Reflections on Economics

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Introduction

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The financial crisis of 2008 placed the discipline of economics under the spotlight. Society turned to economists to explain the crash, but did not find clear and persuasive answers. And many asked why it had not been anticipated: indeed, Her Majesty, the Queen asked, in November 2008 on a visit to the LSE: 'why did nobody notice it?' The British Academy held a forum on this question in June 2009, following which it wrote to Buckingham Palace venturing an answer: "a failure of the collective imagination of many bright people, both in this country and internationally, to understand the risks to the system as a whole." ¹

The Academy is always reflecting on the health of its disciplines and in 2014 discussed the possibility of an examination of economics with David Willetts, the then Minister for Universities and Science.

It is important for any discipline to reflect critically on its successes and failures. The events of 2008 continue to pose challenges today – interest rates remain at their lower bound, output has barely recovered to pre-crisis levels and productivity has fallen. Concerns abound about the way that the gains from growth were shared before the crisis and the losses were distributed afterwards.

Given the complexity of the issues one should not expect a single view. The dislocation since 2008 has reawakened debates which had lain dormant for years as well as suggesting new areas to explore. The benchmark for any discipline is not whether it produces a single agreed answer but whether it has the tools to enlighten many aspects of the issues without appearing complacent and/or dogmatically reasserting orthodox positions.

In 2014/15 the British Academy, as the national academy for the humanities and social sciences, convened a wide-ranging series of forums² for careful examination of, and reflection on, the discipline of economics.

These forums brought together academic and professional economists, economic historians, politicians, policy makers and business people. Discussion at the forums was open and frank. It was recognised that there were areas of weakness where economists could or should do better.

- 1 British Academy Review, issue 14 (November 2009)
- 2 The dates of the British Academy Forums and a list of attendees are noted in Annex I, below.

The forums focused also on areas of promise for new insights. Many of these reflected developments in the discipline which were well underway before the crisis, including the areas of behavioural economics and political economy. We also asked where to extend boundaries, and where and how we might learn from and interact with other disciplines.

The Reflections on Economics forums considered the following broad questions:

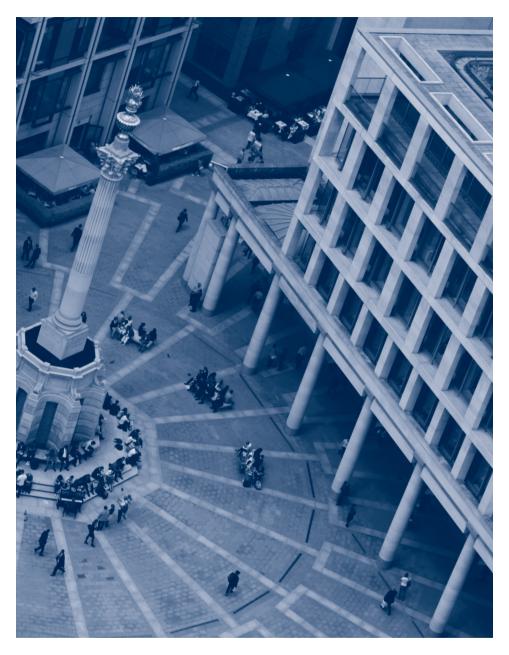
- What is the state of the art of various key aspects of the discipline?
- What are the weaknesses in knowledge and understanding that should be examined?
- What is the relationship between different areas of economics and the policy questions being asked and decisions being made? Does government ignore or misuse the advice of economists? Do economists have valuable advice to give?

Reports on the examination of these questions are in sections 2, 3 and 4. We reflected also on how economics is taught, drawing on the initiatives of the CORE econ project led by Wendy Carlin which has made important strides in curriculum design – see section 5. Concluding comments are in section 6.

It is important for any discipline to reflect critically on its successes and failures.

We are very grateful to those who presented at each forum and to those participating in what were thoughtful discussions. We hope that this summary of those discussions both provides a helpful assessment of some key parts of economics today and points to some important avenues to pursue. We are responsible for the selections and conclusions. It is a collection of key highlights and makes no attempt to be an exhaustive account of three extensive and interesting sessions.

Introduction



London Stock Exchange from above © Elias Gayles / Flickr

The state of the art

How good are the models, and how well are they used?

The state of the art

The role of economic theory is to provide a framework to shape discussions and to assist in finding answers to questions. Thus, economic theories, for example concerning: the process of growth, the behaviour of the firm, or general equilibrium resource allocation, provide insightful ways of looking at key questions. A useful model provides, within a perspective, a particular and deliberately simplified vehicle for examining key aspects of a problem or a set of phenomena that we are trying to understand. Thus a model within growth theory might focus on a particular set of processes of capital accumulation or innovation decisions while a model of a market might focus on how firms choose prices or make production decisions when they compete for business. The late Frank Hahn, a distinguished Fellow of the Academy, used to remark that "a model is just a sentence in an argument".

There is a popular misunderstanding of economic models. Models do not have to be completely realistic to be useful for generating insights into how the world works – indeed they have to be simplifications of the things in the world for that is, in part, what makes them useful as models. But more problematic has been the ways in which economists in the past developed models about perfect (or idealised) people and economies. When applied to real markets, real people, and real policy problems, those idealising assumptions can lead economists astray. Over the last two decades, much effort has been made into formulating models with more realistic – i.e. less perfect – assumptions about how real people behave in social situations, about how real firms behave, and so forth. Looking carefully at the assumptions about such matters has led to a better appreciation of why markets work well or less well and how policies can be designed to be effective in meeting their objectives.

In general, a major challenge for economics is to work out which models are indeed useful. To do this, their implications need to be understood and they need to confront the data they are based on or engaged with. Thus, collection and analysis of statistical data is a central aspect of the economics discipline and is evolving all the time, along with new estimation techniques that are being developed. Increases in computing power have enhanced the range of methods that can be used and the size of data sets that can be analysed, while the development of both field and lab experimental economics has given insight into the content of models and suggested new sources of data

The state of the art

that can be collected. Theories and models can and should play a crucial part in collecting, organising and learning from the data.

This is the broad understanding of our subject that we tried to bring to our enquiry and to our thinking about models and relations with other disciplines. In this spirit we began by identifying and examining perspectives, areas of work, and ideas which we thought had proceeded strongly in the last two or three decades. In this category we identified particularly theories and studies of behaviour, institutions, and growth.

All this was set in the context of a world seeing rapid changes in terms of economic structures, technologies, environment and the distribution of income and wealth, as well as major risks, challenges and potential sources of instability. Recent months have illustrated these issues vividly around conflict in the Middle East, commodity prices and speculation around the future of China's economy. The experience of China is a reminder of just how profound the transformations have been in the past few decades and how much more is coming. The balance of output has been moving, and will continue to move, towards emerging markets and developing economies and those countries themselves may see instabilities during those processes. Urbanisation is, and will be, very rapid in many parts of the world. Technology is changing remarkably through the pervasiveness of the digital, developments in new materials, and the integration of the biological and the technological, to name only three. Nevertheless, many rich countries are struggling with slow growth and weak productivity.

There are also intense pressures on climate and the environment, with the possibilities of profound change in our world in the future, and serious current levels of pollution. Inequality has increased on a number of measures, within many countries and, understandably, has moved towards the top of many political and economic agendas. And we cannot assume that our financial systems have recovered. The crisis of 2008 has not yet played itself through.

An assessment of our subject must ask whether, in the light of events, past, present and future, we are imaginative enough to ask the right questions. This requires experience and judgement as well as technical expertise.



George Loewenstein, **Carnegie Mellon**

For me, a good criterion by which to evaluate modern economics is whether it interacts with the issues of the day.

The success of behavioural economics is clear; its influence can be seen in popular books, the new sub-fields it has spawned, its impact on policy-makers, and its representation in most top economics departments.

Reasons for this success include its openness to different methodologies and the liberal borrowing of insights to provide

coherent accounts for varied phenomena that standard economics could not explain. Behavioural economics real-world problems.

For me, the main purpose of behavioural economics is to provide more realistic foundations for human behaviour compared to conventional economics.



Nick Crafts FBA

A big improvement in growth economics has happened in the last 30 years.

We now have better models, more data, more interesting empirical work, stronger policy implications. Micro-foundations are fundamental to this; endogenous innovation ideas are the key.

There is a better fit with economic history. Recognition of the importance of institutions, the rehabilitation of directed technical change, and research on the political economy of reform have all helped.



Philippe Aghion FBA

Here are some puzzles about the economics of growth:

- What made growth take off two hundred years ago?
- Why do some countries converge towards per capita GDP levels of advanced countries and others don't, and in particular why do we observe middle income traps?
- Why have we observed recent upsurge in (top) income and wealth inequality and what should be done about it?
- Should we expect future technological waves after the ICT wave, or a prolonged secular stagnation?

Growth models based on capital accumulation do not help much to understand the above puzzles. In contrast, Schumpeterian growth theory can provide some solutions.

Schumpeterian growth theory predicts that countries that adopt policies

and institutions which favour frontier innovation (which itself involves creative destruction, i.e. the constant replacement of old activities by new activities), should grow faster in the long run than countries which do not adopt such institutions and policies. At best, the latter countries will end up in a middle income trap.

Schumpeterian growth theory also allows us also to understand the relationship between growth and firm dynamics and the role of reallocation effects in the growth process: for example, why successful Indian firms grow less with age than American firms.

A microeconomic approach is needed to test the predictions of Schumpeterian growth theory.



Stephen King, HSBC

Whilst growth theories can offer good descriptions of growth, they struggle to predict what will happen for growth.

This inability to predict is often a product of long-term drivers of growth falling foul of political and international influences which economists don't take into account. There are numerous examples of countries where growth has proved to be completely different from expectations:

- One could point to Japan: the forecasting consensus in the 1990s about the rates of inflation and growth in Japan were inaccurate, due to factors such as the impact of China and population ageing which were not properly recognised in forecasts.
- China and India have enjoyed spectacular growth since the 1980s but few at the time predicted their lift-off.

Similarly, five years ago, many predicted that Egypt and Ukraine would grow very quickly, but both have in reality been hamstrung by huge political turmoil.

If one looks at standard dynamic stochastic general equilibrium (DSGE) models that are used by policy makers, it is easy to spot important factors which are excluded: the financial sector. the rest of the world, oil prices and innovation, to name a few. Excluding these factors facilitates the modelling of a long-run return to a steady state of equilibrium, but at the expense of reality.

The current debate about growth, between Austerians and Keynesians, might entail cyclical differences but both sides tend to converge on the same long-term story.



David Soskice FBA

Comparative political economy has developed over recent decades as the importance of major institutional differences across advanced economies has become clear.

In part this reflects a much greater contemporary focus on knowledge production, skill clusters, the relations between companies and their location strategies, and how they differ

The study of comparative political economy – requiring a sensitivity to historical, political and institutional difference – is not well-represented in economics departments, but is much more present in political science, public policy, economic history and sociology departments, and increasingly in business and management schools.

Why is this important? There is a clear complementarity of institutions within countries, but with different patterns of complementarities – notably between export-oriented economies such as Germany and Sweden, and demand-led economies such as the UK and US. In the former, for example, institutions in the labour market and in education are complementary, with strong vocational training, employee representation and collective bargaining, and block shareholding underwriting a longer-term perspective; and powerful bargaining institutions are linked in turn with tight monetary and fiscal policy. In the latter, on the other hand, general education, very flexible labour markets, and more short-term, profit-oriented, diversified shareholding, are associated with more risk-taking and radical innovation; and there is less need for highly disciplined macromanagement to hold powerful organised business and unions in order.



Torsten Persson FBA

We can see three phases in the development of how economics has understood and incorporated institutional analysis:

- Firstly, one might characterise a traditional, postwar economics, which incorporated institutions through the lenses of households and firms. These were perhaps the paradigmatic institutions in economics and the economic analysis that relied on them reached its peak in the 1970s.
- The game-theoretic revolution in the 1980s transformed this. It generated a richer framework for institutional analysis, one that allowed for strategic interactions between traditional actors. That framework focused on how the rules of the game affect those strategic interactions, and with this it allowed for a richer analysis of how public authorities might best regulate markets.
- The 1990s saw a further transformation, with strategic incentives being brought into the policy-making process itself. It became important to understand which policies are credible and politically feasible. Tools that were previously used to examine the relationship between firms in markets were now being used to understand how governments and political institutions can work as drivers of societal outcomes, such as economic policies or, at the next level, economic growth.

In this third phase there is a significant import of ideas from political science and economic history and the perforation of these ideas into mainstream economics has been healthy.

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There is of course scope to move forward more strongly in these areas. For example, there is much work to do in understanding the process of innovation and how economic structures transform. While much innovation is in the form of Research and Development spending, there is increasing appreciation that intangible investments (reorganization of production and incorporation of IT into supply chain management) are a central part of innovation. To understand when and how this occurs requires delving into organizational aspects of work-place management practices and incentives within firms.

Discussion at the forums often turned to how models are chosen and used, and to the way economics interacts with, or fails to interact with, the insights of other disciplines, especially history.



The City of London © Ralph / Flickr



Charles Goodhart FBA

The fact that in many universities Economic History was still hived off from the main Economics department, rather than remaining an essential part of economics training, indicates a preference for theoretical purity over empirical relevance.

There is excessive focus in our discipline on the achievement of quasi-static equilibria; thus dynamic stochastic general equilibrium (DSGE) models tend to have the economy revert quite rapidly to stable trends. It is much more difficult to model dynamic, evolutionary models

with changing institutions, so there should be much more emphasis on political economy and history to consider how the institutional structure of the system has altered and will continue to do so.

For some purposes economics has modelled itself after the "objectivity" of natural sciences. However, there is a strongly growing recognition of the importance of historical insight. That underlines the importance of recognising that a model is inevitably just one of many commentaries, that there are many limits to what economic models can do, and that many of the elements that are important in understanding how an economy behaves are rather unstable or changeable. Further, the economics of policy unavoidably requires an examination of the role and implications of criteria for decision-making (in other words principles and values) and also of the institutional context and how people behave.

There is a strongly growing recognition of the importance of historical insight.

The study of historical case studies is also a way of expanding the time frame of economic analysis. The modern era of economic growth is little more than two centuries old, as is the advent of the modern era of democratic policy making. Severe financial crises are a recurrent phenomenon in history but at low frequencies. Waves of technological change often take years to influence economic life. Just how insights from history should influence the study and practice of economics requires careful thought. There is a need for more systematic ways of understanding the evidence that case studies from history give us. While case studies are useful, there is a danger that they are selected to confirm hypotheses. Case studies are often more useful as a prompt for the imagination which can foster new ways of thinking rather than as a 'test' of theories. Indeed, case studies are more useful in teaching us about the implications of our theories and how they might need to be revised.

There is a need for more systematic ways of understanding the evidence that case studies from history give us.

Behavioural economics has led to a better integration between economics and psychology. In the past, insufficient attention was given to how people actually behave in particular circumstances. A range of phenomena have been uncovered. A lack of dynamic consistency in making decisions, the use of cues which make attributes of decisions salient, the fact that decisions exhibit loss aversion and the importance of "anchors" such as reference points are now routinely integrated into economic approaches. Insights from lab and field experiments have been particularly influential in shaping opinion and approaches among economists.

Behavioural economics has led to a better integration between economics and psychology.

In similar vein, many have argued that there was a lack of integration of politics and political economy sometimes as a result of stripping out from economic models issues which might be regarded as politically 'too difficult'. It is not enough to propose a policy, however compelling the logic for it, without also studying the process by which it might be implemented and how political coalitions could form to make it sustainable in the future.

In all cases, many in the discussion forcefully argued that there is a need to focus more on these kinds of "pre-model" questions and to gain a better understanding of what pre-model questions should be asked. Similarly, we should ask tough "post-model" questions about how conclusions from the analysis of models could contribute to understanding and policy.

Much of the discussion concerned theories and models as ways of generating insight and of understanding our world. But it also covered macroeconomic modelling that is widely used in economics by ministries of finance, central banks and 'the markets', often to make specific predictions. The design of macro models has brought real problems. Most of these, including the UK's Treasury model, are incapable of predicting a slump – most are models with a built-in tendency to return to equilibrium. That is a problem which requires attention. That said, models with cycles, bubbles and severe depressions often

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do poorly at predicting the timing of these events. Recognition of these issues may not mean building ever more complicated models; another route, already evident in some governmental institutions, is to have a collection of different macro models which attempt to capture different phenomena.

Overall there was some concern that there was not enough work which brought economists together on the big issues of our time. These issues and problems are of such significance to our societies and our future that they require much more emphasis in future work.

Weaknesses and areas for stronger research

Recognising and analysing the major problems and issues of our time



George Loewenstein, **Carnegie Mellon**

Insights from behavioural economics might be applied to examining the following pressing challenges facing society:

- The reasons for financial crises and the resulting recessions: This called for a greater understanding of economic history: focus should not be restricted to an understanding of
- Inequality: While there has been some very good research on the extent, causes and consequences of inequality, behavioural economists have had little to say about inequality when they should have much to say about it.
- Inter-group conflict: While there is still international conflict, inter-group conflict over religious beliefs seems to be a particularly prominent problem at the moment. Behavioural economics should seek to formulate models to shed light on these important new types of disputes.

- Climate change: Conventional economics can shed light on the possible solutions to climate change and the obstacles to them, but behavioural economists should be addressing why such a huge problem that threatens future generations is causing so little concern.
- Solutions to the potential looming crisis in employment: Currently there is vigorous debate about whether refinements in robots and artificial intelligence will render much of the workforce obsolete, leading to a crisis in the quality and quantity of available jobs and a need for new social arrangements relating to work, leisure and government support. Behavioral economics, and specifically research dealing with the determinants of well-being, meaning and fairness, provides insights that could help to inform policy responses to the situation as it evolves.



Philippe Aghion FBA

The following 'gaps' should to be tackled:

Making growth sustainable; making growth inclusive and reconciling "equity" with innovation-based growth. We should examine how to induce green innovation and to think about energy

transition. We should also look at the interplay between structural reforms and macroeconomic policy in fostering growth in developed countries.



Charles Goodhart FBA

The main gap has, of course, been the absence of sufficient analysis of financial frictions.

Such frictions ultimately arise owing to the possibility of debtors defaulting on their promise to repay. The key defaults in history having always been those of banks; examples such as Overend Gurney, Barings, Credit Anstalt and Lehman Bros. Whereas some models now include defaults of non-financial firms, virtually none include bank defaults. As a result,

the micro-foundations of the currently fashionable Dynamic Stochastic General Equilibrium (DSGE) models are lacking. The representative agent assumption implies no default and no financial frictions. Macro economics and finance have become completely separated, whereas they should be inter-related.

Further research could also be directed towards structural and institutional change. Structural changes, for example in demography, urbanisation, and in the role of women in the labour force, can have profound effects on economic and social outcomes. They may be partly determined by external factors but they may also be part of a dynamic self-reinforcing process.

Structural change and institutional change are intimately connected. The examination of long-run structural and institutional interactions can, for example, tell stories about feudalism and agricultural revolutions; which are important not only in understanding how our economics and societies emerged, but also in forging new perspectives on current and future structural transformations.

Policy and institutional failure are no less important than market failure. The study of market failure has a longer history in economic policy but recent decades have shown some progress on how policies and institutions can function well or badly. This is an area ripe for strong research effort, including economic historians, political scientists and economists working together.

Interacting with other disciplines

The above discussion of structural change and earlier discussions on behavioural economics have given strong examples of potential gains from working with other disciplines. An example often mentioned in the forums, and already introduced above, was the importance of historical insight. It is sometimes commented that Ben Bernanke's grasp of economic history was important in steering the US and the rest of the world through the financial crash.

Economics has "lost out" by not thinking sufficiently about what other disciplines bring to the table. Many within our discussions and elsewhere considered that too many economists are cut-off from other social science disciplines.

There are many further areas for cross-disciplinary work. For example, knowledge of comparative politics can contribute strongly to an understanding of current macroeconomics. Many have argued that there is insufficient research on the relationship between countries; where international relations and political science are important to understanding.

Insights from history and political economy may be particularly important to an understanding of the role, impact and potential of technology. History is replete with examples where economic and political interests have aligned to create resistance to change. Recent examples include debates around GM crops, fracking and wind farms. Understanding these requires looking at how economic interests form and how they translate into organized political interests alongside the factors that shape popular opinion.

Economics has "lost out" by not thinking sufficiently about what other disciplines bring to the table.

Much interesting research lies at the border of disciplines such as geography, politics and economics. Indeed, economic geography has been an important example of progress in the subject of economics more broadly: there is great scope for more. For example, the UK has had what many might regard as a lopsided pattern of regional development and there is increasing interest in how the potential of regions can be unleashed through reforms to governance and resource allocation.



Nick Crafts FBA

Areas for stronger research on long run growth.

On under-researched aspects of long run growth, we should note the role of geography (New Economic Geography-style) and serious investigation of the key Piketty

parameters (elasticity of substitution and changes in factor-saving biases in technological progress). Who industrializes and why is still a key issue.



Torsten Persson FBA

The following elements of institutional analysis deserve further research:

- Institutional reform: economic and political institutions are subject to change over time, but do we have a good understanding of what exactly it is that drives this process? There is perhaps scope for a richer analysis of development through a focus on how institutional change and economic change interact over time and how this might help us understand broad patterns of development. Take the example of China, which is at a critical juncture in its development path. Official rhetoric suggests that China should evolve from the world's factory to an innovation economy. To what extent is this development possible without institutional reform? Future research should seek to understand the way in which judicial and political reform play a role in this process.
- The role of informal institutions: there is a need to better understand non-material motives such as social motives, tied to slow-moving norms. Culture and identity are important drivers of economic and political decisions, but the way in which they act as such is relatively poorly understood. This kind of analysis has begun to take place since the 1990s, with attempts to explain, for example, the persistence of inequality or segregation tied to ethnicity, race or religion. It is a kind of analysis that demands knowledge from disciplines such as sociology, social psychology and anthropology, among others. The issues that fall between the cracks are often the most interesting ones.

Weaknesses and areas for stronger research

 The relationship between formal and informal institutions: formal and informal institutions are frequently parallel drivers of the same decisions, but the relationship between them could be better understood. Formal institutions might shape individual (material) motives, and informal institutions might shape social motives, but they might both drive the same individual (collective) decisions. Take the example of tax evasion in Greece. The formal tax institutions of the Greek state create material incentives for Greek citizens to pay taxes. The poor rate of tax collection in Greece is in

part due to underinvestment in these formal tax institutions. However, there are also social institutions in the form of common expectations shared by Greek citizens, such as the impression that politicians squander money they raise through taxes. This social institution is also in part responsible for a poor rate of tax collection. What is the relationship between these two institutions? What is the interaction of individual and social motives? Are material incentives helped (crowded in) by social motives or hindered (crowded out) by them? These questions deserve more attention.

Interactions with policy

Interactions with policy

When reflecting on how economics interacts with policy, context is important: during the 1980s and 1990s, a form of market fundamentalism arguably became the dominant political perspective on economics in the UK and the US. This was in part a reaction to the experience that predated it, in particular a perceived state failure in some areas of economic management. In its cruder forms, market fundamentalism dismissed serious thinking about the state capacities that are required for effective markets, how to manage instability, inequality and dominant economic interests. Problems of information asymmetries are pervasive – as are limitations on human abilities to understand, assess and calculate

The worlds of economics and political choice in practice meet less often than they should. There is a need to build economic analyses that are well-founded on, and that connect with, the reality of people's lives. There are fears that there is a growing discrepancy between the perspectives favoured by academic economics, on the one hand, and the challenges the world faces, what is happening in lives and livelihoods, and practical policy on the other. At the same time as our analyses inform issues identified by the public as important, they can also influence what is regarded as important.

That said, it takes time for developments in economics to come into policymaking. Criticism of economics is often based on an outdated knowledge of the discipline. But this is partly fostered by the textbooks not having kept abreast of many of the new developments in the discipline. And textbook economics can often give the impression that economics explains the past while lacking an understanding of the present or an anticipation of future challenges. The problem may then lie not with the supply of new thinking and new theories which are relevant to policy-making but the demand for them among those who are involved in policy. To the extent that the understanding and training is outdated this will tend to perpetuate the use of frameworks which are viewed as questionable at the frontier of the discipline.

In some cases, the appropriate economic response to a policy problem is fairly clear, but the political route to that solution is muddy. Sometimes politicians will take very short-run views or be unwilling to tackle vested interests. Economists need to work with politicians, civil servants and other groups to try to tackle the challenge laid down by Jean-Claude Junker: "we all know what to

Interactions with policy

do, but we don't know how to get re-elected once we have done it." While the first part of that statement might be less well-founded than the second, too little attention is focused on how to make sensible long-term policies attractive to the public and politicians.

We should not, however, be excessively negative around the relation between economics and policy making in the UK. The Government Economics Service and the science and medical professions have much stronger influence than other disciplines within government. Economics is strong in the Bank of England and many regulators, for example. In some areas, there are also strong links between academia and policy-making through universities and independent think tanks such as Institute for Fiscal Studies (IFS) and National Institute of Economic and Social Research (NIESR).

> We should not, however, be excessively negative around the relation between economics and policy making in the UK.

Economists have a framework for thinking about problems. That is a real strength if the framework is plausible and robust. However, it is a real weakness if that framework is too limited, if it is not well-founded, or if it is, or seems, ideological.



Nick Crafts FBA

Policymakers have taken some things on board quite well.

For example, the role of competition in promoting productivity growth. The OECD has done some excellent work linking theory, empirics and policy. There are still some big weaknesses including the following:

diffusion is neglected vis-a-vis invention; government failure is not addressed; and the growth rationale of the return to industrial policy is not well articulated.



Stephen King, HSBC

Growth has been significantly lower than expected since 2000.

A sustained lower rate of growth than anticipated suggests that certain political promises may have to be broken. This in turn can create a vicious circle: breaking promises creates uncertainties that in turn contribute to a reduction of chances of future long-term growth. These promises are about important policies such as pensions, healthcare and education, mostly made on the assumption of a continuation of previous growth trends. The uncertainty associated with breaking these promises leads to behaviour which is ever more cautious by both the public and private sectors. This in turn leads to lower long-run growth.

Should we always assume that growth will return to where it was? Perhaps the second half of the 20th Century represented a period of unusually high growth, supported by a series of temporary factors: the opening of trade, increased labour force participation by women, an expansion of tertiary education, bountiful credit and demographics. There is no reason to assume these positive factors will be there for all time.



Philippe Aghion FBA

Schumpeterian theory is able to guide growth policy making, and we can offer an 'appropriate growth policy' framework.

So, for example, in advanced economies, productivity growth can be enhanced in the following ways:

- Liberalization of product markets
- Investment in higher education
- Liberalization of labour market
- Equity financing

In emerging market economies, in contrast, the following steps can be taken:

- Steps to foster technology transfers
- Steps to reallocate factors
- Steps to improve management

Teaching economics

Teaching economics

Discussions on teaching were motivated in part by the dissatisfaction articulated by some students over the highly technical aspects of teaching in some universities. The use of formalisms, particularly mathematics, has tended to isolate the teaching of economics from other disciplines, particularly within the humanities and social sciences. Thus, many who study economics know little of other disciplines and those with training in other disciplines gain a stylized impression of economics with little or no appreciation of frontier-level debates in the discipline.

Participants in the forums were concerned that the key questions about the world and policy that brought many of us, and many students, to study economics, appear late in many courses. Sometimes dissatisfaction has arisen from the assertion that approaches are narrowly "neoclassical". The participants, however, thought in general that the problems lay in too much technique too early, and too little focus on the big questions.

These discussions were guided in part by Wendy Carlin, a pioneer in economics teaching. Her CORE course starts with "real-world" problems and then shows how the tools of economics can contribute to their understanding. This contrasts with teaching technique first. This course points to some ways forward for reforming the undergraduate curriculum. Discussion at the forums suggested that many students are unable to see the connection between what is being taught and what is going on in society, in industry and in government, and they do not grapple early enough with the issues that brought them into the subject in the first place. Carlin's approach is an attractive way forward in relation to these difficulties in current structures.

It was recognized that there are different contexts in which economics is taught and there are major differences between different institutions and the kinds of teaching that they offer. It was argued, however, that both at undergraduate and graduate level there are steps that could and should be taken to improve provision across the board. While we should not jump into decisions that turn teaching upside down, the questions are urgent.

CORE – a new way to teach economics

The CORE (Curriculum Open-access Resources for Economics) project provides an interactive ebook-based introduction to economics course.

It is designed for a first undergraduate course in economics and is also suitable for graduate students in other social science disciplines who want access to an understanding of economic reasoning.

In this course, students are motivated to learn the language and methods of economics because it provides them with insights on the questions that brought many in to economics – questions of wealth creation and innovation in a capitalist economy, instability and economic insecurity, inequality, and environmental sustainability.

The CORE course is distinctive in:

- Its use of new developments in economics and other social sciences to redefine the subject matter of economics for an introductory course
- Motivating the teaching of the tools of economics with facts
- Its collaborative method of production, and use of insights on the economy from a wide range of historical,

- geographical, disciplinary and methodological perspectives
- Its use of new technology to deliver a learning environment that engages students

Built into the design of the CORE course is a focus on:

- Economic actors as both self-interested and ethical
- Why supply and demand are sometimes not equal especially in markets for labour and credit
- Not only equilibria, but also on how prices, quantities, and technologies change
- The importance of economic rents for the working of a modern capitalist economy
- How institutions differ among economies, and what difference this makes for macroeconomic performance.

Further information on the CORE curriculum and full access to the ebook is available online at: www.core-econ.org

Conclusions

Conclusions

The aims of the forums were to provide assessments of, and reflections on, where we are in economics and where to go. This objective included where to extend boundaries, where and how economists might learn from and interact with other disciplines, and how the subject is taught.

These forums affirmed the importance of economists engaging with the issues of the day and the challenges of the future. In so doing, they should bring a range of models, a questioning of models and, importantly, an appreciation of historical experience. Economics already encompasses a range of approaches even if some are more dominant in the way that economics is taught and researched. Debates about method are best conducted in relation to specific issues or phenomena and success or failure in understanding them.

Huge advances have been made in the quality and ambition of applied research. Standards are far higher than in the past and the use of experimental as well as observational data increases the range of phenomena that can be studied. Data are now available on a scale unimaginable even a quarter of a century ago.

Economists are often judged on their ability to predict. Here the record of success is more limited – whether, for example, it be a failure to predict the financial crisis or specific features of the post-crisis economy that followed. Long ago many economists were predicting based on extrapolation that the USSR would eventually overtake the US as the world's richest economy. And today, there are those in the discipline who claim the capacity to predict a range of complex phenomena. In practice, prediction and forecasting is a small part of what economists do. Moreover, persuasive forecasts often lead to policy changes which invalidate the forecast on which they are based. This is an area where modesty is needed and unrealistic expectations need to be managed.

Economists have often led debates about how to measure a range of outcomes. They are not fixated on GDP as a measure of welfare as some have suggested. Indeed, they have been closely involved in debates about broadening national accounts to a wider range of well-being indicators. Economists have also pioneered the measurement of poverty and inequality. At the same time, they have much to learn on these issues from other disciplines, from philosophy and psychology to history, literature and anthropology.

Economics also contributes to public policy analysis. Policies on regulation, taxation and public expenditures benefit from careful economic analysis and the capacity to undertake policy evaluation using rigorous methods. Research on how to promote and sustain innovation is also central to the discipline. Alternative macro-economic strategies benefit from modeling even where they do not resolve debates decisively. At the same time, discussions of public policy should, and increasingly do, take careful account of institutional structure, political economy and behavior.

The forums emphasised the importance of methodological pluralism and openness to ideas from other disciplines. There is a thin line between being cautiously resistant to fads and fashions and straightforward unjustified conservatism. Recent experience has many examples of progress but there are also examples of inertia and resistance to change.

Academic incentives are now increasingly focused on the need to publish in a range of mainstream journals to gain promotions and to maintain a profile in the global profession. And this shapes the career incentives of young academics. This is compounded by the incentive structures of research assessment in the UK. Most of the main developments in economics have come from publishing in a relatively small number of journals which shape the trajectory of the discipline. This is unlikely to change even in a world of open access publishing since journals still play a major role in determining what gets read and cited. But a challenge remains to prevent this being a force for conservatism.

There are many dimensions to the economics profession: including, for example, academics, policy economists, journalists and business economists. Together they affect the way that economics is presented to the world. More forums which bring these different communities together could play an effective role in comparing different perspectives and communicating challenges as seen from different points of view. Creating opportunities for more interaction across disciplines in science, the humanities and social sciences on issues of common interest is also a priority.

Finally, it is debatable whether there is sufficient focus on some of the biggest challenges that we face in a changing world, whether these come from changing patterns of inequality within and between nations or risk to stability

Conclusions

and development from climate disruption. The discipline has to learn more about fitting together our pieces of economic knowledge, with broader insights, to inform the "big economic and social questions". Greater and more sustained interaction with policy makers would be of value here. These initiatives, perspectives and interactions, as well as introducing new ideas and methods, would help develop the judgement and experience that is so crucial to choosing and formulating questions in a useful way, understanding their context and relevant models and data, and thinking about the meaning of our results.

Annex I Forums and participants

Forums

1. Reflections on Economics – Do we need to change economics? Behavioural and teaching (18th March 2014)

Presenters: Professor Wendy Carlin and Professor George Loewenstein

2. Reflections on Economics - Institutions and

Macroeconomics (26th November 2014)

Presenters: Professor David Soskice FBA

and Professor Torsten Persson FBA

Discussants: Lord Skidelsky FBA, Professor Charles Goodhart FBA

3. Reflections on Economics – The economics of growth (17th February 2015)

Presenters: Professor Philippe Aghion FBA, Mr Stephen King

Discussants: Sir Charlie Bean, Professor Nick Crafts FBA

Participants

Professor Philippe Aghion FBA, Harvard University

Sir Charlie Bean, LSE

Professor Maxine Berg FBA, University of Warwick

Professor Timothy Besley FBA, LSE

Professor Paul Boyle FBA, CEO ESRC (until October 2014)

The Rt Hon Sir Vince Cable MP, Secretary of State for Business,

Innovation and Skills (until May 2015)

Professor Bruce Campbell FBA, Queen's University Belfast

Professor Wendy Carlin, UCL

Professor Diane Coyle, University of Manchester

Professor Nick Crafts, FBA, University of Warwick

Professor Charles Goodhart FBA, LSE

Professor Rachel Griffith FBA, IFS and University of Manchester

Mr Andrew Gurney, HMT

Dr David Halpern, Behavioural Insights Team

Professor Peter Hammond FBA, University of Warwick

Mr Stephen King, HSBC

Annex I

Professor Heather Joshi FBA, UCL Institute of Education Professor Michael Lipton FBA, University of Sussex Professor George Loewenstein, Carnegie Mellon Professor Graham Loomes FBA, University of Warwick Professor James Malcomson FBA, University of Oxford Professor Mary Morgan FBA, LSE Professor David Newbery FBA, University of Cambridge and Energy Policy Research Group Sir Stephen Nickell FBA, University of Oxford Lord O'Donnell Hon FBA, Frontier Economics Professor Torsten Persson FBA, Stockholm University Mr Osama Rahman, DoJ Sir David Ramsden, HMT Professor Neil Rickman, University of Surrey Lord Skidelsky FBA, University of Warwick Professor David Soskice FBA, LSE Lord Stern, President of the British Academy, LSE Professor Bob Sugden FBA, University of East Anglia Dame Helen Wallace FBA, LSE Professor Donald Winch FBA, University of Sussex

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