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THE PUBLIC RESPONSIBILITIES OF THE ECONOMIST – BY DIANE COYLE[1]

PART I

Dr Frankenstein, I presume?

> *"These days, the most common question I get from junior analysts about derivatives is, "How much money did we make off the client? ..... I attend derivatives sales meetings where not one single minute is spent asking questions about how we can help clients. It's purely about how we can make the most possible money off of them. It astounds me how little senior management gets a basic truth: If clients don't trust you they will eventually stop doing business with you."*[2]

These words, written in the New York Times by a departing Goldman Sachs executive, confirmed what many people already believed about the financial markets, if not before the crisis that started in 2008, then certainly afterwards. These markets are widely seen as having become fundamentally anti-social. So too, by extension, all markets, and economists in general as the principal advocates of markets as the organising structure of modern society. While this is an exaggeration of popular views, evidence from opinion surveys suggests there has been a reappraisal of the pro-market philosophy dominant in public policy since the early 1980s. Although majority public opinion continues to support a market-based economy, there is little popular enthusiasm for how actual markets have been behaving.[3] Markets have brought inequality, unemployment, and austerity. Dissatisfaction with actually existing capitalism has been strong enough to get a fair number of people out onto the streets to 'Occupy' the commanding heights of the global economy in the City and on Wall Street. Liberal intellectual opinion has become shrill in its denunciations of economics. Here is one recent example, from the American novelist Marilynne Robinson:

> *"It is this supranational power, Economics Pantocrator, that failed us all in fairly recent memory. It has emerged from the ashes with its power and its prestige enhanced even beyond the status it enjoyed in the days of the great bubble. The instability and the destruction of wealth for which it is responsible actually lend new urgency to its behests."*[4]

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[1] My thanks to distinguished panellists Kate Barker, Nick Crafts, Peter Oppenheimer, Dave Ramsden and Peter Sinclair for their responses to the lectures; and to Peter Dougherty, Paul Johnson, Richard Marshall, Jonathan Portes and Romesh Vaitlingam for their helpful comments on earlier drafts. They are of course not responsible for any errors. Correspondence to diane@enlightenmenteconomics.com

[2] Greg Smith, former Executive Director, Goldman Sachs, New York Times 14 March 2012 http://www.nytimes.com/2012/03/14/opinion/why-i-am-leaving-goldman-sachs.htm?pagewanted=1&_r=1 accessed 14/3/12

[3] 'Wanted: A Better Capitalism', YouGov, May 2011. http://labs.yougov.co.uk/news/2011/05/16/wanted-better-capitalism/ Accessed 16/3/12

[4] 'Cutlure After the Credit Crunch', The Guardian, 16 March 2012. http://www.guardian.co.uk/books/2012/mar/16/culture-credit-crunch-marilynne-robinson Accessed 19/3/12

She is not alone in regarding economics as a malign social force, rather than a scholarly and practical discipline. There is a long tradition of writers seeing economics as conflicting with more important values or cultural traditions. It dates back to the Romantic backlash against the rationalist Enlightenment view of improvable Nature.[5] John Ruskin would have approved of Robinson's rant (there is no other word for it), having fulminated against industrial capitalism in a similar way in *Unto This Last*: whereas craft production created wealth, modern economics spawned 'illth', he claimed.

It is no surprise that the deepest and longest economic downturn since the Great Depression has encouraged a revival of this kind of criticism. If economists are supposed to help prevent or alleviate economic crises, we have obviously not been doing a good job. While plenty of economists insist there is no fundamental problem with the subject, and many more would reject the hyperbolic attacks from novelists and protestors, many other economists are reflecting seriously on the lessons of the crisis for their intellectual framework and for the practical role they play in the world of public policy. Keynes famously said economists should be "humble, competent people" like dentists, fixing things that go wrong and making modest improvements in people's lives.[6] Instead we have turned out to look more like Dr Frankenstein, unleashing an idealistic experiment that has run monstrously amok, causing devastation.

In this first lecture I am going to start by looking at the case that economists have created a monster, and that economics has shaped the world in its own dysfunctional image. There is some truth in this, in my view, especially when you get beyond the literary exaggerations. My profession does bear some responsibility for what has happened, in a way I will explain below. But I will go on to argue that this is most true of a particular approach to economics, one which has been in retreat for some time and will turn out to have been finally discredited by the great crisis. The economic catastrophe could indeed be the making of a stronger economic science, re-rooted in the natural sciences, as it was at its birth in the Enlightenment. In the second lecture I will go on to discuss how the struggle between old and new economics is playing out in the arena of public policy, where economists have for decades had a privileged status.

It should not really be controversial among economists – although it will be – to suggest that economics as an intellectual discipline and professional practice has helped shape the economy. Beliefs about the way the economy works and expectations about the future have a central role in every approach to our theorising, or modelling as it is referred to in our own jargon. In particular, the orthodox macroeconomic models – algebraic summaries of the whole economy at an aggregate level – assume that agents (as we call people) have more or less correct beliefs or 'rational expectations' about the economy. At one level this is a reasonable assumption that you can't fool all of the people all of the time: if they are systematically proven wrong, they will change their beliefs. In practice, it

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[5] Roy Porter, *Enlightenment: Britain and the Creation of the Modern World*, Allen Lane, London 2000.

[6] 'The Future', *Essays in Perusasion*, Macmillan, London, 1931.

becomes a strong assumption about the information and powers of calculation that millions of real people actually have. However, the key point about the assumption that behaviour today depends on more or less correct beliefs about tomorrow is that it opens the door to self-fulfilling outcomes. Whenever expectations matter, ideas have the power to shape reality. Keynes's insistence on the importance of 'animal spirits' for investment and consumer spending is captured and pinned down in these formal rational expectations models, albeit not in a way he would appreciate.[7] Even asset price bubbles can be rational in this way: as long as most investors expect the price to continue rising, it will do so.[8]

Economics owes the terminology of the self-fulfilling outcome to the sociologist Robert K Merton, although there are many examples of the idea to be found before he coined the phrase.[9] One classical self-fulfilling prophecy is found in the Oedipal myth; Laius' reaction to the prophecy is what brings about the tragedy it foretells. As soon as the formal economic models that were developed from the late 1970s on incorporated a central role for expectations in decisions, almost everything became self-fulfilling – indeed, instantaneously so in economists' unearthly world of perfect information and no frictions.

However, economists have never given much thought to the theoretical possibility this opens up that the way economics thinks about the economy can become self-fulfilling too, that the principle works outside the models as well as inside them. If mainstream global economics models the economy or the financial markets in a certain way, and that enters the thoughts of public officials or financial market traders and shapes their beliefs and expectations, couldn't reality change to reflect the model?

This is the strong version of self-fulfilling prophecy, now often described as 'performativity', although this usage has travelled some distance from the word's origins in linguistic philosophy. John Austin used it for statements such as 'Sorry!' or 'I now pronounce you husband and wife,' in which the words themselves form the action.[10] Economic sociologists now use it for economic models that build their own reality, rather than merely describing an external reality. The canonical example of performative economics is the model for pricing financial options. Robert K Merton's son, Robert C Merton, was jointly awarded the Nobel Memorial Prize in Economics in 1997 for devising this model (with Myron Scholes – Fisher Black, the other co-author of the original Black-Scholes model, having died earlier).[11] The investment company he co-founded to put it into practice, Long Term Capital Management, went bankrupt with losses of $4.6 billion in 2000, in a kind of practice run for the later financial crisis. It is

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[7] J.M.Keynes, *The General Theory of Employment, Interest and Money,* Macmillan, London !st pub. 1936.

[8] Santos, Manuel S. and Michael Woodford (1997): 'Rational asset Pricing Bubbles,' *Econometrica* 65(1), 19-57.

[9] Robert K Merton, *Social Theory and Social Structure*. New York, Free Press. 1968

[10] John L Austin *How To Do Things With Words*, Oxford. Clarendon Press. 1962

[11] Background material at http://www.nobelprize.org/nobel_prizes/economics/laureates/1997/back.html Accessed 27/3/12

hard not to see some strange echo of the Oedipal story in this, especially as his father is rumoured to have invested in LTCM.

How did the options pricing model of Merton *fils* alter financial reality in its own image, ultimately bringing about his catastrophic financial downfall? The sociologist Donald MacKenzie has traced the massive growth of derivatives markets since the 1970s to the availability of a practical model for pricing these financial instruments. Merton's contribution was to provide a simple version of the pricing formula for options, one that was more intuitive for traders in the markets than competing approaches because it related the option price to the volatility of the price of the underlying asset from which it was derived. What's more, Fisher Black, a co-inventor of option pricing along with Merton and Myron Scholes, also provided a commercial service to the financial markets in Chicago (at that time open outcry markets with traders shouting their deals in the various pits). His business calculated various options prices using the Black-Scholes-Merton model on computers away from the market and circulated as single sheets of paper that a trader could roll up into a cylinder for ease of reading a specific column. MacKenzie presents evidence that over a few years options prices observed in the US financial markets converged to those predicted by the model, the discrepancies between the model and the reality declining decade by decade as an ever-larger proportion of traders in the market used the same model for pricing their transactions. He also argues that the intellectual status of an economic theory born in the University of Chicago helped encourage the regulatory authorities not to ban options trading as a form of gambling.[12] The combination of a trader-friendly model (subsequently greatly extended as the computer revolution made it easier for others to calculate prices according to the model), the successful commercial provision of pricing sheets, and sympathetic regulators brought into being a global derivatives market from almost nothing in 1970 to a notional value of $1,200 trillion by 2010.[13]

There is clearly more to this story than the intellectual act of creating and publishing an economic model. The wider sociology of the Chicago exchanges and the development of a less restrictive regulatory culture certainly played a part, as did the availability of computers and software to handle massive amounts of data and do all the necessary number-crunching. However, the argument that the Black-Scholes-Merton model played the Dr Frankenstein role in creating modern derivatives markets seems quite strong, although it is only with hindsight that the case for regulatory prohibition in the early years seems so strong.

There is reason to believe that the monster is still running amok in the financial markets. 'Automated Trader' magazine speaks of 'Algos with a human touch', algo being short for algorithm.[14] It is the house journal of the human minders of

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[12] 'Option Theory and The Construction of Derivatives Markets' by Donald MacKenzie, Chapter 3, *Do Economists Make Markets*, ed. MacKenzie, Muniesa and Siu. Princeton University Press, Princeton NJ, 2007.

[13] Bank for International Settlements, December 2010

[14] http://www.automatedtrader.net/articles/my-machine/107798/algos-with-a-human-touch Accessed 19/3/12

computers that carry out ultra-high-frequency trading according to pre-programmed algorithms. Ultra-high frequency means carrying out transactions at intervals of 650 milliseconds or less. This activity has a cluster of support services such as businesses selling 'the fastest machine-readable economic data and corporate news', and 'global proximity hosting'.[15] The latter refers to the need traders have to locate computer servers close to the computer servers of the exchanges on which they are trading. The reason is that at a nano-second timescale, the speed of light becomes an important obstacle. Having to send instructions down a longer fibre-optic cable than a rival could be a costly disadvantage. The financial markets have gone through a phase of immaterial location in cyberspace and through the other side back into physical geography. Some new cables have been drilled through a corner of the Allegheny Mountains of Pennsylvania to bring Nasdaq's servers in Carteret, New Jersey a little bit closer – three milliseconds to be exact – to photons originating in a data centre in Chicago's South Loop. Soon a new trans-Atlantic cable will reduce transaction times by 0.006 of a second, an improvement worth the $300m investment. And in the anonymous-looking data centres, those servers located closest to the exchange's server are linked to it with redundant loops of fibre-optic cable so as to level the playing field with their electronic rivals a few metres further away. Here are examples of the financial markets changing physical reality to carry out virtual, algebraic trades; of the markets literally moving mountains.

There is evidence that the so-called 'flash crash' of 6 May 2010, when the Dow Jones share price index fell 600 points in 6 minutes only to recover fully 20 minutes later, was due to automated trading of this kind. Indeed, there is evidence that there are very many flash crashes – more than 18,500 in the five years to 2011 according to a recent study – but they happen too fast for humans to notice them.[16] In a report on this research, John Cartlidge of the University of Bristol, was quoted saying: "Economic theory has always lagged behind economic reality, but now the speed of technological change is widening that gap at an exponential rate. The scary result of this is that we now live in a world dominated by a global financial market of which we have virtually no sound theoretical understanding."[17] Even scarier, though, is the thought that economic theory is also *ahead* of economic reality, and there is no sound understanding of either the theory or the resulting reality. No wonder the novelist Robert Harris made an algorithm the rogue trader and central villain in his latest novel, *The Fear Index*. It is not clear whether it is reassuring or alarming that global financial regulators are clearly working hard on trying to understand what is happening in the financial markets.[18]

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[15] http://alphaflash.com/product-info/ Accessed 19/3/12

[16] Financial black swans driven by ultrafast machine ecology by Neil Johnson, Guannan Zhao, Eric Hunsader, Jing Meng, Amith Ravindar, Spencer Carran and Brian Tivnan, http://arxiv.org/ftp/arxiv/papers/1202/1202.1448.pdf accessed 19/3/12

[17] Nanosecond Trading Could Make Markets Go Haywire, http://www.wired.com/wiredscience/2012/02/high-speed-trading/all/1 Accessed 19/3/12.

[18] Towards a Common Financial Language, Andrew Haldane, Bank of England http://www.bankofengland.co.uk/publications/Pages/speeches/2012/552.aspx Accessed 16/3/12

It seems unarguable that the financial markets have taken on a life of their own in our economies. As one professional investor put it: "The ages-old fear of machines breaking away from their human masters to create their own civilization has been somewhat realized by a banking system that no longer exists to service the real economy."[19] He described how just one bank, Bank of America, had a balance sheet exposure to $74 trillion of derivatives in the first nine months of 2011, although accountancy rules allow this to be presented as just $79 billion. Needless to say, none of this derivatives activity translates into investment in the real economy.

The conclusion that the intellectual approach to finance prevailing since the 1970s has massively subtracted value from the economy raises some challenging questions. What should economists have done differently – surely no regulator should have banned Professors Black, Scholes and Merton from their research? And why has financial innovation proven so bad for end-consumers of financial services, when innovation in every other sector of the economy always ultimately benefits consumers? Both questions underline the fact that ideas do not live in a vacuum, but are embedded in institutional and social structures. The benefits of innovation are spread through competition, whereas in finance there has been enough market power for all economic rents to be retained by financiers. It was not the models alone but their interaction with regulation that caused the damage.

Monsters and markets

Important as they are, culpable as they are in causing the crash, financial markets are not the whole of the economy, and the Efficient Markets Hypothesis is not the whole of economics. The computers trading in financial markets are not economists, nor embodiments of economics in any way. Many, probably most, economists would not regard finance theory and the Efficient Markets Hypothesis as the pinnacle of their subject, to say the least. The out-of-control financial markets need to be tackled, but to do so will do no violence to economics.

A number of economists have objected to my suggestion that the excesses of the financial markets have anything to do with economics at all. They note that many economists were in fact warning of unsustainable asset bubbles in the run-up to the Crash (albeit that few specifically predicted a major banking crisis). This is absolutely correct. Political philosophy, the power of financial institutions, their lobbying of government, and sheer greed all bear much greater responsibility than does economics, or even options markets. If politicians and regulators had really been listening to economists, the crisis might have been averted. There is also a strong defence of the potential for financial markets to improve society. A well-ordered financial system helps individuals and businesses manage risk, and channels savings to the most productive investments. Robert Shiller, famous as

[19] 'Finance Now Exists for its own Exclusive Benefits', Jeffrey Snider, *Real Clear Markets,* http://www.realclearmarkets.com/articles/2011/12/16/finance_now_exists_for_its_own_exclusive_benefit_99422.html Accessed 24/4/12

one of the economists who predicted the crash, has also argued for an expansion of financial markets – for example, to help countries insure each other against the costs of natural disasters.[20]

But those offering these defences overlook two points. First, other people believe financial markets and economics are the same thing. Secondly, economics did play a fundamental role in giving birth to the modern financial markets. Economists cannot plausibly disinherit the financial monster without a clearer account of the separation.

There are some other examples of economics shaping the world, although I do not think the claim of 'performativity' has nearly the same force outside finance. Indeed, there are some areas of economics where we might like it to operate, but it does not. One example is monetary policy, where policymakers would like their models to convince everyone that inflation will stay on target, but unfortunately they have imperfect credibility.

Still, since the governments of Ronald Reagan in the United States and Margaret Thatcher in the United Kingdom, a specific kind of economic approach has become quite widespread in public policy. This approach puts an emphasis on markets as the organising principle for the economy and in particular advocates the merits of 'free markets'. The role of the state should be confined to specific 'market failures' or the provision of certain 'public goods'; textbooks give standard examples such as pollution, congestion, or the state provision of basic education. It is important to appreciate that the ideology of a minimal state and expanded 'free markets' only gained such enormous political traction because of the experience by the 1970s of profound 'government failure'. Like many Britons of my age, I have powerful memories of doing homework by candlelight and walking past rubbish piling up on the streets. The subsequent privatisation of nationalised industries and deregulation of markets delivered better services and greater choice. We were finally allowed to take spending money freely on foreign holidays and could get a telephone line without months of waiting.

The economic theories embraced by the Thatcher and Reagan revolution were not the mainstream approach at the time; but the contemporary rational expectations revolution, at its high tide in the early 1980s, was successfully melded to the then-unfashionable economics of Friedrich von Hayek and economists such as Milton Friedman who admired him. Although academic and professional economists gradually moved away from the abstractions of the rational expectations models, this took many years and has been a particularly slow process in some important respects. This includes macroeconomics, the study of the aggregate economy, which even now remains wedded to simple 'dynamic stochastic general equilibrium' models even though the evidence of recent events demonstrates their inadequacy. [21]

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[20] Robert Shiller, *Irrational Exuberance* (2000); *The New Financial Order: Risk in the 21st Century (2003), Finance and the Good Society* (2012), all Princeton University Press.

[21] Mainly Macro: Microfoundations and Central Banks, Simon Wren-Lewis http://mainlymacro.blogspot.co.uk/2012/03/microfoundations-and-central-bank.html Accessed 27/3/12

It also, crucially, includes the standard economics applied to questions of public policy. Adair Turner, Chair of the Financial Services Authority, highlighted this in a post-crisis speech:

> *"The neoclassical approach does tend to dictate a particular regulatory philosophy, in which policymakers ideally seek to identify the specific market imperfections preventing the attainment of complete and efficient markets, and in which regulatory intervention should ideally be focussed, not on banning products or dampening down the volatility of markets, but on disclosure and transparency requirements which will ensure that markets are as efficient as possible.*
>
> *These propositions, and the strongly free market implications drawn from them, have played a somewhat dominant role in academic economics over the last several decades, though with dissenting voices always present. But they have been even more dominant among policymakers in some of the finance ministries, central banks and regulators of the developed world. Keynes famously suggested that, "Practical men, who believe themselves quite exempt from any intellectual influences, are normally the slaves of some defunct economist." But the bigger danger may be that the reasonably intellectual men and women who play key policy- making roles, are often the slaves to a simplified version of the predominant conventional wisdom of the current generation of academic economists. "*[22]

Academic economics has moved on substantially, but under Conservative and Labour governments for more than a quarter of a century, the scope of markets as a means of organising public as well as private economic activity has been extended. The privatisation of formerly nationalised industries is one example. Even though these industries are still regulated by the government, the intellectual framework for this regulation is, as Lord Turner describes, the correction of a well-defined 'market failure', a specified reason such as an externality or information asymmetry for a breach in the general principle of the desirability of markets. The boundaries of the economic activities that take place in the public rather than the private sector vary from country to country, suggesting there is room for debate about whether the market can and should organise the supply of water and electricity, or rail and air services, or even health care in part or as a whole – although it should be emphasised that the share of government spending in the economy has been on an upward trend everywhere over long periods of time, so it is hard to sustain the argument that markets are displacing government extensively.

However, the market mindset has also been applied to the business of government itself, under the rubric of New Public Management. The logic of

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[22] *After the Crises: Assessing the Costs and Benefits of Financial Liberalisation,* Speech by Lord Adair Turner, Chairman, UK Financial Services Authority, at the Fourteenth C. D. Deshmukh Memorial Lecture on February 15, 2010, Mumbai, accessed 30/4/12
http://rbi.org.in/scripts/BS_SpeechesView.aspx?Id=475
The General Theory of Employment. Interest and Money, Chapter 24.

rational choice was first applied to politics and administration by James Buchanan and Gordon Tullock in their 1962 book, *The Calculus of Consent: Logical Foundations of Constitutional Democracy.* This first introduction of the idea that incentives determine administrative or policy decisions as well as economic choices in the marketplace paved the way a generation later for the much wider introduction of the calculus of incentives in public life.

This approach, like the donning of market failure spectacles to circumscribe the government's role in economic management, is still very much with us – probably too much so. There has been a backlash against some manifestations of it, including the use of quantitative performance targets that clearly divert the behaviour of public sector workers towards the achievement of their specific targets rather than the fulfilment of their underlying purposes. However, the philosophy of using incentives rather than ethos or values or professionalism to extract a better performance from the public sector is as live as ever in the current political debate. So too is the use of competition (or 'contestability') in the delivery of public services. In the UK the management of prisons, healthcare services, perhaps the operation of the road network, may increasingly become a private sector, market-based activity. The debate is taking place in other countries as well as the UK.

Unease about the growing scope of markets pre-dates the financial crisis, however, not least because the distorting effects of target-setting indicate that creating incentives for desired behaviours is a subtler and more difficult matter than the architects of public service reform imagined. Michael Sandel has revisited in a new book the subject of his 1998 Tanner Lectures at Brasenose.[23] In the lectures and the book of the same title, *What Money Can't Buy: The Moral Limits of Markets,* Sandel argues that economics is to blame for the extension of markets and market-like thinking into wholly inappropriate spheres of life. His argument is the moral one that markets have led to a degradation of moral and civic goods, because they introduce an inappropriate mode of valuation. Marketisation of areas such as prisons and even war (through the use of commercial security firms) has corrupted the democratic ideal of citizenship. Sandel writes that we must, "Call into question an assumption that informs much market-oriented thinking. This is the assumption that all goods are commensurable, that all goods can be translated without loss into a single measure or unit of value."

Post-crisis, the critics of economics have plenty of new ammunition to lob at the subject. The pressure for an economists' code of ethics has been strong enough to embarrass the American Economic Association into drafting some guidelines, albeit amounting to a statement of minimal integrity for any researcher, the requirement to declare funding sources in order to be published in an AEA journal. It is hard to see how any economist publishing research they want to stand up to peer review to object to the principle of naming funding sources and providing the data they used. There is also now a well-funded 'Institute for New

[23] http://www.tannerlectures.utah.edu/lectures/atoz.html#s Accessed 17/2/12; *What Money Can't Buy: The Moral Limits to Markets*, publisher, 2012.

Economic Thinking' sponsoring conferences and research, and an active 'Real World Economics Association' (formerly called the 'Post-Autistic Economics Association'). Not to mention the novelists and poets who would also agree with Sandel. Mainstream economists tend to be dismissive of the critics, either the non-economists or the economists who identify themselves as 'heterodox', content with a rapidly-growing body of empirical research suggesting that in many contexts 'markets' do lead to more desirable outcomes than direct government management of the economy. However, economists know – as non-economists generally do not – that the character of economics itself has changed substantially during the past 25 years.[24] In many areas of economics the free market version that has shaped so much public policy is long, long gone, replaced by a modern mainstream version that combines the classic emphasis on the power of incentives and the inevitability of choice with a more recent evidence-driven understanding of human psychology, the effects of technology, the importance of institutions and culture, and the long hand of history.

So for example economists have been eager adopters of so-called 'behavioural' models and findings from cognitive science that demonstrate without any doubt that the standard rationality assumptions of conventional economics are invalid in some circumstances. There is an active field of research exploring the contexts in which new behavioural assumptions need to be applied, and the implications of doing so for economic models and economic policy. Similarly, institutional economics incorporates collective decisions as being more than the sum of separate individual decisions. It recognises that people have different interests and that politics – with either a small or a large p – will have an important effect on economics. Economic history and sociology are also exerting greater influence on what could be called mainstream economics.

In other words, much of the economics that academic economists now do bears surprisingly little relation to the everyday economics debated in politics and applied in public policy. Paradoxically, the leading economists practising the eclectic modern mainstream (whether their field is behavioural or institutional economics, or the economics of 'happiness', or political economy) are often celebrated by commentators who at the same time are very critical of 'economics'. By the latter, these critics seem to mean the narrow, abstract version of economics adopted by Mr Reagan and Mrs Thatcher. That has been taken too seriously for too long outside the profession. Equally, though, economists have kept too quiet about its slow but steady decline within the profession. For example, historian and philosopher Jonathan Rée recently wrote a glowing review of a new book by Paul Seabright, a leading economist at the University of Toulouse. But Rée asserted that Seabright is regarded by other economists as an "oddball, even a miscreant".[25] This is so wide of the mark that it is baffling, and I think Rée simply cannot imagine that an economist interested in psychology and anthropology is a reasonably mainstream and highly respected member of the profession. Many of us have long known that economics as it is

[24] See my book *The Soulful Science: What Economists Really Do and Why It Matters*, Princeton University Press, Princeton NJ.
[25] 'The War of the Sexes – review' Guardian, 12 April 2012, accessed 4/5/12 http://www.guardian.co.uk/books/2012/apr/20/society-history

actually practised has become much subtler than the public version, but few have said so, prolonging the misperception that we are all free market ideologues.

I think the explanation might be a kind of professional courtesy to just one branch of economics, albeit an important one. That is macroeconomics, a specialism of relatively few professional economists, but absolutely dominant in the public eye. Normal people think that macroeconomics, forecasting inflation and growth, setting interest rates or the level of government borrowing, is what all economists do. Macroeconomic forecasting is indeed an important function, and is covered by the media constantly, so people must be forgiven for thinking this is the most important part of economics. Unfortunately, macroeconomics is one of the last specialisms within the subject to cling to the narrowness of perspective our critics habitually attribute to us. At least until the crisis, pointing this out from within the profession felt a bit like admitting to the mad wife in the attic, a guilty secret to be kept inside the family. It should be added that macroeconomists by and large disagree with this statement. Many would argue just that their area of the subject needs reform, not revolution. I will return to this in the next lecture as macroeconomics is so important in economic policy.

Markets as a process

Economics has long had its internal dissenters, such as those in the Real World Economics Movement, who now feel wholly vindicated by the crisis. They think the moment has come for a Kuhnian paradigm shift in economics.[26] My argument is different. It is that the mainstream of economics was never monolithic and anyway has been changing gradually but dramatically for over two decades. Its centre of gravity has moved away from theory to applied work, away from macroeconomics to microeconomics, and away from abstraction to institutional and behavioural detail. This shift does not mean that the centre of gravity of professional opinion has abandoned markets, however. Most economists consider markets as generally a better way than direct government intervention of organising the economy, still often advocate market solutions (such as carbon trading or school vouchers) for policy problems, remain convinced about the merits of trade liberalisation, and so on. The difference is that the economist's proposals will be justified by evidence given the much greater role now for specific applied research. If the evidence suggests an active government role, that will be the recommendation. The idea of the 'nudge', whereby policies recognise psychological realities such as inertia or the effect of reference points, is one example. Even here, the economist's recommendations combine government paternalism with the use of markets.

What is the basis of the claim for the general superiority of markets over government? It is certainly not the 'official' reason given by microeconomic theory. The idea of 'general equilibrium' is an important principle, making the point that everything in the economy is connected and the full consequences of

[26] Thomas Kuhn, *The Structure of Scientific Revolutions*, University of Chicago Press, Chicago 1996 [1962].

any action can be far reaching. It is a useful inoculation against the temptation to indulge in social engineering, because it is so hard to think through al the possible consequences of any action or policy. However, this is not how general equilibrium is typically taught to economics students. In the abstract, ideal world of general equilibrium theory, with identical individuals making their own choices according to pre-determined preferences, and no transactions costs or externalities, it is possible to prove the theorem that the competitive equilibrium will replicate the decisions of an omniscient and benign central planner. In these abstract conditions, the market – in other words, a series of trades between individuals regulated by price – is the most efficient way of discovering and satisfying individual desires. This confection, along with its welfare implications, is taught to graduate students of economics. I still count this specific course as one of the least useful bits of studying I ever had to do. Only those few economists who go on to become pure theorists and teach general equilibrium theory to their successor cohorts ever think about it again. One would have thought it was too flimsy a philosophical foundation for a political revolution that has barely started to fade after a whole generation – although, as Lord Turner explained, it did tightly frame the task of public policy as extending the reach of markets. The tenacious hold of market-oriented philosophy Michael Sandel criticises has also come about because markets are far more useful in practice than they are in theory. I mean useful in the sense of making many people better off in terms of enabling them to make the choices that they want, given the constraints of their income and the availability of resources.

To explain this, it is important to distinguish between markets as a source and description of *value*, which is what Sandel disapproves of, and markets as a process for orchestrating economic activity. These are often confused, not least because formal general equilibrium theory still has a status in the teaching of the academic discipline that has evaporated in practice. Many economists confuse the two as well, and tend to think that market price is either the best or the only means of assigning value. The confusion is a source of much of the criticism of economics. However, Sandel is surely correct to argue that there are some values that cannot be expressed in terms of money or prices, and that it demeans other important (non-monetary) values to regard market price as a complete measure of worth. I will return to this point.

What markets do brilliantly, though, is to co-ordinate the use of resources in a process of discovery and challenge. The information signalled by the price set by the intersection of demand and supply is an almost miraculous co-ordinating device. Many economists have described this co-ordination. Here is Paul Seabright:

> *"This morning I went out and bought a shirt. … The shirt I bought, although a simple item by the miracle of modern technology, represents a triumph of international coordination. The cotton was grown in India, from seeds developed in the United States; the artificial fibre in the thread comes from Portugal and the material in the dyes from at least six other countries; the collar linings come from Brazil, and the machinery for weaving, cutting and sewing from Germany; the shirt itself was made up in Malaysia. The project*

> *of making a shirt and delivering it to me in Toulouse has been a long time in the planning, since well before the morning two winters ago when an Indian farmer led a pair of ploughing bullocks across his land on the red plains outside Coimbatore. Engineers in Cologne and chemists in Birmingham were involved in the preparation many years ago. … And yet I am sure that nobody knew I was going to be buying a shirt of this kind today."*[27]

We know that in many cases the market price excludes important information, such as the true cost of CO2 emissions from the burning of fossil fuels. Nevertheless, the catastrophic economic (never mind political) failure of the planned economies demonstrates the inability of a central planner to replicate this information co-ordinating process.

Competitive markets also provide an unrivalled way of changing the allocation of resources over time. John Kay has described this function as a 'discovery process'. Josef Schumpeter famously referred to it as 'creative destruction'. The competitive process is the source of dynamism in the economy – innovation, the production of new goods and services, growth. Other types of economic organisation can sustain growth for a period, perhaps quite a long period, including the central planner.[28] But new goods and services, the source of the astonishing increase in prosperity for the past quarter of a millennium, would not become available without markets.

It is important to underline the word competitive in this statement. There is a serious confusion between markets and business in public debate and public policy. As Adam Smith famously pointed out in the Wealth of Nations, businessmen will naturally be inclined to combine against the public interest to improve their profits. A 'pro-business' policy helping a large company or an oligopolistic sector of the economy make more money is not the same as a 'pro-market' or 'pro-economy' policy, although the distinction is often elided. The benefits of markets depend on the existence of competition between suppliers, whereas businesses prefer an absence of competition. And some economists take the corporate shilling and make pro-business rather than pro-market, pro-competition arguments.

Competition is unfortunately quite a tender plant. Politicians and regulators need to be vigilant against incumbents' interest in keeping out new entrants and inhibiting competition. The more successful, the larger, the more profitable and powerful the incumbents, the harder it is to maintain competition. Every so often in democracies, the accretion of corporate interest is swept away on a tide of popular indignation. The classic instance is the trust-busting and break up of giants such as Standard Oil in the United States in the 1930s, thanks to the investigations of journalist Ida Tarbell and the political context of populism and anger as the stockmarket crash and economic downturn collided with high levels of inequality and Jazz Age conspicuous consumption by the rich. The present

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[27] *The Company of Strangers: A Natural History of Economic Life,* Princeton University Press, Princeton NJ, 2010. Chapter 1.

[28] For examples see *Why Nations Fail* by Daron Acemoglu and James Robinson. Profile Books, London. 2012.

context in the US, and arguably the UK too, is similar. There is certainly now a similar need to ensure that markets are competitive, and are not rigged in favour of incumbent corporate interests. We cannot be confident this is the case. There is too little effective competition in the economy, and markets are not working well.

The role of markets as a discovery process is, I would argue, fundamental to economics. The reason is that set out by Hayek in his classic 1946 article, *The Use of Knowledge in Society*, namely that markets can co-ordinate information about what he describes as 'unorganized' knowledge, "The knowledge of the particular circumstances of time and place." This detail can never, by its nature, be aggregated or turned into statistics. It can only be used in a decentralized way. He writes: "The most significant fact about this system is the economy of knowledge with which it operates, or how little the individual participants need to know in order to be able to take the right action. In abbreviated form, by a kind of symbol, only the most essential information is passed on and passed on only to those concerned."[29]

The advantages of markets as a co-ordination and discovery process do not override the disadvantages of markets as a means of valuation in some specific circumstances, however. Because, of course, the two functions co-exist. To allocate economic resources of one kind or another through a market is at the same time usually to put a monetary price on them. Economists have not often enough acknowledged the force of what we could call the Sandel critique. There are circumstances in which a less efficient mechanism for allocation should be preferable because non-monetary values are more important than monetary ones. His examples centre on the value of civic participation, the "republican virtues". Others come from the domain of fairness. Rationing in wartime invariably gives rise to so-called 'black markets', which the authorities have to spend much effort to stamping out. The conventional economic view would be that price is the most efficient rationing device: if supply is restricted, the best use of scarce resources is to allocate them to people who value them the most as reflected in their willingness to pay a higher price. Similar arguments are made about rent controls or controls on foreign exchange. But access to food or clothes in wartime is not the same as access to the housing market in normal times. On the contrary, it is essential for all citizens to be in the same boat, even if the result is some allocative inefficiency, when there is a national emergency such as war making civic participation vital. The non-monetary value of fairness trumps price signals and market efficiency.

However, we ought to be clear – and clearer than Sandel is – about when civic values trump market values, and when market processes are useful even if we want to apply a non-monetary mode of valuing outcomes. Many people would agree with his examples concerning warfare, or justice: we do not want a market in evading the draft or in buying the desired outcome of a trial. He argues for excluding medicine from the market – should only the rich be able to buy a

[29] Hayek, Friedrich A. "The Use of Knowledge in Society." *American Economic Review*. XXXV, No. 4. pp. 519-30. American Economic Association . 1945 . Library of Economics and Liberty [Online] available from http://www.econlib.org/library/Essays/hykKnw1.html; accessed 26 March 2012

kidney or heart? Here, though, the confusion between values and processes applies. Economist Al Roth, an expert in the field of market design, designed a kidney exchange; although money does not change hands, it is a market. Within just a few years of his innovation, 30 people in New England had received kidneys – without putting a price on them – through this market.[30]

Keeping markets as processes for matching supply and demand, and markets as a way of putting a price on everything, conceptually separate might help evaluate the kinds of circumstances in which we would want to apply Sandel's civic values over-ride. This distinction is at the heart of the current UK debate over the organisation of the National Health Service, for example. Proponents of reform insist that they do not intend to challenge the general principle of tax-funded free healthcare at the point of use, and get irritated that opponents are equally insistent that the hidden aim is privatisation. Both sides misunderstand each other to an extent. I think some opponents of proposals for extending the domain of markets in UK healthcare object on grounds of fairness – preferring rationing by waiting list to rationing by price – and on grounds of civic participation – the NHS being one of the most important civic institutions in this country, binding us together through common experience. Supporters of reform seek to introduce market processes, specifically the discovery process of competitive supply, to improve NHS efficiency. Changing the process does not amount to privatisation and does not make monetary values paramount. It might be helpful if the political debate were explicit about the distinctions in this context.

Rational pigeons and economic science

So far I have been arguing that economics does bear some responsibility for shaping reality in its theoretical image, to an important degree in financial markets and to a lesser degree in marketising society, although political ideology and the wider intellectual framework of public policy have also played a significant part in this. The political debate has relied on the simple rational expectations models of neoclassical economics for considerably longer than many economists, whose greater sin is perhaps that of omitting to contribute to the wider public policy discussion as economics itself has progressed. Economics has changed – and is changing still – but its monsters live on. This is especially true in the field of macroeconomics, which is what most people, wrongly, think most economists do. Conventional macroeconomics has been definitively proven inadequate by the crisis, but there is nothing to replace it with, so we are left with shouting matches about macroeconomic policy between different camps.

I have nevertheless strongly supported economists' advocacy of competition in a market as an essential process for the efficient allocation and reallocation of resources over time. Competing against other producers encourages the efficient use of resources at any point in time and the innovation of new products and services over time. When we talk about economic growth, what we really mean is

[30] A Roth, Tayfun Sonmez, Utku Unver, 'Kidney Exchange', *The Quarterly Journal of Economics* (2004) 119 (2): 457-488. See also A Roth, "Repugnance as a Constraint on Markets", *Journal of Economic Perspectives*, 21:3, Summer, 2007, pp. 37-58.

innovation, new ideas that improve people's lives. GDP growth is not just more bread and more skirts and jackets; it is also new medicines, a wider range of book titles, undreamt of artefacts like the internet and smartphones, the opportunity to travel to other countries, and visit the cinema or attend the Olympics. Human curiosity alone would have brought many discoveries, but commercial imperatives and the pressure of contesting for customers in markets are needed to translate discovery into many people's lives. It is new ideas, made mass reality, that have enriched us over the centuries.

Yet economists should also acknowledge that markets have limitations as a measure of value. As well as the classic list of market failures, not all values are measured in terms of prices, and non-monetary values will trump monetary measures in certain contexts. Although it is important and useful to keep these dimensions of markets separate, it is not easy to spell out which contexts are which. What is the proper domain of profits and prices, and where instead do other values such as fairness or civic engagement override market measures? The boundary varies between countries, has shifted over time, and continues to be a matter of political debate. Even so, the critique of the emphasis on markets in economics can be addressed by the distinction I have been making between their functions as a process for organising activity and as a measure of value.

However, there is a more challenging critique, one that goes to the heart of economic methodology. An objection critics of economics often make is that it is obviously false to assume that people are rational, and therefore economics, which does make that assumption, must be fundamentally in error. How can we model behaviour without the foundational assumption of rational self-interest? Economists have responded with an intense interest in behavioural psychology. If there are non-rational regularities in human behaviour that we can incorporate as variations into our analysis, most economists will cheerfully do so. By these I mean predictable ways in which people diverge from the broadly self-interested calculating logic based on all available information and fixed preferences, as assumed by conventional economic models. There is quite a long list of such divergences, including framing effects, endowment effects, inconsistent preferences and so on. Daniel Kahneman explains these as the result of the interplay between 'fast' and 'slow' thinking, which occur in different parts of the brain.[31] Fast thinking comprises rules of thumb and intuitive choices, and is the norm. Slow thinking is the rational calculation, which is hard work given our brain structure and therefore costly in terms of energy. Conventional economics has been based on the assumption of slow thinking, but is slowly incorporating fast thinking as well in the form of behavioural rules of thumb.

There are several paradoxes, however, suggesting this a temporary methodological fix. Kahneman's experiments demonstrated that often people who think they are making rational choices turn out to demonstrate all kinds of biases that undermine the conventional assumptions of economics. He shared the Economics Nobel memorial prize in 2002 with Vernon Smith, whose experimental work has shown that people's spur of the moment decisions often

[31] Daniel Kahneman, *Thinking, Fast and Slow*, Allen Lane, 2011.

lead to exactly the outcomes that conventional rationality-based economics would predict. Other researchers looking at animal behaviour have shown that pigeons, rats, bees and capuchin monkeys in trading for food also act like rational, calculating homo economicus. As Keith Stanovich sums it up, "The behavior of many non-human animals does in fact follow pretty closely the axioms of rational choice."[32] Some critics of these results suggest this result is an artefact of the experimental context, but that surely underlines the point that there is some aspect of context that brings about 'slow' thinking. This might just be simplicity: as Stanovich points out, either simple minds (as in a pigeon) or a simple environment makes rational choice all the easier.[33] Robert Aumann reconciles the opposing results of Smith and Tversky – that people do make rational choice decisions and that they do not – by suggesting that we adopt rules of behaviour that usually result in rationally optimal decisions, but sometimes not. One could describe it as lazy rationality. [34]

The thought underlying the economists' much-criticised assumption of rationality in some form must be solid. Self-interest and competition exist in nature. They drive evolutionary success. Within the brain, each individual neuron acts like *homo economicus*. The everyday impression that the eye is a camera recording every aspect of a scene and delivering it to the brain is false. Our brains absorb only a fraction of the universe of perceptual data. What comes to our conscious attention is the result of a ferocious competition between neurons to rise through successive layers of the brain, subject to an energy constraint. The descriptions of cognitive scientists suggest this process could be successfully modelled as a classic constrained optimisation problem borrowed from economics.[35]

If so, this would be the latest in a number of examples of borrowing between economics and biology. Malthus' essay on population inspired Darwin.[36] He in his turn inspired social scientists ranging from the distortions of social Darwinism to Karl Marx, whose request to dedicate *Das Kapital* to Darwin was politely declined. Evolution has ever since been used, at least as a metaphor, by any economist who studies business and markets, as competition is indeed a kind of survival of the fittest. Game theory offers another example of fruitful exchange between biology and economics, with John Maynard Smith borrowing the concept for evolutionary game theory, and the subsequent work of biologists feeding back into economists' thinking about altruism and reciprocity. At

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[32] Keith Stanovich, *The Robot's Rebellion: Finding Meaning in the Age of Darwin*, University of Chicago Press, 2005. See also Debra Satz and John Ferejohn (1994) Rational Choice and Social Theory, (1994). *Journal of Philosophy* 91 (2):71-87. And Keith Chen, Venkat Lakshminarayayan and Laurie Santos, 'The Evolution of Our Preferences: Evidence from Capuchin Monkey Trading Behaviour', July 2006,
http://faculty.som.yale.edu/keithchen/papers/Final_CapLossAver_WP06.pdf Accessed 27/3/12

[33] Stanovich, ibid.

[34] See http://www.voxeu.eu/index.php?q=node/6961#anchor Accessed 24/4/12

[35] 'The Invisible Hand Meete The invisible Gorilla, accessed 4/5/12
http://www.idei.fr/doc/conf/psy/2011/summary.pdf

[36] Janet *Charles Darwin: Voyaging*, Janet Browne, Pimlico, 2003 (Jonathan Cape 1995)

present, the intellectual exchange is the application to the economy, especially the financial sector, of the models of complexity and networks used in ecology.[37]

This lengthy mutual inspiration between economics and biology is easy to understand. Economics is (as other social sciences ought to be) fundamentally a part of natural science as well as a part of the humanities. Its ambition is to discover how individual and social choices about the use of resources, shaped as they are by history and culture, fit into the natural universe. This might be an insanely over-reaching ambition, but it is the correct ambition. One of the founding fathers of economics, David Hume, saw his political economy as part of the same intellectual project as understanding refraction or reasoning about how we can get from perception to knowledge. Modern economics must stay true to these intellectual roots. C.P Snow, remembered for dividing knowledge into 'two cultures' in fact concluded, in reflecting on the discussion about his famous lecture, that there are three, and populated this third culture with the social sciences:

> *"I have been increasingly impressed by a body of intellectual opinion, forming itself, without organisation, without any kind of lead or conscious direction, under the surface of this debate. This body of opinion seems to come from intellectual persons in a variety of fields – social history, sociology, demography, political science, economics, government (in the American academic sense), psychology, medicine, and social arts such as architecture. It seems a mixed bag, but there is an inner consistency. All of them are concerned with how human beings are living or have lived – and concerned, not in terms of legend, but in fact."*[38]

Critics of economics do not like its ambition to be part of empirical science. The subject has often been accused of physics envy, as if this were a terrible crime. Actually, the accusation often boils down to a charge of being too mechanistic, or too reductionist, which is a different matter. The accusers do not seem to mind as much economists being inspired by biology (or for that matter by a different kind of technique from physics such as the non-linear dynamics of phase transitions). It might be objected that economics cannot be located in the sciences because its methodology can never be experimental, like the natural sciences. Even an event like the Great Financial Crash does not provide experimental evidence because it is too contingent; today's circumstances are too different even from those of the 1920s and 1930s. However, not only are experimental methods and randomised control trials increasingly being used in economics, the natural sciences themselves do not offer as many pure demonstrations of the classic, experimental scientific method as one might think. As Stephen Jay Gould put it:

> *"A large range of factual subjects, evidently part of science and duly explainable (in principle) by empirical methods operating under natural laws, treats different kinds of inordinately complex and historically*

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[37] Andrew G Haldane and Robert M May, 'Systemic risk in banking ecosystems', *Nature* 469, 351–355 (20 January 2011) Accessed 4/5/12

[38] Quoted in Stephen Jay Gould, The Hedgehog and The Fox, p94. Original lecture published as Snow, C.P. (2001 [1959]). *The Two Cultures*. London: Cambridge University Press.

> *contingent systems – the history of continents and landforms, or the pattern of life's phylogeny, for example – as not deducible, or predictable at all, from natural laws tested and applied in laboratory experiments, but crucially dependent on the unique character of antecedent historical states in a narrative sequence fully subject to explanation after the fact, but unpredictable beforehand."*[39]

He argued that natural scientists underplay narrative, historical explanations, thereby restricting their official toolkit unnecessarily.

Economics sits alongside evolutionary theory and cognitive science as well as alongside sociology and political science. But it is a difficult subject because – as I began by saying in this lecture – it can change the reality it is studying. It is as if Dr Frankenstein had intended not only to create life but also to anticipate in advance everything the creature might do when it gained consciousness, and then to adjust the creation to take account of that otherwise changed world. Or to use a different image, economics is like meteorology, a vast, complex non-linear dynamic system but with atmospheric variables that are *conscious and self-conscious*. Economists certainly need to be modest about how little progress we have made so far; but we must resist regarding the subject as anything less than a part of the great intellectual voyage of modern science. The Great Financial Crisis is helping both on the modesty front and with the substance of sending at least some economists back to substantial questions of what we know, rather than what we theorise. This is painful. It is difficult to make a public admission of error, and all the more so for academics who are professionally identified with certain ideas and theories. Some of them are offering spirited resistance to any and every criticism. However, the shock is welcome if it re-roots economics in careful observation of people's behaviour.

Responsible economics

Rather than Keynes's "humble, competent" dentists, economists need to be more like laboratory technicians – not Dr Frankenstein but his cautious assistant. For several reasons, the recent past has seen a vast amount of careful, detailed empirical work in economics. Computers mean many more data sets can be created, accessed and shared. Statistical techniques for analysing economic data have improved, and techniques such as experiments and randomized control trials have become more widely used. The interaction of theory and evidence is central to the advance of human understanding, to borrow from the title of David Hume's great *Inquiry.*[40]

It is an irony that all this work, flooding out daily in online working papers, is being undertaken just as the public image of economics is so dismal. This suggests that economists have yet to apply one important lesson from the recent experience of the links between economics and the real world. That is the need

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[39] Stephen Jay Gould, *The Hedgehog and The Fox*, p 137
[40] David Hume, *Inquiry Concerning Human Understanding*, first pub. 1748.

for a science that can alter the world to engage with the world, to engage in debate and promote public understanding of what economists do now rather than what we did in 1980. Greater engagement has started. For example, economists are prominent in the blogosphere, far more so than other social and natural scientists, and feature prominently among the ranks of public intellectuals.[41] The need for improvement in economists' engagement with public policy debates – along with other specific responsibilities of economists to the public – is the subject of my second lecture.

[41] See Mark Thoma, New Forms of Communication and the Public Mission of Economics: Overcoming the Great Disconnect, November 2011, http://publicsphere.ssrc.org/thoma-new-forms-of-communication-and-the-public-mission-of-economics/ Accessed 27/3/12

PART II

Why is economics special?

Why is there no Government Chief Anthropologist? The UK and other countries appoint natural scientists, and economists, to prominent official roles, but not other social scientists. In this lecture I want to address this question of why economists have so central a role in policymaking, and whether that status is justified, or on the contrary abused. The first lecture discussed the influence of the subject of economics on the world in the broad sense of shaping the intellectual, and consequently the real world, framework within which political and policy debates take place. This lecture will turn to the direct influence of economists on policy making, both the ample commentary by academic and think tank economists on specific policies, and the direct role of economists in government; and then to the responsibilities this influence entails.

A few thousands of economists altogether work in the UK in government: in Whitehall departments, in industry regulatory bodies, in the Bank of England and financial regulators, and in local government and its satellite bodies. Their specific tasks vary greatly of course, but a recent survey of Government Economic Service members asked them to categorise their work; and reported that overwhelmingly they described their main task as communicating the results of technical economic analysis to non-specialists, either their non-economist colleagues or politicians.[42] Communication, influencing the public debate, is also one of the main functions of the many hundreds of other economists who circle the public policy world in think tanks or as academics urged by their funding bodies to develop and demonstrate the 'impact' of their research. Policy economics, this suggests, is an activity of persuasion.

I have been arguing that there is a lag between the state of economics in the academic world today and the economics still being implemented in the policy world. While mainstream economic research has moved far beyond the reductive rational expectations 'free market' versions of 1980s reality and 2012 caricature, official policy economics has probably not moved as far. The high tide of this modelling approach in universities occurred a generation ago, but I think it is just now beginning to ebb in the kind of economics practised in government and especially regulatory agencies. This sort of lag is inevitable. Keynes, endlessly quotable, warned about the enduring influence of economic ideas that are past their use-by date: "Madmen in authority, who hear voices in the air, are distilling their frenzy from some academic scribbler of a few years back."[43] He overstated for dramatic effect, as he so often did, but one can hardly expect people outside the academic world to stay at the frontier of research as well as doing their day job.

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[42] See also Jonathan Portes, 'Economists in government: what are they good for?' http://notthetreasuryview.blogspot.co.uk/2012/01/economists-in-government-what-are-they.html 12/1/12 Accessed 30/4/12 Survey as yet unpublished for GES by Paul Anand, Open University, and Jonathan Leape, London School of Economics.

[43] Concluding notes, *General Theory of Employment, Interest and Money*.

However, the fact that policy economists are inevitably lagging somewhat behind the world of academic economic research is not the main point I want to make. I have two other themes. One is that there is a core paradox in policy economics: economic analysis in the world of policy takes the perspective of an objective, omniscient outsider whose benign aim is to maximise social welfare; but by putting economics into practice through public policy, the policy economist cannot avoid stepping into the model. The economist is not a *deus ex machina*. Policies have to be implemented by policymakers, including economists, and the implementation of policy is so fraught with difficulty that it is often described as 'government failure'. This is a well-known problem in standard welfare economics, having by highlighted by among others Ronald Coase in a classic 1960 paper, 'The Problem of Social Cost'. Standard cost-benefit analysis should take into account this question of perspective, as described below, because part of the assessment is how well the economist has done his or her job in analysing what needs to be done, and how well they can implement any proposals. Even so, economists in the policy world pay remarkably little attention to implementation and transactions costs in their analytical models of policy problems – even though the importance of institutions of governance for economic outcomes is increasingly recognised in the subject.

This takes me to my other theme, which is the broader interaction of economics and politics. At one level, the pressures spilling over from political debate mean that economists end up appearing or claiming to be certain where they are deeply uncertain, but at the same time being too diffident about expressing inconvenient truths in areas where we can be much more certain about what we say. At a deeper level, there is a tension between the technical expertise of economics and democratic legitimacy, a tension that has become more evident recently in Greece and Italy, currently run by appointed economists. It is time economists gave some careful thought to the political economy of policy economics.

Before exploring these themes – the self-referential character of policy economics, and its inevitably political aspects – I want to make it clear that the discipline of economics is fundamental for good policy-making. Its benefits are not always visible, although they are pervasive. It is important to set out just why economics does and should have a special role in public policy. The reason lies essentially in some key principles of economics.

One absolutely fundamental concept the subject brings to decision-making in government is opportunity cost. This is really just a statement of physics, that time runs forward and that resources used in one activity are not available for an alternative. Economics is the study of choice between alternatives. Opportunity cost is an unpopular concept in the world of policy and politics, however. Politicians reflect their voters' preference for having your cake and eating it.

Another simple but fundamental idea is cost-benefit analysis. There is an elaborate Whitehall machinery for doing this, in the shape of 'impact

assessments'.[44] These consist of trying to list and measure where possible all the likely results of a policy. Those that can be measured are supposed to be converted into pounds – the guidance strongly encourages expressing costs and benefits in monetary terms – and the pluses and minuses netted off against each other. This lends an assumption-laden exercise a sometimes-spurious precision, although this danger is also explicitly recognised in the guidance. It certainly privileges effects that can be directly measured and monetized. The claim of this kind of analysis to be an exact science is therefore overdone. There are also two potential pitfalls, set out by Coase in his 1960 paper. One concerns the scope of the assessment – the costs included in the balance need to include the transactions costs associated with any kind of intervention. The government economist has to put him or herself into the cost-benefit assessment. As Coase put it:

> *"It is clear that the government has powers which might enable it to get some things done at a lower cost than could a private organisation. … But the governmental administrative machine is not itself costless. It can in fact on occasion be extremely costly. Furthermore there is no reason to suppose that the restrictive … regulations, made by a fallible administration subject to political pressures and operating without any competitive check, will necessarily always be those which increase the efficiency with which the economic system operates."* [45]

He continues, "All solutions have costs." A specific policy or regulation may solve one problem but cause others elsewhere, and those effects need to be incorporated into the assessment. There are many, many examples of the failure of government policies to allow for unintended consequences. Coase attributes this to the economists' habit of seeing their job as closing a gap between private and social welfare in a particular context without considering the way behaviour will change as a result. The second potential hurdle is what he describes as a "looseness of thought" stemming from not comparing a particular course of action to a clear alternative – which usually will be the status quo. Too often the comparison made is between an ideal world (including the proposed measure) and a mythical world. My limited experience of Whitehall impact assessments is that they are well-intentioned but flawed, both because of the Coaseian problems but also because of the drive to turn everything into a monetary measure. Even with these caveats, though, a systematic framework for setting out the pros and cons of a decision, and making clear what is empirical fact and what is a matter of judgment, is an essential discipline.[46]

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[44] The approach is set out in the Treasury's Green Book documentation http://www.hm-treasury.gov.uk/data_greenbook_index.htm

[45] Ronald H Coase, 'The Problem of Social Cost', *Journal of Law and Economics*, October 1960.

[46] The concept of 'public value' provides an alternative and more explicitly judgemental discipline, used in the BBC and English Heritage. Its terminology has gone out of fashion but it is essentially a cost-benefit analysis that recognises the inherent difficulty of comparing incommensurate or even unmeasurable variables. See D Coyle and C Woolward *Public Value in Practice*, BBC Trust, 2009, accessed 30/3/12 http://www.bbc.co.uk/bbctrust/assets/files/pdf/regulatory_framework/pvt/public_value_practice.pdf

Those two concepts between them, opportunity cost and cost-benefit analysis, are alone enough to justify the privileged role of economics in government, because they impose a discipline on policy choices that would otherwise be absent. However, the distinctive contribution of economics in policy analysis goes beyond these basics. What's more, this contribution is improving all the time, thanks to the far greater availability of data, computer power and sophisticated statistical methods for analysing data. Here are a few examples.

Incentives and market design

Market design is a field of applied economics trying to create institutions that will make a particular market or service work efficiently. It applies the assumption that people respond to incentives to specific institutional contexts and has delivered some extraordinary successes for economics in public policy. Market design combines the assumption of rational selfishness with the knowledge that there is no such thing as an abstract 'free' market; all markets are social institutions whose detail differs in important ways. The context does matter: as I described in the first of these lectures, sometimes the assumption of rational self-interest is not empirically valid, and sometimes it is. The boundary between these contexts is not entirely clear, although it is obviously linked to the difficulty we have in making any calculations about uncertain future events. But when the assumption is valid, which is often, economic models analysing incentives and behaviour are powerful devices for predicting and shaping policy outcomes, either as the aggregate of individuals' behaviour, or using game theory and auction theory where there are relatively few market participants. One well-known example is the auction of phone spectrum for 3G services in the UK in 2000.[47]

The analysis of markets in general has been a fruitful territory for policy economics. Sector regulators in effect design the markets in their industries. Some designed markets, as described in the first lecture, are matching markets such as Alvin Roth's kidney exchange. Transport economics has had many policy applications. Daniel McFadden was co-recipient of the 2000 Nobel memorial prize for his development of econometric methods for predicting passenger demand, as applied in a now-classic example to San Francisco's BART authority.[48] Economists are keen on road pricing mechanisms and congestion charges. In many places, there are shortages of taxis, sustained by barriers to entry in the form of licences. A taxi license or medallion is a valuable piece of property, and incumbents ardently resist the issue of new ones no matter how acute the taxi shortage. This makes the regulation of fares essential, otherwise taxi owners and drivers could extract large monopoly rents from their customers. One successful reform proposal based on economic analysis was John Fingleton's 1997 proposal to re-regulate the Dublin taxi market by issuing a second licence to all existing holders, who could then sell them on. The

[47] The Biggest Auction Ever: the Sale of the British 3G Telcom Licences, Ken Binmore and Paul Klemperer, September 2001 http://economics.ouls.ox.ac.uk/11891/1/biggestsept.pdf Accessed 5/34/12

[48] McFadden, Daniel, 'The Measurement of Urban Travel Demand', *Journal of Public Economics,* 3, 1974, 303-328.

incumbents were thus compensated for the dilution of their original property rights.[49]

Other areas of policy where market analysis is fundamental include industry regulation and competition policy. Although the analytical starting point remains rational choice in competitive markets, economists working in these areas have more reason than most to know that these assumptions are unlikely to be valid. They increasingly draw instead on a longstanding tradition of analysing departures from competition, and increasingly the newer literature on behavioural economics especially as applied to consumer choice. One good example of why the latter matters is given by Rufus Pollock, who looked at why the deregulation of directory inquiries in the UK in 2003 failed to lead to a much more competitive market. He concluded that consumers, faced with a wide range of unfamiliar numbers combined with limitations on their capacity to process information and make rational choices, gravitated towards one that was easy to remember and was marketed with genius, namely 118 118. The companies that bought other seemingly more advantageous numbers made the same mistake as the regulators in their assumptions about consumer behaviour, and paid more than the newcomer, The Number.[50] The table below shows the rather dramatic concentration of this supposedly more competitive market. There was also no sign of the expected negative correlation between price and demand, or positive link between price and accuracy or quality of service.

Number	Operator	Mar 2004	Nov 2004	Nov 2005
118 118	The Number	39	41	42
118 500	BT	18	26	26
118 000	Orange	3	5	3
118 800	Directory Enquiries UK	1	3	4
118 247	Yell	1	3	6
118 811	The Number	1	2	2
118 888	Conduit	5	2	1
118 111	Onetel	1	2	2
118 180	Telewest	0	2	2
118 878	NTL	0	1	1
118 747	UK Directory Assistance	0	1	1
118 511	British Gas	0	1	1
118 114	Opal Telecom	0	1	1
118 321	Tesco	0	1	1
118 212	Maureen	0	1	1
118 770	Telewest	0	0	1
Other (Unaccounted)		31	8	5

Percentage Market Shares of DQ Providers 2004-2005 Source: R Pollock 2009

[49] 'Dublin's Taxi Market: Re-Regulate or Stay Queueing?' John Fingleton, John Evans and Oliver Hogan, 1997. Available at http://www.taxi-library.org/dublin.htm Accessed 30/3/12

[50] Changing the Numbers: UK Directory Enquiries Deregulation and the Failure of Choice, Rufus Pollock, http://rufuspollock.org/2009/02/10/changing-the-numbers-uk-directory-enquiries-deregulation-and-the-failure-of-choice/ Accessed 5/4/12

Results like this mean economists working in the sector and competition regulators are hungry to make better use of behavioural economics in their work, and are just as interested as all economists in using the psychological research to improve economic analysis.

There are many more possible examples. Market analysis is the everyday bread and butter work of public policy economics, in Whitehall and Brussels, in industry regulators, in some think tanks and in the academic world. Its techniques are continually improving, thanks in part to the availability of new data sets, or methodological innovations such as Randomised Control Trials (mostly so far used in the developing country context), or better econometric methods. The economics that comes to wider attention, including economic growth forecasts and government budget questions, forms the tiny tip of a huge and growing iceberg of policy-relevant applied economics. The UK is blessed with a number of excellent centres of research doing policy analysis of this kind. Their work is rapidly expanding the potential for improving public policies, rooting policy in solid empirical evidence about its likely effectiveness.

And its expansion will be controversial. When evidence and prior belief conflict, it is not at all clear that evidence will win, especially given the humility that should be involved in a solidly scientific approach to empirical evidence. Although there is no doubt about the important contribution economics makes to better public policy, there is also a question about the subject's claim to any kind of scientific or empirical objectivity at all. It is one that arises from its character as a social science, whose subject is – ourselves.

Putting economists into economics

The intellectual machinery described above is unique to economics. Other social sciences could not substitute for the use of economics in policy making (although it is not entirely clear to me why the other social sciences are so disdainful about doing quantitative empirical research themselves). But that still leaves the question of whether the special status of economics is either justified or desirable. Those who argue that it is not are, in my view, entirely wrong; but economists nevertheless need to take their arguments seriously because there is a paradox in applying the lessons of social science to society, one whose acuteness increases with the force of the claims being made for the validity of that science. In the first of these lectures I discussed the way the ideas of economists about the economy can shape the world, as well as merely describing it. In its role in the political process and policy analysis, economics in action shapes the world directly and institutionally. This can often have good outcomes, as I just described, but the economist always takes the perspective of an objective outsider, benign, rational, even omniscient; and in policy practice we rarely consider what it means to adopt this perspective when the economists are actually part of what they are modelling. As Coase noted, we need to put ourselves in the scales we are holding to weigh the costs against the benefits. Given the spread of institutions run by economists and embedding economic

analysis in how they operate, such as central banks and industry regulators, this is a non-trivial point.

We economists take it for granted that our models are simply a useful analytical device. We simultaneously assume that they are 'true' in the sense of not being systematically at odds with important features of the real world, and yet not true at all as a faithful description of reality. A parallel is the classic diagram of the London Underground, which is a superb guide to travel on the Tube and yet a hopeless representation of the geography of London. As John Sutton has pointed out, our training quickly socializes us to think this habit of abstraction in order to focus on key features is normal, and we do not really understand critics who believe society is too complicated and messy for this analytical approach to be useful.[51] Equally, critics of economics fail to understand that economists do not fundamentally mistake models for the real world, but rather use them almost as *Just So* stories; what we take seriously is the role of incentives. However, in using these tools, I think we economists do naturally take the perspective of the benign divinity able to see what is happening down below without being seen by the humans. This is to repeat in a different context the pitfall Coase pointed out when discussing the welfare analysis of government regulations. How we economists devise the model ought to be part of our assessment of the predictions of the model. This is all the more important given the important institutional role of economics in government.

Interestingly, the importance of institutions for the success of an economy has come to prominence in academic research in recent years, after many years as a bit of a scholarly backwater. In 2009 Elinor Ostrom and Oliver Williamson were jointly awarded the Nobel memorial prize for their work on the economics of institutions. Recently in development economics there has been great emphasis on the need for sound political institutions, including the rule of law but also inclusive institutions enabling successful entrepreneurship and new entry to the economic elite.[52] Amartya Sen forcefully explained the importance of good politics for a sound economy in his work linking the presence of famine to the absence of democratic voice.[53] His account of the capabilities necessary for economic development includes political participation.[54] The more recent institutional economics is also descended from the public choice school, which emphasises the role of incentives in politics and government as well as in purely 'economic' decisions. Mancur Olson argued that a successful economy depends on government overcoming rent-seeking behaviour by interest groups. Special interest groups with restricted or delineated membership, such as cartels, trade bodies, unions or professions, will seek to persuade politicians to deliver policies that favour their members. These policies will rarely be the best outcome for

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[51] John Sutton, *Marshall's Tendencies: What Can Economist Know?,* MIT Press and Leuven University Press, 2000.
[52] See for example, T. Besley and T. Persson, Pillars of Prosperity: The Political Economics of Development Clusters, Princeton University Press, Princeton NJ, 2012, D Acemoglu and J Robinson, *Why Nations Fail,* Profile Books, London, 2012.
[53] Sen, Amartya, *Poverty and Famines: An Essay on Entitlements and Deprivation*, Oxford, Clarendon Press, 1982.
[54] Amartya Sen, *The Idea of Justice,* Allen Lane 2009.

other parts of society, but they have no incentive to organise or lobby against the policies.[55]

So economists are familiar with the importance of understanding institutions and indeed see their own participation in policy institutions as a contribution to overcoming rent-seeking behaviour. The economist is envisaged as not just objective, with an external perspective, but also impartial and above politics, driven by the general welfare rather than private interest.

There are quite a few examples of the use of economist-centred institutions in government. One type is the expert report. Governments frequently commission an independent expert economist to take an objective view of the evidence and make policy recommendations. Recent examples include reports by Kate Barker on the housing market and planning policy; by Michael Lyons on local government finance; by Adair Turner on pensions; by Andrew Dilnot on social care; by John Vickers on banking; and by John Kay on equity finance. Similar was the report by James Mirrlees and others, from the Institute for Fiscal Studies, on taxation. However, the existence of a report does not seem to translate easily or directly into policy. A few hundred pages of careful analysis lack political weight compared to the lobbying efforts of the special interests affected. This can be equally derail economic analysis inside government, of course. Powerful lobby groups are – well, powerful.

If interest group pressures make the independent report too weak a political instrument, other institutional embodiments of economic analysis as a counter to rent-seeking have been more effective. Royal Commissions in the past have typically had enough stature to enable governments to legislate against special interest groups. They are not often established, though, and have grown less frequent. On the other hand, economic regulators have grown in number and are empowered to take decisions independently of the political process, in the general public or consumer interest as set out in statute. Sector regulators were mostly set up to oversee privatised industries and safeguard consumers, although the large economics literature examining regulation warns of the danger of regulatory capture. Financial regulation up to 2008 seems a good example of the reality of this danger. Independent competition regulators have a good record of countering industry special interests, on the other hand, although the legislation has carved out some exceptions where politicians, perhaps unfortunately, still have the last word. The sectors reserved for politics always include defence. In the UK legislation they also include the media and – pushed through against the wishes of the competition bodies as an emergency measure at the height of the financial crisis – banking.[56] There is always pressure for new exemptions, too, the energy industry being the latest on some commentators' list of sectors too political to be left to the competition economists.[57]

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[55] *The Rise and Decline of Nations,* Mancur Olson, 1982, Yale University Press.
[56] Enterprise Act 2002, Section 58; & Intervention Order under Section 42 of the Act, October 2008.
[57] See http://www.guardian.co.uk/commentisfree/2012/apr/22/will-hutton-argentina-oil-grab-justified Accessed 24/4/12

Removing decisions from the hands of politicians can be used to overcome another credibility problem sometimes experienced by governments. Not only is the political process vulnerable to capture by interest groups, it is also prone to capture by impatience, or short-termism. Here the enemy of decisions taken objectively in the general interest is not a special interest group but rather the imperiousness of the present at the expense of the future. Just as today's desire for chocolate cake all too easily outweighs my wish for a smaller waistline tomorrow, politicians will be tempted to reduce interest rates for a faster growth rate now, even knowing that there will be a price to pay in higher inflation tomorrow. As the short-run temptation is obvious, a political pledge to make the virtuous choice every time will not be credible. On the other hand, an independent central bank does not face the same short-run pressures, and indeed can be structured so that its reputation depends on long-term economic outcomes. For example, public appointments have term limits, whereas political office does not. Central bank independence has become part of the landscape in democracies. The Office for Budget Responsibility is a more recent institutional innovation addressing a credibility problem in commitment to fiscal policy. The evidence of the existence of business cycle fluctuations due to political cycle changes in monetary and fiscal policy prior to the introduction of central bank independence is fairly clear. The temptation to spend more, or cut interest rates, ahead of an election is almost always overwhelming. Unelected officials in an independent body with a mandate to apply economic analysis can take policy choices in a more objective way, although obviously within a given intellectual framework.

The technocratic dilemma

Equally obviously, these independent economic institutions will lack the democratic legitimacy of elected politicians or officials who are directly answerable to, and sackable by, politicians. Daniel Bell identified as long ago as 1973 an emerging political faultline the tension between the growing populism of modern democracy in the mass media age and the growing requirement for technical expertise in running a modern economy. In *The Coming of Post-Industrial Society* he predicted that technocrats such as economists, the 'hierophants of the new society', would either align themselves with politicians, or compete with politicians. This tension is approaching breaking point in Greece, where economist and former central banker Lucas Papademos became prime minister and in Italy, where economist and former European Commissioner Mario Monti did likewise. Both came to office in November 2011, selected by parliamentarians but at the insistence of EU and IMF leaders, specifically to implement 'structural reforms'. This term is a piece of jargon describing policy changes intended to overcome special interests. 'Structural reform' is inherently political in the sense that it will pit the interests of some groups in society against others. Although the issue of structural reform is a diversion from the wider Eurozone problems, both the Greek and Italian economies are widely thought to be hamstrung by an accumulation of regulations designed to favour special interest groups at the expense of competition, innovation and economic growth, and thereby the population as a

whole. Both technocratic governments have been facing criticisms and street demonstrations.

It should be no surprise, perhaps, that taxi drivers are one of the interest groups proving most obstreperous. Greek taxi drivers have been striking regularly since July 2011, and the bill to liberalise the taxi trade was steadily being watered down in parliament as elections approached in April 2012. As for Italy, in 2005 the economist Francesco Giavazzi merely wrote a newspaper column advocating market reform, but his photograph was circulated to all Milan's cab drivers so they could refuse him as a passenger, and for five nights cabs gathered around his home, sounding their horns through the night.[58] Mr Monti bravely had another go, and the taxi drivers did not like it. The *Financial Times* reported:

> *Taxi drivers in Rome, among the strongest opponents of liberalisation, are thought to have been instrumental in the 2008 election of Gianni Alemanno, the capital's first rightwing mayor since the second world war. Mr Monti's proposed reforms, which would have opened up territorial operating restrictions – for example, allowing out-of-town taxi drivers to operate in Rome – were widely welcomed by Romans but duly resisted by Mr Alemanno.*
>
> *Claudio Giudici, chairman of the Tuscany branch of Uritaxi, the national taxi drivers union, defended their opposition to proposed liberalisation as a 'passionate effort by forces engaged in an actual democratic resistance against the transformation of Italy from a republic into an oligarchical state'.*[59]

Mr Giudici was spot on in identifying the paradox, although arguably not in his interpretation of it. The formal institutions of democracy are open to effective lobbying by identifiable groups in their own interest, whereas the technocratic, elite economists are better able than elected politicians to act in the interests of the wider public, by enabling competition and growth. But, as this quotation underlines, technocratic government by economists is itself political. The economist's analytical perspective of benign objectivity from above cannot survive the transition from ivory tower to the streets, or even to the quiet and shabby corridors of regulatory office blocks. This is all the more true when economists as a profession tend to hold views that many others would consider reflect a particular political stance – in other words, a pro-market philosophy – even though many economists working on policy areas regard themselves as non-ideological.

The rediscovery of political economy

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[58] http://www.nytimes.com/2010/08/01/business/global/01italy.html?pagewanted=all Accessed 24/4/12

[59] 'Italian Lobbies apply brakes to Monti's reforms', Financial Times, 2 January 2012. http://www.ft.com/cms/s/0/fc36edea-3554-11e1-84b9-00144feabdc0.html#axzz1qbX9bJLS Accessed 30/3/2012

The political nature of policy economics is intensified by the direct demands of politics. Alan Budd, reflecting on his own experience as the Treasury's chief economist, said:

> *"[T]he economic equivalent of the engineer can soon find that he needs answers to questions in which there is no consensus. …. ironically, economists have the most influence in the areas where uncertainty is greatest. One reason for this is that politicians do not like uncertainty, so they plump for someone who seems sure of the answer. (It may also be an answer which conforms to the politicians' political views.)*[60]

If politicians create the demand, some economists are happy to provide the supply. It is flattering to be asked for advice by somebody close to power. What's more, research funding now comes with a requirement for 'impact', of which the number of encounters with the policymaking world is one principal measure. Consultancy firms or investment banks are only too pleased with the PR opportunities provided by their economists' eye-catching interventions in the policy debate. The impact is delivered, the eye of the public is caught, by confident statements of extreme views, rather than modest or nuanced analyses of complicated situations.

This eagerness to meet a market need makes public policy economics vulnerable to intellectual fashions. Here are two examples, from different eras. One recent example is happiness economics. Although there are indeed some robust empirical results, such as the correlation between having a job or a stable relationship and individual well-being, the factoid in wide circulation about the supposed lack of correlation between income and happiness is unfounded: people with higher incomes report themselves to be happier.[61] More non-economists than economists have leapt on the happiness bandwagon and my sense is that the happiness fashion has already gone off the boil in the world of academic economic research, which has turned to broader interdisciplinary questions about people's psychological well-being. Nevertheless, 'happiness' has an afterlife in policy that is likely to be quite long, not least because the Office for National Statistics has added relevant questions to its regular Household Survey, and the results will always be good for a few headlines.

An earlier example dates from the late 1970s and early 1980s, when a revival of a rather classical monetarism combined with the development of rational expectations, real business cycle models of the economy in the universities. There were some good reasons for the intellectual shift then towards so-called microfoundations for macroeconomic analysis and the contention that in the short term the economy's (metaphorical) aggregate supply curve was vertical. The reasons lay in the dismal economic performance of the 1970s, which tested to destruction the previous generation of macroeconomic theories. One consequence was policy monetarism. Macroeconomic policy came to be focused entirely on how fast certain monetary aggregates were growing. In principle,

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[60] 'Why listen to economists?' Lecture delivered at Queen's College, Oxford, 26 October 2011.
[61] B Stevenson & J Wolfers, 'Economic Growth and Subjective Well-Being: Reassessing the Easterlin Paradox', *Brookings Papers on Economic Activity,* Spring 2008.

using monetary growth to inform monetary policy is obviously sensible. In practice, the reality of politics turned it into a dangerous obsession. Dangerous because the deregulation of financial markets and the development of new transactions technologies at the same time meant there was a shift of unknowable scale in the relationship between monetary growth and the wider economy – the 'velocity' of money was changing. The financial deregulation and innovation meant that the economic meaningfulness of any given measure and growth rate of the money supply was unclear.

What's more, the act of using policy levers to target the growth of any specific monetary aggregate also induced changes in people's behaviour that made that aggregate irrelevant for the wider policy aim – this is Goodhart's Law, which states that the act of targeting a variable eliminates the information than made it a useful policy indicator in the first place. As Charles Goodhart expressed it, "*Any observed statistical regularity will tend to collapse once pressure is placed upon it for control purposes*."[62] Goodhart's Law is another example of the self-referential nature of economic policy analysis – the policy action and its consequences have to be included in the economic model. In this case, people's behaviour changed because of the policy. Nevertheless, the government of the day clung on to monetary growth targets for some years. My job as a very junior economist in the Treasury in 1985-86 included the dull task of constructing a variety of new monetary aggregates and calculating which had the slowest growth rate. This slower-growing new measure joined the earlier official targets in the next Budget, although it also subsequently joined them in their unwelcome exuberance. It lived up to Goodhart's Law, as its growth accelerated as soon as it became an official policy target. The point I want to make with this anecdote is that the refraction of an intellectual trend in academic economics through the political process sometimes leads to a set of ideas being too dominant and too long-lived. And of course, there are some economists with an ideological agenda, either left or right of centre. If they can, they will influence policy accordingly.

Finally, once ideas get into the policy and political process, they develop an institutional life of their own. People's jobs are shaped around them, funding secured, statistics are collected, monthly meetings set up, journalists are briefed. It becomes embarrassing to abandon a policy, given what political opponents and the media will make of it – the fear of u-turns is extreme.

The inseparability of economics and politics is most directly obvious in the case of macroeconomic policy. I described it in the first lecture, taking dramatic licence, as the mad wife in the attic of economic science. It is not all that long since macroeconomics was rather triumphant. There was a strong consensus, often described as the 'new neoclassical synthesis', and this was believed to have brought about the 'Great Moderation', a long period of low inflation and steady growth. The role of sheer good luck in bringing about the Great Moderation was, as it turns out, greatly underestimated. Few macroeconomists will yet openly admit that the Great Financial Crisis has fatally damaged their subject, which is

[62] Goodhart, C.A.E. (1975). "Problems of Monetary Management: The U.K. Experience". *Papers in Monetary Economics* (Reserve Bank of Australia) I.

hardly surprising given the earlier sense of intellectual conquest, not to mention the fact that they have devoted their careers to it.

Some are, moreover, confidently engaging in slanging matches over fiscal and monetary policy in the media and blogosphere, as if their macroeconomics were true. The kind of debate taking place now between competing schools is eerily similar to the Keynesian versus monetarist arguments of the equally crisis-ridden late 1970s, when I started my career in economics. Should western governments be engaging in budget austerity or in Keynesian stimulus? Is the current recession different in kind from one that does not result from a banking crisis? Should there be more quantitative easing or not? One can find more than one answer to each of these questions in the macro literature. When macroeconomists have such directly opposing views, held so strongly and expressed so bitterly, we are far from the realm of hard science and evidently do not know the answers. It is equally clear that a given macroeconomist's views about macroeconomic policy are a good predictor of their political views, and perhaps the converse is also true. It is not even clear to me that there is any prospect of answering the important macro questions of our day by seeking better empirical evidence.

It will be no surprise to learn that macroeconomists to whom I have expressed this opinion disagree. They point to specific macroeconomic models that have not been challenged in theory and have been vindicated empirically. Conventional international macro models can explain a lot about the origins of the current Eurozone crisis, and indeed many macroeconomists predicted the non-viability of the Euro before its launch, including those at the UK Treasury.[63] The fact that macroeconomic policy since 2008 has avoided the policy errors of the 1930s is further evidence that macroeconomics has progressed, and many macroeconomists would argue that what is needed is for simple models to be made richer by adding, for example, financial intermediation and imperfect competition.

But this does not fundamentally change the picture of a profound lack of consensus about how the economy as a whole functions and so what policies will make it function better. The schism was vigorously expressed in a famous, or perhaps notorious, article by Paul Krugman, somebody who has taken the art of polemic in macroeconomics to a new pitch. He wrote, referring to leading American academics:

> *"[I]n the wake of the crisis, the fault lines in the economics profession have yawned wider than ever. [Robert] Lucas says the Obama administration's stimulus plans are 'schlock economics,' and his Chicago colleague John Cochrane says they're based on discredited 'fairy tales.' In response, Brad DeLong of the University of California, Berkeley, writes of the 'intellectual collapse' of the Chicago School, and I myself have written that comments*

[63] UK Membership of the Single Currency, HM Treasury, June 2003. Accessed 28/5/12. www.hm-treasury.gov.uk/d/EMU03_exec_126.pdf

> *from Chicago economists are the product of a Dark Age of macroeconomics in which hard-won knowledge has been forgotten."*[64]

The consequences have been regrettable. Simon Wren-Lewis notes that macroeconomists argue now for their 'school of thought' rather than on the merits of the case. He adds: "I also miss the synthesis. I very much liked the idea that disagreements could be clearly located within a common framework. With the synthesis, I felt macroeconomics began to look more like a unified discipline - more like micro, and dare I say it, more like a science than a belief system." [65]

Unfortunately, macroeconomics is not only what people (mistakenly) think all economists do, it is indeed an important part of what policy economists actually do. Most macroeconomists work either for the government or in financial markets. Even though the discipline does not have a consensus view of how the economy as a whole should be analysed, there is no escape from the need in either case to work on the basis of some reasoned assumptions about the near future (or forecasts, as they are called). The comparison with weather forecasting is often made – another imprecise science, marked by bitter arguments about the right analytical framework for understanding the climate as a whole, but essential for the planning of everyday life. Although the uncertainty attached to weather forecasts is widely understood, economic forecasts are – wrongly – regarded by the general public as more certain, not least because of the way some economists at any rate have talked about them. Macroeconomic forecasters need to be more explicit about uncertainty. There are other lessons to be taken from the groupthink that prevented so many economists from seeing clearly the risks in obvious precursors of trouble such as persistent current account imbalances and the build-up of debt. These would include paying more attention to economic history, to institutional realities (such as the changing character of the financial system in the 1990s and 2000s), and perhaps a greater pluralism or inter-disciplinarity in the practice of macroeconomics.

It is not only in the case of macroeconomics, though, that political opinions are elided with economic conclusions. Economics has plenty of territory where the truth is not known, or at least not yet, or needs to be carefully expressed. But politics and nuance are strangers to each other. Even when there is a professional consensus about certain empirical results, controversy can rage over their interpretation or implications, especially when one political party has staked a claim to certain policies. One example would be research looking at the effects of competition in the English National Health Service on health outcomes. There is consistent evidence from three large studies now that some forms of competition in the provision of services have positive effects (albeit with important caveats, for example about the risk of private entrants to the market cherry picking the easiest patients, and including a lack of support in the results for price competition). This conclusion proved simply unacceptable to, among

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[64] Paul Krugman, 'How Did Economists Get It So Wrong?', *New York Times* Magazine, 6/9/2006, accessed 30/4/12
http://www.nytimes.com/2009/09/06/magazine/06Economic-t.html?_r=1&pagewanted=all

[65] Simon Wren-Lewis , 'The Return of Schools of Thought', accessed 24/4/12
http://mainlymacro.blogspot.co.uk/2012/01/return-of-schools-of-thought-macro.html

others, the editors of *The Lancet*, who published an *ad hominem* attack by medical researchers on the economists. The economists were given a right of reply in the journal only reluctantly.[66] I think there will be many more controversies of this kind. The domain of solid empirical knowledge will continue to expand slowly but the border between soundly-based professional consensus and conjecture, which is bound to be influenced by political beliefs, will be both hazy and moving.

The fact that economists and non-economists have a different set of prior beliefs about some fundamental economic issues will only enhance the scope for discord on specific areas of policy. Whether because of their self-selection into a subject that appeals to them or because their training shapes their thinking so forcefully, economists on average are more favourable than the wider population to market forces as a mechanism for improving the public good, free trade and so on. David Henderson forcefully criticised what he labelled (in the 1985 BBC Reith Lectures) 'do-it-yourself' economics.[67] He was referring to what the layman takes as common sense but the economist knows to be untrue. One example concerns trade, where the common sense view is that exports are good and imports bad. To the economist it is, if anything, the other way around, and the problems arise only if there is a very large and persistent surplus in *either* direction. For reasons neuroscientists will no doubt one day discover, the concept of comparative advantage is not at all intuitive, but it is nonetheless thoroughly proven by the course of history that specialisation on the basis of comparative advantage and trade delivers large mutual benefits. It is the source of the transformative economic growth of the past quarter millennium. Common sense finds it equally hard to grasp that jobs have no objective existence in the economy separate from the people who do them, or that it can be a good thing for the economy's growth rate if some businesses are allowed to fail.

So there are some valid principles that economists know and agree among themselves to be true, but to many non-economists these may fly in the face of 'common sense'. There is also a steadily growing body of empirical policy research, which might be rather nuanced or context-dependent, but equally is scientifically well-founded and commands professional consent. Applied microeconomists have a pragmatic common language for assembling evidence and discussing policy. Disagreements concern the details of empirical methods or the interpretation of evidence. This is normal science at work. But many lay-people or indeed politicians will simply not like this, if it contradicts their prior beliefs.

On the other hand, there is a lot that economists do not know and yet tend to over-claim for. There are also many economists commenting on public policy

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[66] Bloom, Nicholas and Cooper, Zack and Gaynor, Martin and Gibbons, Stephen and Jones, Simon and McGuire, Alistair and Moreno-Serra, Rodrigo and Propper, Carol and Van Reenen, John and Seiler, Stephan (2011) In defence of our research on competition in England's National Health Service. *The Lancet*, 378 (9809). pp. 2064-2065. ISSN 0140-6736 http://www.lancet.com/journals/lancet/article/PIIS0140-6736%2811%2961708-X/fulltext Accessed 17/4/12

[67] http://www.bbc.co.uk/programmes/p00gq1cr/episodes/player Accessed 17/4/12

who are ideologues and are not engaged in the detailed work of expanding our empirical knowledge. It is understandably hard to back away from strong claims, all the harder the more confidently they are made. As I noted, one of the reasons that specific policies survive for a long time, arguably well past their use-by date, is the difficulty for politicians and their advisers of appearing to make a u-turn in a democracy with a cynical media and general public. To the extent that we join in the cynicism, we all help to sustain the inability of the political and policy process to be adaptable to either new evidence or the evolution of economic knowledge. However, the interaction between economics and politics means that policy economists all too often end up expressing certainty where they are actually most uncertain – in those areas such as macroeconomics where economics is most divided and least well-founded on careful and consistent empirical evidence. This is perhaps more often the case with economists who work outside government but are trying to influence policy. Think tankers and media commentators are particularly prone to this kind of humility-bypass, despite the many cautionary tales furnished by the experience of the Great Crash.

Yet economists in government are probably too diffident about insisting on the greater certainties that we do have in many areas of policy. Some do so perfectly cheerfully, especially when it comes to debunking policy fads or zombie ideas that stagger around Whitehall, but there are too few economists who bother to jump into the bear-pit of public debate. This is entirely understandable because we are talking about areas where – as discussed earlier – technocratic knowledge and democratic politics may clash. The media, online comment and political reaction can be brutal. Even worse, for some academic researchers, their results can be hijacked to serve a political purpose. This has been described as policy-based evidence. It is a common experience for economists whose research addresses controversial subjects such as healthcare or education reform.[68] Elected governments have also won a mandate to ignore expert advice if they like, although in fact they have gone a long way in limiting their ability to do so by setting up the economic institutions that operate at the edge of democratic politics. But I think economists could and should play a greater role in explaining the consequences of some choices. Given that we as a profession collectively cheerfully repeat some unpopular truths, such as the merits of freer trade or the importance of competition rather than orderly control of markets, it is odd that we hold back from unpopularity across the whole spectrum of what we know with reasonable confidence.

The public responsibilities of the economist

Economics plays an important, an essential, role in public policy. Its status is well-deserved. The other social sciences do not engage much with detailed empirical evidence about policy efficacy, whereas a majority of economists involved in policy research today are pragmatists with a shared set of data and tools for discovering incremental policy improvements. Economists continue to

[68] See for example http://www.guardian.co.uk/education/2012/apr/09/labour-academies-research-coalition-programme, accessed 24/4/12, as well as the earlier NHS reform example.

regard markets as the best single means of allocating resources, and continue to assume that people respond to incentives according to a more or less rational assessment of their interests. But these beliefs are not an act of faith. They are rooted in evidence and experience. People who choose to do applied policy microeconomics are often motivated by a strong inner drive to help tackle social ills such as poverty, unemployment and ignorance. The number of economists who are ideologically opposed to government intervention at all is tiny.

Economics brings a kind of toughness of thought to policy-making, through insisting on thinking about opportunity costs, and the balance of costs and benefits, and the likelihood that people will respond to incentives. Institutions employing economists to give technocratic advice can be used as counterweights to powerful interest group lobbies, or as commitment devices to limit political short-termism.

So in a number of ways, policy economics has proven its worth. However, I have also pointed out some failings. Above all, economists do not pay enough attention to their own political and institutional role in the policy process. It is not that there is no awareness of it. There are specific instances where it is explicitly discussed, such as the acknowledgement of 'regulatory capture', the phenomenon of time inconsistency, and the contribution of central banks to limiting the 'political business cycle'. However, policy economists do not extend this self-knowledge as far as they should. They are themselves agents in the decision-making processes they are modelling. The result is a certain naivety about the potential for expert research, or technocratic advice, to be implemented.

I would sum up the public responsibilities of the economist as follows:

- be brave about your conclusions when they are firmly based on empirical research;
- be modest about your conclusions otherwise, and own up to the limits of our knowledge and the nature of uncertainty;
- do not hesitate to engage in the discussion of controversial subjects, especially if there are myths to be punctured, or if others are engaging in the abuse of evidence to support their prior views;
- but if you are arguing on the basis of your political views rather than empirical research, or taking a view that supports a particular company or interest that has been funding your research, you have a duty to say so;
- above all, communicate better with non-economists and the general public, because good economic policies will not be implemented if they do not have popular legitimacy, and the public understanding of economics is low.

I end up with the sense that in what we collectively say about public policy, economists sound too certain where we ought to be humble about how little we know, and too hesitant where we ought to have more confidence. In both cases, we have been doing no service to economics. The imperative driving these

behaviours is the wish to tell others engaged in policy-making what they want to hear. But if you want to be liked, you probably shouldn't become an economist.