religious organisations as a way of retaining adherents in a situation where economic growth and income inequality are both increasing. Theoretically, the project draws upon game theory and theories of industrial organisation. It also examines empirically a range of data including district-level data on religious conflict in India from 1950-2006. Between 2006-2008 the researchers conducted the first ever Indian survey of 578 religious organisations with a view to understanding their economic, innovative, and competitive behaviour. The survey included questions on adherent numbers; religious practices and religious service provision; non-religious service provision; perceptions of how all types of service provision have changed over time; income and expenditure; and perceptions of competitive intensity with other religious organizations. One of the findings of the project is that religious organizations are very innovative with respect to the kinds of non-religious services provided – be it basic school education, health-care, microfinance or computer-based learning schemes. The project is funded by the Metanexus Institute and the John F. Templeton Foundation, USA under the Spiritual Capital Research Program (2006-2009).

**Sriya Iyer**

## Development and Transition:

The Marshall Lectures 2007, Professor Justin Yifu Lin

With the arrival at the World Bank in June this year of the newly-appointed Chief Economist and Senior Vice President, Professor Justin Lin, the 'Washington Consensus' – beloved of free-market economists and not a few neo-cons – faces extensive redefinition, if not outright replacement. Embraced by both the World Bank and the IMF during the liberalisation, de-regulation and globalisation phase of the 1980s and 1990s, the Washington Consensus urged policies on all sorts of developing countries that were intended to boost growth by reducing government interventions and enhancing the role of the market.



While still at the China Center for Economic Research in Beijing, Justin Lin was invited to give the 2007 Marshall Lectures in Cambridge. The focus of the lectures was on why, against the background of the liberal ascendancy in economic analysis and policy-making, the growth performance of developing countries has differed so much and why the results of applying the Washington Consensus policies have been disappointing.

His argument has strong neo-classical foundations and echoes Solow-type productivity growth, in which exogenous technical progress interacts with capital and labour to drive increases in income per head. For newly-developing countries, the initial growth phase is rapid as they catch up with high income market economies. Later in the development process, convergence in income levels occurs as diminishing returns set in.

To achieve growth successfully requires governments not to retreat from involvement in the market, but rather to build and develop the right institutional framework of incentives and value systems for entrepreneurs and for workers. Policy needs to encourage ideas and technologies to be brought in from around the world. These can then be applied for the benefit of economic activities that are based on the comparative advantages offered by countries' physical and human resource endowments.

Lin's strongest criticisms are for those countries and governments that have chosen to promote capital-intensive heavy industry as their path for growth. Such policies put stress on the scarce factor (capital) rather than the abundant one (labour), and saddle the economy with a plethora of non-viable enterprises that demand enduring subsidy.

This legacy goes to the heart of the difficulties with the Washington Consensus. The economic distortion caused by such ill-judged government intervention is too great for market forces alone to

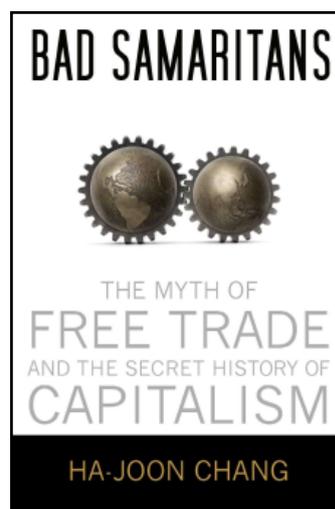
correct. What is required, at country and international level alike, is a gradual, piecemeal approach to reform and transition within a supportive institutional framework.

Justin Lin was born in Taiwan. He is the author of many papers and several books, including 'The China Miracle: Development Strategy and Economic Reform', and 'State-owned Enterprise Reform in China'. Among his many public roles he has served as a deputy of China's People's Congress and as Vice Chairman of the All-China Federation of Industry and Commerce.

Professor Lin's World Bank post marks his return to the United States, where he gained his doctorate in Economics at the University of Chicago. Looking back, his 2007 Marshall Lectures might stand as his job application.

Tony Cockerill

## Book Reviews

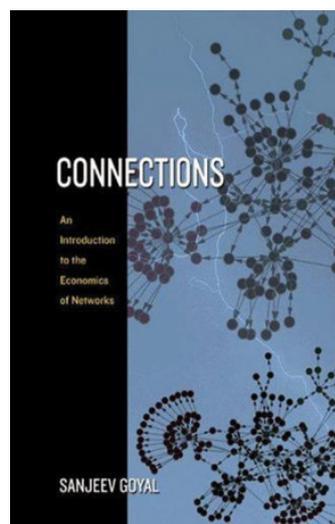


***Bad Samaritans: The Myth of Free Trade and the Secret History of Capitalism***

by Ha-Joon Chang

Using irreverent wit, an engagingly personal style, and a battery of examples, Chang blasts holes in the "World Is Flat" orthodoxy of Thomas Friedman and other liberal economists who argue that only unfettered capitalism and wide-open international trade can lift struggling nations out of poverty. On the contrary, Chang shows, today's economic superpowers—from the U.S. to Britain to his native Korea—all attained prosperity by shameless protectionism and government intervention in industry.

*Published by Bloomsbury Press (May 2008)*



***Connections***

by Professor Sanjeev Goyal.

This book provides a comprehensive account of the antecedents and consequences of networks. Goyal applies a multidisciplinary lens and considers both economic and sociological accounts of some of the dynamics he has studied. Scholars who are interested in a boundary-spanning account of this important phenomenon will find this book to be extremely valuable.

*Published by Princeton University Press (November 2007)*

## Postgraduate Progress

Having graduated from the University of Warwick with a BSc in Economics, I was very excited to come to Cambridge in 2005 to work towards my PhD at the Faculty of Economics. I spent my first year completing the taught MPhil degree, which was both challenging and rewarding. All of us in my year's cohort of about 45 people attended lectures together, but classes took place in smaller groups, where there was more opportunity for interaction and participation. At the end of the year, those of us on the PhD track (Option B) had to sit a total of 6 exams, and I was delighted to be able to move on to the next stage, where I would have more time for my own research.

However, as the PhD course had just been reformed, the classes were not over yet! The first year of the PhD, more commonly known as the Certificate of Post-Graduate Studies in Economics, now involved around 80-100 hours of coursework in addition to the completion of a first-year paper, which had to be presented to a panel of at least two members of the Faculty in the summer term. Fortunately, I was given a comfortable space in a newly refurbished, open-plan office for PhD students, so writing the first-year paper never felt like too much of a chore. One of three rooms made available for PhD students in the Faculty, mine was located in the Marshall Library building, next to the brand new Graduate Common Room, which serves not only as a social space with newspapers and magazines, but also as a much-needed source of coffee, tea, and company.

Outside of the usual teaching and coursework commitments, being a PhD student at Cambridge involves attending at least one of the three weekly seminar groups. These are in the general areas of econometrics, microeconomics, or macroeconomics, and usually involve a leading academic presenting their latest, cutting-edge research to an audience of both students and faculty. In addition, PhD students are expected to attend workshops in their own area of research, at which they present their work in progress. This is a great opportunity to get feedback and advice, and I have found that it helps enormously.

Since I came to Cambridge three years ago, I have seen three cohorts of PhD students entering the job market. Some go into academia, while others prefer either to work in the private sector (at investment banks or as management consultants, for example) or to get involved in policy work (at a central bank or another financial institution). As for me, I am still deciding!

### Kamiar Mohaddes



## Among the Migrants

I suppose it was predictable that having come from a somewhat unorthodox background for postgraduate economics students, I also ended up at a somewhat unorthodox destination, not as an economist but a journalist at the Financial Times.

I came to Cambridge in 1994 following a history degree at Oxford and a year as a student politician, a calling to which I was wildly unsuited. I first took the Diploma, aimed at eastern European students wanting to get a quick grasp of market economics following the collapse of Soviet communism but also, it turns out, handy for humanities graduates trying to acquire a more useful discipline.

It was then followed by the nine-month MPhil, in one of the last years before it was changed to resemble the MSc courses elsewhere. The old course gave a broad overview of the subject and the chance to specialise rather than the technical and mathematically-based tools on which its replacement focused. It had, for example, no compulsory micro. Those were the days.

All this study was kindly paid for by the Bank of England, for whom I went to work after graduating. I was never going to be one of the more technical research economists that earned the Bank the not entirely laudatory nickname "The University of Threadneedle St" from our friends in the Treasury. But for writing the quarterly inflation report and then analysing the labour market – one of my MPhil specialisms – the Cambridge background was ideal.

Not having the patient temperament required to be a lifelong central banker, I quit after a couple of years to join the FT and have since done a series of more or less economics-related jobs covering the foreign exchange markets, the US and UK economies, the IMF and World Bank and now global trade.

Having some economics has proved extremely useful: without it I would have been floundering badly in the conversations I had with Fed governors when covering US monetary policy. But my present job in particular does underline how most of the interesting stories involve departures from the neoclassical paradigm. Covering the World Trade Organisation, for example, involves biting back the instant reaction economists tend to have to the whole idea of trade negotiations based on mercantilism: Why don't you just liberalise? Have you not read Ricardo?

### Alan Beattie

*World Trade Editor, Financial Times*

## Looking Backwards



I took the Economics Tripos in the late 1960's, and I am teaching for it now: for almost all the intervening period I have been working in Cambridge, either as a researcher in the old Department of Applied Economics, or as a member of the teaching Faculty. So I suppose I am well-qualified, in terms of experience, to write about what has changed over forty years, even if being asked to do so is a depressing reminder of age. More importantly, staying in Cambridge has meant that I have never got round to throwing away my undergraduate lecture notes.

An outside observer relying on University prospectuses and the Reporter for information would see little difference between the Tripos of the 1960's and that of today. Students are still classed, although happily the proportion of Firsts has risen and that of Thirds has fallen over 40 years. What was Prelims has become Part IIA, and Part II has been renamed as Part IIB: but the structure of the courses, and in some cases the names of the optional papers, remains much the same. The most important innovation is that all students now have to write a dissertation (on a topic that they chose themselves), with a corresponding reduction in the number of optional papers. Although Part I changed radically in the 1970's, when Microeconomics was briefly expelled from the syllabus, this (like several other contemporary reforms) was subsequently reversed. As a result, the main outward difference between then and now is that all students must now take a first-year paper in Maths and Statistics: but Economic History and (in a modified form) Politics both survive.

But these official descriptions of the Tripos are, of course, very misleading: in a sense they represent the unchanging nature of the questions which economists face, rather than the changing answers which they put forward. The less formal course descriptions circulated to students, which outline what they are expected to cover, and the material presented in lectures and elsewhere, have both evolved dramatically in a way which the official descriptions obscure. In most subjects such changes largely reflect internal changes in the interests of researchers, in some scholarly consensus about what is important and of permanent value, or in the amount of material which students have previously studied at school. What is unusual about Economics is that major changes in undergraduate courses are also driven by advances in technology, and by external events.

A student in the 1960's was still dependent on log tables and slide rules for calculations – I did not encounter even a basic desktop calculator until after I graduated. Collecting statistical data involved laborious transcription from printed sources onto A3 sheets of ruled paper (the hard-copy equivalent of a spreadsheet). The Faculty's computer facilities for graduate students consisted of one primitive paper-tape punch which could be used to prepare tasks for TITAN, the University mainframe computer (which was far less powerful than a modern laptop PC). So it was impossible to provide undergraduates with much practical experience of how they could use data to assess and evaluate economic propositions: examination questions might ask them to draw a freehand regression line and interpret the results, but little more. Better (and much cheaper) computing facilities, particularly since the 1980's, mean that all undergraduate Statistics and Econometrics courses now include an

independent project, and that the range of statistical techniques covered in the course has also expanded to meet the entry requirements of postgraduate courses and the expectations of employers.

The Tripos of the 1960's (at least as far as the core Economics papers were concerned) revolved around the many problems of the British economy as it staggered through regular balance-of-payments crises, via the 1967 devaluation, towards the floating exchange rates and inflation of the subsequent decade. So Richard Kahn's final year lectures on Economic Principles and Problems covered balance of payments theory, and the relevant empirical evidence, at great length, while Nicky Kaldor expounded an idiosyncratic, but ingenious, version of growth theory which could also explain why Britain grew much more slowly than its European competitors. Microeconomics (which was regarded by many of the Faculty as much less important) focussed on issues of applied welfare economics: public sector pricing, health and education, poverty and social security reform.

Clearly these and similar questions have remained important, although many others (for example, utility regulation, or the effects of global financial integration) have arisen since. What has changed fundamentally (and this has been reflected in the Tripos) has been the way in which economists approach them, and the techniques which we expect students to use to answer them. Cambridge Economics in the 1960's to a large extent retained the belief that individual behaviour was relatively straightforward, although there was an institutionalised schizophrenia between the microeconomists (who tended to assume a naïve version of utility maximisation) and the macroeconomists (who tended to reject such theories in favour of a reliance on rules of thumb and heroic arguments about aggregation). So macroeconomics lectures set out a form of common-sense Keynesianism, which could be applied to policy issues, but which was vulnerable (particularly at the hands of Joan Robinson in her more destructive mode) to criticism on the grounds that all macroeconomic relationships were intrinsically unstable because of Keynesian fundamental uncertainty. Rational expectations, and the whole project of providing microeconomic foundations for macroeconomics, were far in the future. Similarly prescriptions about microeconomic policy were formulated from the perspective of the enlightened civil servant, who could reasonably assume that the government's agents (and the general public) would do as they were told: the complications raised by strategic behaviour, asymmetric information, and the divergence of interests between principals and agents, were not yet realised. Thus the Cambridge Tripos of the 1960's lacked what many would see as the central tenet of modern economics, that our starting point in analysing any form of economic behaviour should be the construction of a simple model based on the assumption of universal rationality. Such ideas were left to Milton Friedman and others in Chicago. The Tripos also retained what now appears a quaint hangover from its Marshallian past, the belief that complex theoretical arguments often can and should be set out verbally, rather than being reduced to algebra. Such a view may be old-fashioned, but it did at least recognise the fact that the majority of undergraduates would use what they had learned in Cambridge to inform and persuade non-economists rather than to communicate solely with other academics.

What this account makes clear is how much of the modern Tripos consists of concepts and techniques which have only been developed within the last 40 years. Much of what is in the current second-year undergraduate course was 'frontier' material, or had not been published, in 1970. Trying to fit in these new concepts has meant not only that students have to work much harder, but also that other material has had to disappear. Fortunately the fact that students have now usually studied some Economics at school,

and that the general level of mathematical preparation has risen, has made this process rather easier than it would otherwise have been. The Tripos of the 1960's was also perhaps rather obsessive in the amount of time devoted to the history of economic thought, and to what could be called 'local' doctrinal controversies: liquidity preference versus loanable funds, or the Cambridge capital controversy. Such debates have been squeezed out by lack of time, and also by the fact that the technical skills needed to follow the modern journal literature are well beyond most undergraduates. But, even though it may make me appear a grumpy old man, I cannot help regretting the fact that the vast expansion of the journal literature, and its increasing technical demands, means that undergraduates now see much of Economics through the lens of a limited range of standard textbooks and algebraic models.

Many other things have changed about Cambridge Economics during 40 years. The Marshall Library and Faculty building still look much as they have done since they were completed in the early 1960's, although now there are computers and the obscurer books have been relegated to the basement. Powerpoint has replaced chalk, but the lecture rooms are otherwise unchanged. One of those who lectured me (David Newbery) is still lecturing to undergraduates. Students are for the most part less politically engaged than the generation of Paris 68 and the Vietnam Solidarity Campaign to which I belonged: I doubt if an Open Meeting of Economics students to discuss Tripos Reform would pack Lady Mitchell Hall, and it certainly would not end up occupying the Senate House. Students then were not wooed by professional recruiters from US investment banks: the City was much smaller, keener on recruiting Etonians than economists, and paid (relatively) much lower salaries. Other, often much more important changes, have affected Cambridge generally, and thus spilled over to Economics. Mixed Colleges mean that the proportion of women taking the Tripos has risen from about 3% to nearly 40 % (though this is still below the University average), and the proportion of overseas students has also grown (about 25% of undergraduates studying Economics come from outside the UK). No-one has to wear gowns to exams, or to visit the University Library. But I would hope that Marshall's famous aim for the Tripos, 'to increase the number of those, whom Cambridge sends out into the world with cool heads but warm hearts, to discover how far it is possible to open up to all the material means of a refined and noble life', remains.

### William Peterson

## Electricity Policy Research Group

The Electricity Policy Research Group (EPRG), led by Professor David Newbery, is based in the Economics Faculty, with several PIs in the Judge Business School. EPRG is the culmination of a continuous series of projects starting in 1990 and at various times supported by the UK Economic and Social Research Council, The Cambridge MIT Institute, and the European Commission. The larger part of current funding comes from a 5-year £2.4 million ESRC research group grant. EPRG's membership within the University is drawn from economics, management, engineering and law and also includes associates from business, regulatory agencies and government.

EPRG engages in research, publication and informed debate on the economics and public policy issues concerning the efficiency, regulation, security and sustainability of electricity in the wider context of European and global energy supplies and environmental constraints, as reflected in the European Emissions Trading System. The core ESRC research programme, entitled Towards a Sustainable Energy Economy, has three main strands:

- Delivering Secure, Reliable and Diverse Energy in a Liberalised Market. Recent research has included an examination of the scope for reducing emission and improving cost and efficiency in electricity generation in China, and a review of the regulatory framework for energy in the UK, which is influencing policy developments. Current work covers the unbundling of electricity distribution in New Zealand and the Netherlands; competition policy in the energy sector; and the impact of liberalization on research and development activity in the energy sector. We have contributed to the Transmission Access Review that was called to cope with projected large increases in wind power, and examined policy towards renewable energy. This part of the programme also examines the measurement of market power in wholesale markets and the impacts of cross-energy mergers such as those between electricity and gas companies, the economics of interconnectors, and recently a policy paper on the performance of, and reforms needed in, the South African electricity industry.
- Energy, emission and technology policy in European and global contexts. Principal research in this domain is concerned with analysis of policy towards emissions and climate change in developed and developing economies, and has led to recommendations for the development and organisation of an EU carbon trading system. We are also modelling learning-by-doing in PV technologies, marine energy and non-conventional fuels.
- Public attitudes to energy policy and processes of governance. The main theme of this work is the economics, flexibility, safety and sustainability of nuclear power, coupled with analysis of the scope for carbon capture and storage, and the role of gas in European energy security of supply. In addition we conduct and analyse periodic public opinion surveys on aspects of energy, as well as investigating the prospects for smart meters.

EPRG's work is developed and disseminated through an annual international conference; twice-yearly research seminars; and a series of workshops, held weekly during term-time, and to which Group members, visiting scholars and invited speakers contribute. The Group's main channel of output is through the production of refereed working papers that are intended for publication in high-quality academic journals, where they are able to inform debate and contribute to practice and to policy development.

The 7th international conference, organized in collaboration with MIT, focussed on policies for a sustainable and secure electricity market. In the research seminars, the parts to be played by gas and nuclear power in energy security; regulation; and emissions trading were the main issues examined and debated.

### Tony Cockerill



**David Newbery in front of a geothermal power station in Iceland**

## The computer model that once explained the British economy

It is 2 metres (7ft) tall, 1.5 metres wide and a metre deep. It runs on water and most of the time it is screened off at the back of a lecture room in Cambridge. But when the nine members of the Bank of England's monetary policy committee announce their latest decision on interest rates they will owe a debt of gratitude to the computer built in a garage in south Croydon by Bill Phillips - an engineer turned economist from New Zealand - almost 60 years ago.

A sensation when it was unveiled at the London School of Economics in 1949, the Phillips machine used hydraulics to model the workings of the British economy but now looks, at first glance, like the brainchild of a nutty professor. Where the Bank's team of in-house economists are equipped with state-of-the-art digital computers, the profession's first stab at modelling was very much a do-it-yourself affair with a whiff of the Heath Robinson about it.

The prototype was an odd assortment of tanks, pipes, sluices and valves, with water pumped around the machine by a motor cannibalised from the windscreen wiper of a Lancaster bomber. Bits of filed-down Perspex and fishing line were used to channel the coloured dyes that mimicked the flow of income round the economy into consumer spending, taxes, investment and exports. Phillips and Walter Newlyn, who helped piece the machine together at the end of the 1940s, experimented with treacle and methylated spirits before deciding that coloured water was the best way of displaying the way money circulates around the economy.

Phillips was a far cry from today's identikit economists, with their mathematical training and obsessions with abstruse theory. He was born on a farm in New Zealand in 1914 and spent much of the second world war in a Japanese prisoner of war camp after being captured while trying to turn a wrecked bus into a boat to sail to Australia. While imprisoned, Phillips risked death by stealing components from the camp commandant for a makeshift radio and built an immersion heater that was capable of providing 2,000 PoWs with a cup of tea before bed. The Japanese never worked out why the lights dimmed every night at 10pm.

By today's standards, the Phillips machine was limited. It made no provision for inflation and, with capital controls in force, had no need to take account of the curse of the modern UK economy - the wild swings in the credit cycle. Professor Brian Henry, a visiting fellow at the National Institute for Economic and Social Research, said: "It was a child of its time. It looked at how the economy could be stabilised when people were worried about the stabilisation of aggregate demand. That is the way things were in the 1950s."

"Things are different now. There is a different financial system and a completely different global economy. But Phillips was a brilliant guy. He came up with interesting ways of providing practical advice on policy."

Even so, Henry says the machine is far more than a museum piece. Today the Bank of England's models are supposed to show how shocks affect the economy and the time it takes for a change in policy to have an effect, precisely the sort of problems that the Phillips machine helped identify. Even with the most up-to-date computers, the Bank is still finding it hard to come up with the right answers.

Indeed, one early demonstration of the machine displayed the difficulties that can arise when monetary and fiscal policy are not synchronised. Phillips asked one of his students to be chancellor

of the exchequer and control taxes and spending; the other to be governor of the Bank and control interest rates. Predictably, the policies were uncoordinated and the upshot was that water overflowed on to the floor.

By the mid-1950s, the Phillips machine was all the rage and after struggling to get a pass in his original subject, sociology, Phillips eventually became a professor of economics at the LSE after demonstrating a relationship between the rate of unemployment and wage inflation. But as the Phillips curve fell out of fashion after the monetarist backlash of the 1970s, so the machines were mothballed and the one housed in the department of applied economics at Cambridge is the only working model left in the country. It took a lecturer from the department of engineering, Allan McRobie, to get it up and running again; no economist could work out quite how Phillips had pieced the original machine together.

McRobie was given a grant from Nesta - the National Endowment for Science, Technology and the Arts - and spent a summer on the restoration project. The only difference with the original is that McRobie has dispensed with the cochineal because it would stain the Perspex. "Everything was in the wrong place. It had been here since the 1950s but everything was connected wrong. I had to work out what he was trying to do."

### Larry Elliot

*Economics Editor, The Guardian*

*Article originally appeared in The Guardian on Thursday 8 May 2008*



**Alan McRobie, Brian Henry and Eddie George**